BML MUNJAL UNIVERSITY™

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BOARD OF STUDIES MEETING

9TH AUGUST 2019

BML MUNJAL
UNIVERSITY ™
A **Hero GROUP** INITIATIVE

Board of Studies Meeting on 9th August, 2019
Board Room, 1st Floor, Gateway Building

ATTENDANCE:

Members	Signature
Mr. Vijay Sethi, HR-Hero MotoCorp	—
Mr. Suresh Mehra, SVP HR, CO – Axis Bank	*signature*
Mr. Jagvinder Singh Brar, Partner, Forensic Services, KPMG	*signature* (TANMAY)
Mr. Sameer Dhanrajani, Chief Strategy Officer, Fractal Analytics	*signature*
Dr. Prabal K. Sen, Former Professor – XLRI	*signature* PKSen
Dr. Pitabas Mohanty, Professor & Associate Dean – XLRI	*signature* Turned over meben
Smt. Sapna Poti, Indian Institute of Corporate Affairs (IICA), Head CSR-CESD	*signature*
Dr. Goldie Gabrani, Professor – SoET	G Gabrani
Dr. Vishal Talwar, Dean & Professor, SOM, BMU (Chair)	*signature*
Dr. Jaskiran Arora, Professor, SOM, BMU	Jaskiran
Dr. Payal Kumar, Professor, SOM, BMU	—
Prof. Davinder Singh, Associate Professor, SOM, BMU	Davinder Singh
Dr. Subaran Roy, Associate Professor, SOM, BMU	*signature*
Dr. Rik Paul, Assistant Professor, SOM, BMU	*signature*
Dr. Jaya Ahuja, Assistant Professor, SOM, BMU	*signature*
Dr. Amit Bagga, Adjunct Professor, SOM, BMU	—
Special Invitee : Prof. Adnan Hussain, Student Welfare	*signature*

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A Hero Group Initiative
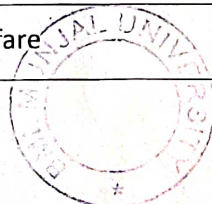
Board of Studies Meeting

on 9ᵗʰ August 2019

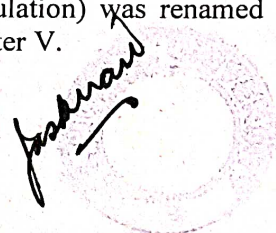## Board Room, 1ˢᵗ Floor, Gateway Building

| Sl. No.	Topic
1	To review the minutes of the last Board of Studies meeting (Note 1)
2	To review the proposed Program Structure for Bachelor's in Business Administration, and all its specializations (Note 2)
3	To present and discuss the Credit Policy for BMU Co-Curricular Activities (Note 3)
4	To approve the revision in the number of total credits of the MBA program (Note 4)
5	To consider launching MBA in Artificial Intelligence and Data Engineering
6	To deliberate upcoming aspects of Business that could be included in the curriculum
7	Any other with the permission of the chair *Next BOS on 8ᵗʰ November 2019*

MINUTES of the meeting

1. Minutes of the last BOS were presented and approved.

2. The program Structure for Bachelor's in Business Administration and all its specializations was presented. Feedback was received on the following points-

   a. The distinction is to be made in the nomenclature of different categories of electives courses in the Choice-Based- Credit-System (CBCS).
   *Actioned: The CBCS will have **General Electives (GEs)** or Perspective courses which are non-related to the chosen program of study. There will be Program Specific courses called - **Discipline Specific Core Courses (DSCC)** Courses which will be for 3 credits each. There will be 2 credit **Discipline Specific Electives (DSE)**, of which 6 courses are mandatory. Students can additionally, **Audit** up to 4 courses or take Open Electives from MOOC or other platforms (2 each in semester 5 and semester 6). Audit courses will be non-credit courses but will appear in the transcript as Satisfactory or Unsatisfactory. There will be 2 **Ability Enhancement Compulsory Courses (AECC)** and 10 mandatory **Core Management Courses** of 3 credits each. The CBCS will be driven by the University CBCS policy document*

   b. In order to optimise the overall number of credits in the program and provide for students to participate in co-curricular activities, the following suggestions were made and received well -
      i. ECO1701 - Micro and ECO2702 - Macro Economics to be merged to one course - ECO1702 - Economics For Managers
      ii. SKL1004-Writing Skills and SKL1001-Communication And Presentation Skills are to be merged together to offer SKL1705-Business Communication, to lay more emphasis on written and oral communication skills.
      iii. Since SKL1002 - Etiquette And Conversational Skills has an overall with the courses on communication skills, this course will be dropped.
      iv. SKL3001-Written Analysis and Communication, with a focus on case-based communication to be introduced to enhance the ability to clearly articulate business problems and identify and communicate business variables and objectives.
      v. MKT3701-Essentials Of Marketing and MKT4702 - Marketing Management to be merged into one course to offer a more holistic perspective as a core course, and students interested in Marketing to be encouraged to take specializations for a deeper understanding of the discipline.
      vi. Scope of ACC1701-Financial Accounting with Tally, to be revised to remove Tally from the BBA students
      vii. DSC1701- Mathematics For Business and DSC2702- Business Analytics, to be merged to offer BAT1701- Descriptive Business Analytics, with a focus to offer more business-orientated quantitative skills.
      viii. Given the focus on visualization, SKL5703 - Data Visualization, is to be added as a skill course.
      ix. P5P1707 - World Civilizations to be replaced with PSC2704- Happiness, for the students to take a more relatable perspective in life.
      x. PSP5706 - Contemporary Challenges (Capstone Simulation) was renamed as PRJ3500 Capstone Simulation and was shifted in Semester V.

xi. MGT3002 Design Thinking has been introduced in Semester 5 in Business Analytics stream.

xii. HRM5705 Leadership and Ethics has been replaced with SKL2707 Teamwork and Leadership.

xiii. MGT5702 Strategic Management was renamed as Strategy to enhance the scope of the course offered in Semester 6.

xiv. A core course BAT3704 Privacy, Ethics and Regulations in Artificial Intelligence is offered in Business Analytics stream in Semester 6.

xv. Elective choices have been reduced from 10 to 6.

xvi. Credits for PRJ3502 Integrated Project has been increased from 6 to 8 offered in Semester 6. This project is a platform to project the learnings from all the courses undertaken by the students in the previous semesters. This is a practical application to test the competencies of the students, higher credits will make it more impactful.

xvii. 5 Credits have been offered for co-curricular activities, 1 in each Semester.

xviii. A new course on OPS3001 Project Management is introduced in Semester 6 to Regular, KPMG and BE students.

xix. A separate project for family business students is offered in Semester 6 as FBE3501 Entrepreneurial Project.

xx. PRJ2901-Internship (Social Project) to be included after the first year, during the summer term. This could include Rural Immersion as well as students interning with NGOs working on Contemporary Societal issues.

xxi. Total number of courses was reduced to 43 from 48 for Regular, 51 to 46 for KPMG and 48 to 43 for FBE.

xxii. Total number of credits was reduced to 130 from 153 for Regular, 139 from 165 for KPMG, and 159 from 173 for FBE.

c. Integrated Project or Capstone project to be brought forward to the 5th semester to optimize the number of credits in semesters 5th and 6th.
Actioned: Capstone brought forward to optimize the number of credits in semesters 5th and 6th.

d. Since the tools keep changing, Data Analytics courses are made tool agnostic i.e. not to mention any platform like R or any other in the program structure.
Actioned: Courses were renamed and made tool agnostic.

e. A suggestion was made to include Personality profiling for the students to help them choose their career tracks.

3. Credit Policy for BMU Co-Curricular activities was presented and suggestions were received to include live projects, entrepreneurial projects, work with any NGO etc. also to be eligible for award of credits in this category.

4. As minuted in the last BOS meeting held in April, 2018 it was proposed by the committee to revise the total credits of the MBA program. The definition of a single credit in the MBA program in each 8-week long module is being revised to be equal to 2 hours of teaching each week therefore a 2 credit course will have a total of 32 teaching hours.

a. In order to increase the depth of the students' knowledge of their chosen specialization, 2 additional choices of electives are also being provided.

b. Corporate Governance and Corporate Social Responsibility had a lot of overlap with Managing Stakeholders and Legal Processes; therefore, the former is being scrapped.
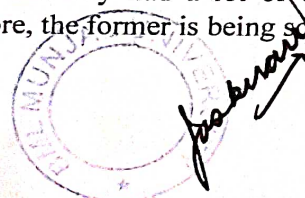
5. The proposal for launching an MBA in Artificial Intelligence and Data Engineering was very well received. The proposed program structure of the same will be presented in the next BOS.

6. The meeting ended with a vote of thanks.

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Minutes of Meeting

11th Academic Council

August 23, 2019; 11 AM

VENUE: BOARD ROOM, 1st FLOOR, GATEWAY BUILDING (A BLOCK), BMU CAMPUS, 67th MILESTONE, NH-8, SIDHRAWALI, GURUGRAM, HARYANA-122413

MINUTES OF THE 11th MEETING OF THE ACADEMIC COUNCIL HELD ON AUGUST 23, 2019 IN BOARD ROOM, FIRST FLOOR, GATEWAY BUILDING (A BLOCK), BMU CAMPUS, 67th MILESTONE, NH-8, SIDHRAWALI, GURUGRAM, HARYANA-122413

The 11th meeting of the Academic Council was held on August 23, 2019 in Board Room, BMU Campus. Following were present:

Attendance:

Sr. No.	NAME OF THE MEMBER	DESIGNATION
1.	Dr. Manoj K. Arora	Vice Chancellor & Chairperson
2.	Dr. Vishal Talwar	Member
3.	Dr. N S Nigam	Member
4.	Dr. Sudip Sanyal	Member
5.	Dr. Jaskiran Arora	Member
6.	Dr. Nandita Choudhury	Member
7.	Dr. Kalluri Vinayak	Member
8.	Dr. Vinay K. Nangia	Member
9.	Dr. Vandana Suhag	Special Invitee
10.	Ms. Suneet Soni	Special Invitee
11.	Abhay Sharma	Member Secretary

At the outset, the Chairperson accorded a warm welcome to all members of the Academic Council. The Chairperson also welcomed Dr. N S Nigam, Dean School of Law as new member of the Academic Council w.e.f. July 16, 2019.

Professor Nigam holds Doctor of Philosophy from Oxford University, United Kingdom; Master of Philosophy from Oxford University, United Kingdom; LLM in Taxation from New York University and a BA LLB (Hons.) from the National Law School of India University, Bangalore, India.

The Chairperson also welcomed Dr. Vandana Suhag, Dean Education Quality & Ms. Suneet Soni, Controller of Examinations, as a special invitees.

The Chairperson, thereafter requested the member secretary to present the agenda items for discussion.

LEAVE OF ABSENCE

Leave of absence was granted to Dr Neela Natraj, Dr. K. R. Sarma Sh. Purushottam C. Kaushik as they could not attend the meeting due to some other official commitment.

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Once quorum was established, the meeting commenced. The items on the agenda were taken up for the consideration and approval of the Academic Council.

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A. STATUTORY AGENDA

AC.11/2019/03/11.A.01: To confirm the minutes of the 10ᵗʰ meeting of Academic Council held on May 17, 2019

A copy of the minutes was circulated to the members of the Academic Council. As no comments were received, the minutes were confirmed.

The minutes of 10ᵗʰ meeting of Academic Council are placed at Annexure-1.

The Chairperson informed members that the revised curriculum for B Tech (Batch of 2019) has been implemented. The course content of 1ˢᵗ year courses, as per revised curriculum, is in place. The SOET has been requested to complete the work on content development for the courses in other years. The school has also been requested to draft Graduate Attributes (GAs), Program Educational Objectives (PEOs), Program Specific Outcomes (PSOs), Program Outcomes (POs) and Course Outcomes (Cos) for all the B. Tech programmes. All these

activities may be discussed in various bodies/forums and presented to the next Academic Council meeting for its approval.

B. AGENDA ITEMS FOR REPORTING & RATIFICATION

AC.11/2019/03/11.B.01: Updation on Agreements/Contracts/MoU's

The Agreements/Contracts/MoU's executed since last Academic Council meeting were presented.

The list of Agreements/Contracts/MoU's executed since last Academic Council meeting are placed at Annexure-2.

The Agreements/Contracts/MoU's were noted by the Council.

The Chairperson suggested each school to make maximum use of these MoUs for the benefit of the faculty and students. He also requested Dean Quality Education to present a report on the progress on each MoU in subsequent Academic Council Meetings.

AC.11/2019/03/11.B.02: Update by Dean-School of Engineering & Technology

Dr Sudip Sanyal, Director Computer Science & Engineering and Dr. Kalluri Vinayak, Associate Dean, Academic Affairs & Operations presented an update on the activities of School of Engineering & Technology since last Academic Council meeting.

The details are annexed as Annexure-3.

The Council took the note of the same.

The members appreciated that a number of research projects have been submitted by the faculty to various agencies, and that a number of patents have also been filed. The members opined that the school must continue to make efforts to increase the activities in the area of research and development.

AC.11/2019/03/11.B.03: Update by Dean-School of Management and School of Economics & Commerce

Dr Vishal Talwar, Dean School of Management, presented an update on the activities related to School of Management since last Academic Council meeting.

The details are annexed as Annexure-4.

The Council took the note of the same.

The members appreciated the progress of the school and congratulated the faculty members who have won awards & published research papers in various reputed journals during this period.

AC.11/2019/03/11.B.04: Update by Dean-Education Quality on activities related to IQAC and Sponsored Research & Development

Dr Vandana Suhag, Dean- Education Quality provided an update on activities related to IQAC and Sponsored Research & Development since last Academic Council meeting.

The details are annexed as Annexure-5.

The Council took the note of the same.

The schools, the members of academic council and the members of sub-committees (task forces) of IQAC were requested to expedite the data and document collection and provide full support to the IQAC and its Chairperson to complete the preparation towards NAAC, as per the calendar prepared. The implementation of project 'Maitri' to automate all academic and administrative processes will also act as catalyst in this endeavor. All of us need to take up this activity with utmost sincerity.

AC.11/2019/03/11. B.05: Update by Dean-School of Law

Dr N S Nigam, Dean School of Law, presented an update on activities related to School of Law.

The details are annexed as Annexure-6.

Significant highlights of the presentation are,

The school has started two law programmes, namely, BA LLB (Hons) and BBA LLB (Hons), with an intake of 11 students in each programme during 2019-20. The curricula of these programmes, as per BCI guidelines, have been implemented. The compliance report to the BCI has been submitted. The Dean School of Law, 3 regular faculty members in Law, and one Professor of Emeritus in Law, have joined the school. An MOU with Luthra and Luthra Partners has also been signed.

The Council took the note of the same.

B. AGENDA ITEMS FOR RATIFICATION

AC.11/2019/03/11.B.06: Program Structure and Course Outlines of BA LLB (Hons.) & BBA LLB (Hons.)

A revised Program Structure of BA LLB (Hons.) & BBA LLB (Hons.), duly approved by the Chairman, Academic Council was presented to the Council for ratification.

The updated Program Structure and Course Outlines of BA LLB (Hons.) & BBA LLB (Hons.) are placed at Annexure-7.

The Council considered and ratified the same.

AC.11/2019/03/11.B.07: Constitution of Board Of Studies for School of Law

The constitution of Board of Studies for School of Law, duly approved by the competent authority, was presented to the Council for ratification.

The constitution of Board Of Studies for School of Law is placed at Annexure-8.

The Council considered and ratified the same.

C. AGENDA ITEMS FOR APPROVAL

AC.11/2019/03/11.C.01: Approval of Results & Academic Excellence Medal Winners

The summary of results & academic excellence medal winners was presented to the Council by the Controller of Examination(COE), and is given below:

Results of Academic Year-2018-2019 (Even Semester)- MBA, BBA & B.Com(Hons)

PROGRAMME	BATCH	TOTAL STUDENTS	TOTAL APPEARED
MBA	2017-2019	65	65
MBA	2018-2020	65	65
BBA-B.Com(Hons)	2016-2019	28	28
BBA-B.Com(Hons)	2017-2020	31	31
BBA-B.Com(Hons)	2018-2021	39	38
BBA-B.Com(Hons)	2015-2018	5	3

Results of Academic Year-2018-2019 (Even Semester)- B.Tech: Batch 2014-18

PROGRAMME	TOTAL STUDENTS	TOTAL APPEARED
COMPUTER SCIENCE & ENGINEERING	3	2
ELECTRONICS & COMMUNICATION	1	1
MECHANICAL ENGINEERING	1	1

Results of Academic Year-2018-2019 (Even Semester)- B.Tech: Batch 2015-19

PROGRAMME	TOTAL STUDENTS	TOTAL APPEARED
CIVIL ENGINEERING	9	9
COMPUTER SCIENCE	60	60
COMPUTER SCIENCE & ENGINEERING	136	134
ELECTRONICS & COMMUNICATION	47	47
MECHANICAL ENGINEERING	86	86

Results of Academic Year-2018-2019 (Even Semester)- B.Tech: Batch 2016-20

PROGRAMME	TOTAL STUDENTS	TOTAL APPEARED
CIVIL ENGINEERING	5	5
COMPUTER SCIENCE	48	48
COMPUTER SCIENCE & ENGINEERING	222	220
ELECTRONICS & COMMUNICATION	53	53
MECHANICAL ENGINEERING	88	87

Results of Academic Year-2018-2019 (Even Semester)- B.Tech: Batch 2017-21

PROGRAMME	TOTAL STUDENTS	TOTAL APPEARED
CIVIL ENGINEERING	10	9
COMPUTER SCIENCE	58	57
COMPUTER SCIENCE & ENGINEERING	113	113
ELECTRONICS & COMMUNICATION	62	62
MECHANICAL ENGINEERING	79	78

Results of Academic Year-2018-2019 (Even Semester)- B.Tech: Batch 2018-22

PROGRAMME	TOTAL STUDENTS	TOTAL APPEARED
COMPUTER SCIENCE	50	50
COMPUTER SCIENCE & ENGINEERING	82	82
ELECTRONICS & COMMUNICATION	22	22
MECHANICAL ENGINEERING	30	30

Award Winners: Academic Excellence Medals

The **"Academic Excellence Medal"** is presented to the student with the highest academic score. The list of awardees of academic excellence medal is given below:

PROGRAMME	NAME OF THE STUDENT	CGPA
MBA	KAJAL GOEL	9.26
BBA	VEDANT MEHRA	8.41
B.COM(HONS)	SHREY TANDON	9.55
B.TECH CSE	VISHAKHA CHOURASIA	9.7
B.TECH CSC	PRAKHYA SRIDHAMA MARUTHI SASTRY	9.53
B.TECH ME	PRINCE KUMAR	9.53
B.TECH ECE	M JAHNAVI	9.61
B.TECH CIVIL	BEZAWADA SAI ADITYA PAVAN KUMAR	9

The results of all academic programmes are placed at Annexure-9

The Council considered & approved the same.

AC.11/2019/03/11.C.02: Approval of Founder`s Medal Winners

The summary of Founder`s Medal winners was presented to the Council, and is given below:

Award Winners: Founder`s Medals

The Founder`s Medal is awarded based on academic integrity, proficiency in co-curricular & cultural activities, creative & critical thinking, innovativeness, learning abilities, cultural sensitivity, compassion, leadership qualities and all-round performance. The recommendations of the committee constituted for the selection of award winners were duly approved by the Chairman, Academic Council. The list of award winners is given below.

PROGRAMME	NAME OF THE STUDENT
MBA	Sudeep Kaur
B.TECH	Guneet Kaur
B.COM(HONS)	Shrey Tandon

The Council considered & approved the same.

AC.11/2019/03/11.C.03: Ph.D Admissions 2019

The COE presented the details on PhD admissions for 2019-20. The admission process was conducted two times

In SOET, out of the total 23 applicants, 03 were selected as Full time and one as Part time. Two candidates , one Full Time and one part time have registered.

In SOM, out of the total 18 applicants, 03 were selected as Full time and 02 as Part time. Two Full time candidates and Two part time candidates have registered.

The details of PhD admissions: 2019-20 are placed at Annexure-10

The Council considered & ratified the duly approved PhD. Registrations by the Chairman, Academic Council.

AC.11/2019/03/11.C.04: Fellowships awarded to Ph.D Full Time candidates

Following Full Time Ph.D candidates registered in July 2019 have been granted fellowship of Rs. 40,000/- per month

1. Rachna Bhatia-SOM
2. Udayan Karnatak-SOM
3. Pankaj Sahu-SOET

Further, the fellowship of Ankit Kargeti registered in July 2018 has been revised from Rs. 30,000/- to Rs. 40000/- per month w.e.f. from July 2019.

The Council considered & approved the same.

AC.11/2019/03/11.C.05: Scholarships awarded to B.Tech, BBA, B.Com(Hons) & MBA students for Odd Semester: 2019-20

The details of Scholarships awarded to B.Tech, BBA, B.Com(Hons) & MBA students for Odd Semester: 2019-20 was presented to Council and are placed at *Annexure-11.*

The Council considered & approved the same.

D. ADDITIONAL AGENDA ITEMS WITH THE PERMISSION OF CHAIR

AC.10/2019/02/11.D.01: Additional Agenda Items with permission of the chair

AC.10/2019/02/11.D.01:a) Revised curriculum of BBA programme for 2019

A revised curriculum of BBA programme for 2019 as per Choice Based Credit System was presented to the Council for ratification. The credits for the BBA curriculum have been revised to make it more flexible and choice based, taking advantage of the relevant courses across other schools.

The revised curriculum of BBA programme for 2019 *is placed at Annexure-12*

The Council considered and ratified the same

AC.10/2019/02/11.D.01:b) Revised MBA Programme Structure for batch: 2019-21

A revised curriculum of MBA programme for batch 2019-21 was presented to the Council for ratification. The key points of the revised curriculum of MBA programme are as follows:

a) Corporate Governance and Corporate Social Responsibility has a lot of overlap with Managing Stakeholders and Legal Processes; therefore, the former is being scraped.

b) 2 additional choices of electives are also being introduced to the students to provide them further depth in their chosen area of specialization.

The revised MBA programme structure for batch 2019-21 are placed at Annexure-13

The Council considered and ratified the same

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The Chairperson confirmed that the quorum was present throughout the meeting. As there was no other business, the meeting ended with a vote of thanks to the Chair.

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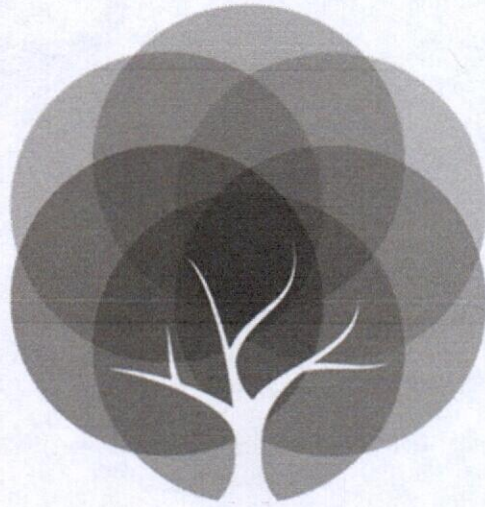
Date: August 23, 2019
Place: BMU Campus

Abhay Sharma
Member Secretary & Registrar

BML MUNJAL UNIVERSITY™

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BOARD OF STUDIES MEETING

22nd March 2021

Board of Studies Meeting 22nd March 2021

Video Conference 10:00 am to 12:00 pm

Agenda Points:

S. No.	Topic
1	To review the minutes of the last Board of Studies meeting (Annexure 1)
2	To discuss the academic structure of Integrated BBA-MBA Program (Annexure 2)
3	To discuss the electives to be offered to MBA (Annexure 3)
4	To discuss skills and perspectives offerings in SOM (Annexure 4)
5	Any other agenda with the permission of the chair

Board of Studies Meeting 22nd March 2021
Video Conference 10:00 am to 12:00 pm

Members Present:

Dr. Vishal Talwar	Dean- School of Management, BMU	Present
Dr. Jaskiran Arora	Professor- SOM, BMU	Present
Prof. Davinder Singh	Associate Professor -SOM,BMU	
Dr. Chirag Malik	Associate Professor -SOM,BMU	Present
Dr. Aunsree Paul	Associate Professor -SOM,BMU	Present
Dr. Rik Paul	Associate Professor -SOM,BMU	Present
Dr. Jaya Ahuja	Assistant Professor - SOM, BMU	Present
Dr. Ritu Chhikara	Assistant Professor - SOM, BMU	Present
Dr. Goldie Gabrani	Professor- SOET, BMU	Present
Prof. Viswanath Pingali	IIMA	Present
Mr. Jagvinder Singh	Partner, Forensic Services, KPMG	Rep. by Mr. Tanmay
Mr. Sandeep Kohli	Partner & Talent leader, EY India	Present
Dr. Geetraj Singh	Group Head, Mount Meru	Present
Mr. S. V Nathan	Chief Talent Officer, Deloitte India	Present
Ms. Rubal Rathi	Alumni, MBA 2017-2019 Batch	Present

Minutes

1. The members were presented the brief about the University and the Strategic Roadmap to 2025 for the School of Management.
2. Minutes of the last BOS were presented and approved.
3. The Academic Structure for BBA-MBA Integrated program was shared with the members and suggestions were received to bring down the internship component to nine months instead of a year. This internship component could also be an opportunity for the companies to assess the merit of the students and could lead into a higher conversion rate for pre-placement offers.
4. Suggestions were received to replace the elective on -Mentoring and Coaching, with Capability Building as it can offer a wider perspective on the learning and development aspects of organizational personnel. Strategic HRM to be offered in Module 5 instead of Module 7.
5. The members opined that since Digitalization and Analytics are becoming the mainstream aspects of business, these should be considered for becoming core courses for management students instead of elective options.
6. Interpersonal Skills, Communication skills, Presentation Skills including language skills should be laid a lot of emphasis in the bucket of Skill options. Writing eloquently in English should also be focused upon.
7. More contemporary perspective courses like Megatrends in Business in general and various industries in specific, could be a good addition to the bucket of perspective courses. Suggestion was also received to rename a couple of skills and perspectives courses to a more contemporary and appealing nomenclature, to make them more attractive to the students.
8. The tentative date for the next BOS is agreeable to be 10th June 2021 from 10:00 till 12:00.
9. The meeting ended with a vote of thanks.

BOARD OF STUDIES
SCHOOL OF MANAGEMENT

List of Attendees

Date: 22nd March 2021

Dean-School of Management	Dr. Vishal Talwar	Dean- School of Management, BMU
Professors and Associate Professors	Dr. Jaskiran Arora	Professor- SOM, BMU
	Prof. Davinder Singh	Associate Professor -SOM, BMU
	Dr. Chirag Malik	Associate Professor -SOM, BMU
	Dr. Aunsree Paul	Associate Professor -SOM, BMU
	Dr. Rik Paul	Associate Professor -SOM, BMU
Assistant Professors	Dr. Jaya Ahuja	Assistant Professor - SOM, BMU
	Dr. Ritu Chhikara	Assistant Professor - SOM, BMU
Professor from other School of the University	Dr. Goldie Gabrani	Professor- SOET, BMU
External Academic Expert	Prof. Viswanath Pingali	Indian Institute of Management, Ahmedabad
Experts from Industry	Mr. Jagvinder Singh Brar	Partner, Forensic Services, KPMG
	Mr. Sandeep Kohli	Partner & Talent leader, EY India
	Mr. Geetraj Singh	Group Head Organizational Development, Mount Meru
	Mr. S. V Nathan	Chief Talent Officer, Deloitte India
Alumni	Ms. Rubal Rathi	Alumni, MBA 2017-2019 Batch

Category	Name	Designation	Email	Status
Dean-School of Management	Dr. Vishal Talwar	Dean- School of Management, BMU		
Professors and Associate Professors	Dr. Jaskiran Arora	Professor- SOM, BMU		
	Prof. Davinder Singh	Associate Professor -SOM,BMU		
	Dr. Chirag Malik	Associate Professor -SOM,BMU		
	Dr. Aunsree Paul	Associate Professor -SOM,BMU		
	Dr. Rik Paul	Associate Professor -SOM,BMU		
Asisstant Professors	Dr. Jaya Ahuja	Assistant Professor - SOM, BMU		
	Dr. Ritu Chhikara	Assistant Professor - SOM, BMU		
Professor from other School of the University	Dr. Goldie Gabrani	Professor- SOET, BMU		
External Academic Expert	Prof. Viswanath Pingali	Indian Institute of Management, Ahmedabad	viswanath@iima.ac.in	OK
	Mr. Jagvinder Singh Brar	Partner, Forensic Services, KPMG	jsbrar@kpmg.com	
Experts from Industry	Mr. Sandeep Kohli	Partner & Talent leader, EY India	sandeep.kohli@in.ey.com	
	Mr. Geetraj Singh	Group Head Organizational Development, Mount Meru	geetraj@mountmerugroup.com	
	Mr. S. V Nathan	Chief Talent Officer, Deloitte India	svnathan@deloitte.com	
Alumni	Ms. Rubal Rathi	Alumni, MBA 2017-2019 Batch		Excussed

Outgoing Members

Name	Designation
Dr. Payal Kumar	Professor- SOM, BMU
Dr. Subaran Roy	Associate Professor -SOM,BMU
Dr. Prabal K. Sen	Former Professor - XLRI
Dr. Pitabas Mohanty	Professor & Associate Dean - XLRI
Mr. Suresh Mehra	VP HR, CO - Axis Bank
Mr. Vijay Sethi	HR-Hero MotoCorp
Dr. Sapna Poti	Indian Institute of Corporate Affairs (IICA), Head CSR-CESD

Role	Name	Designation
Dean-School of Management	Dr. Vishal Talwar	Dean- School of Management, BMU
	Dr. Jaskiran Arora	Professor
Professors and Associate Professors	Prof. Davinder Singh	Associate Professor
	Dr. Chirag Malik	Associate Professor
	Dr. Aunsree Paul	Associate Professor
	Dr. Rik Paul	Associate Professor
Asisstant Professors	Dr. Jaya Ahuja	Assistant Professor
	Dr. Ritu Chhikara	Assistant Professor
Professor from other School of the University	Prof. Nigam	Dean and Professor, School of Law
External Academic Expert	Prof. Vijay Vir Singh	Dean, Faculty of Social Sciences, University of Rajasthan
Experts from Industry	Mr. Abheek Barua	Senior Vice-President and Chief Economist, HDFC Bank
Alumni	Mr. Vipin Bansal	Alumni, B.Com 2015-2018 Batch
Student	KOMAL YADAV	B.A Eco (H)
Student	ISHA SHARMA	B.Com (H)

OK

BBA-MBA Integrated Program

OBE Aligned Program Structure

BML MUNJAL UNIVERSITY

67th MILESTONE, NH-8, SIDHRAWALI, GURUGRAM, HARYANA-122413

BML Munjal University

Named after the chairman and founder of the Hero Group, **Brijmohan Lall Munjal, BML Munjal University** is engaged in creating, preserving and imparting internationally benchmarked knowledge and skills to a diverse community of students from across the world. BMU's aim is to nurture ethical leaders who are skilled, knowledgeable and have the life skills needed to lead organizations to success.

Vision

BML Munjal University seeks to nurture ethical leaders who are skilled, knowledgeable and have the life skills required for leading their organizations to success.

The university shall seek the advancement and dissemination of practically oriented knowledge benchmarked with the best global standards.

Mission

BML Munjal University aims to be a leading university for the quality and impact of its teaching, research and linkages with major stakeholders. The focus of the university is to find creative solutions to problems through application of knowledge. The university aims to create a talented community of students and faculty who excel in teaching, learning and research, in a creative and stimulating environment. The university will collaborate with other institutions for development of science, technology and arts in the global context.

Graduate Attributes:

BMU students will:

1. Acquire and apply practical understanding of discipline knowledge
2. Demonstrate a sense of ethics and display excellence in both personal and professional life
3. Exhibit problem solving, critical thinking skills and investigative capability to address real world problems
4. Manifest leadership qualities and work effectively in teams across globally diverse environments
5. Be a lifelong learner with an entrepreneurial mindset to innovate in the constantly changing global scenario.
6. Possess a strong sense of inquiry and design innovative solutions for positive societal impact
7. Be effective communicators and possess an empathetic outlook

School of Management

Vision

To nurture ethical, empathetic and articulate leaders to benefit businesses and society.

Mission

To excel in dissemination of management education and to empower its's students to face the challenges of the volatile business world, and lead them on a path of personal transformation to become global leaders, managers, and entrepreneurs, with high cognitive skills and emotional quotient.

BBA-MBA Integrated program - Program Educational Objectives

Graduates of the program will:

PEO 1 – Domain knowledge:
Exhibit strong knowledge of the management discipline in a global context.

PEO 2 – Informed Decision Making:
Demonstrate higher order critical thinking and problem-solving capabilities with an entrepreneurial mindset.

PEO 3 – Managerial Skills:
Be effective managers with good communication skills, high levels of emotional intelligence, and innovative thinking.

PEO 4 – Exhibit Leadership:
Possess ethical leadership qualities for effective management decisions.

MBA - Program Outcomes

By the end of the program the students will be able to:

PO 1 –Apply Business knowledge:
Gain in depth understanding of various management disciplines and apply the concepts for business decision making.

PO 2 –Diverse Perspective:
Integrate diversity and multicultural perspectives in business decisions making.

PO 3 –Cognitive Skills:
Utilize quantitative and qualitative methods to investigate and solve complex business problems by planning and conducting research for Investigation with critical thinking and problem-solving skills.

PO 4 –Innovation and Entrepreneurship:
Apply tools and techniques across multiple disciplines to create innovative and entrepreneurial solutions.

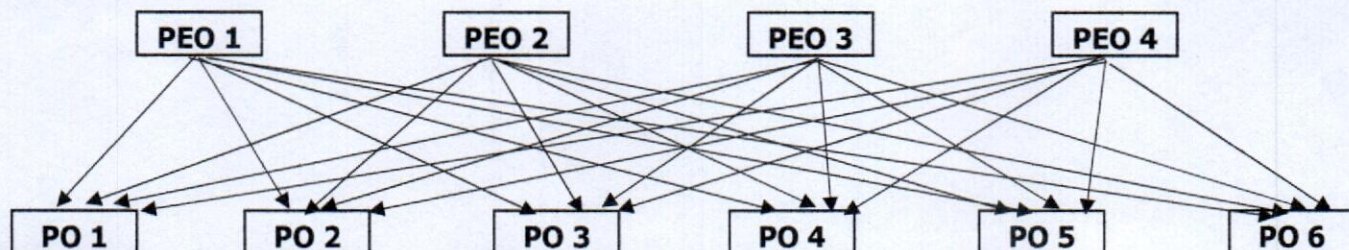**PO5 – Empathetic and ethical leadership:**
Demonstrate social responsibility, teamwork, life skills to lead organizations ethically.

PO6 – Effective Communication:
Communicate effectively across all levels and society at large.

Mapping of PEOs with POs

PEO / PO		PEO 1 Domain knowledge	PEO 2 Informed Decision Making	PEO 3 Managerial Skills	PEO 4 Exhibit Leadership
PO 1	Apply Business knowledge	3	3	2	2
PO 2	Diverse Perspective	3	2	2	3
PO 3	Cognitive Skills	2	3	2	2
PO 4	Innovation and Entrepreneurship	2	3	3	2
PO 5	Empathetic and ethical leadership	2	2	3	3
PO 6	Effective Communication	2	2	3	3

Program Structure

The BBA- MBA integrated programme is a 3-Year extensive program at School of Management, BML Munjal University, offers practical understanding of business and prepares students for long and fulfilling careers. Co-designed with academic mentor - London's Imperial College Business School, BMU's innovative integrated programme offers a new and transformative approach to business education. Graduates will be equipped with multi-disciplinary skills and knowledge, approach to diverse businesses – both big and small, information technology and management problems with an experiential learning approach. Through this programme, we enable our students to become business ready and make an impact from the day they step into industry.

Our BBA-MBA integrated course helps you in managing time and resources which you can invest in gaining industry experience. With 4 years of extensive classroom training and 1 year of industry-based on-the-job training the students are equipped with the right skills.

Category	Credits	Percentage
Elective	40	17%
Project	28	12%
SIP	28	12%
Skills	19	8%
Perspectives	11	5%
Core	104	45%
Total	**230**	**100%**

Program Structure		BBA -MBA Integrated	
SEMESTER - I	ECO1702	Economics For Managers	3
	SKL1703	Excel Spreadsheet Modelling	2
	SKL1705	Business Communication	3
	ACC1701	Financial Accounting	3
	HRM1701	Introduction To Psychology	2
	MGT1701	Business Organization And Principles Of Management	3
SEMESTER - II	PSP2702	Environmental Studies And Disaster Management	3
	ACC2702	Cost And Management Accounting	3
	MKT4702	Marketing Management	3
	HRM2702	Introduction To Sociology	2
	PSP2703	Joy Of Innovation	2
	BAT1701	Descriptive Business Analytics	3
SEMESTER - III	HRM3703	Organizational Behaviour	3
	OPS3701	Operations Management	3
	DSC2704	Business Research Methodology	3
	MKT1701	Bringing Ideas to Market	3
	PSP1701	Happiness	2
	SKL1301	Critical Reasoning And System Thinking	2
	PRJ2901	Internship (Social Project)	6
SEMESTER - IV	HRM4704	Human Resource Management	3
	FIN4701	Financial Management	3
	BAT2702	Fundamentals of Artifical Intelligence and Machine Learning	3
	BAT2703	Predictive Business Analytics using R	3
	MGT2703	Strategic Risk Taking Skills	2
	SKL5703	Data Visualization	2
SEMESTER - V	TAL3702	Corporate Governance and Ethics in Family Owned Business	3
	MGT3002	Design Thinking	3
	MKT5701	Markstrat Simulation	3
	PRJ3500	Capstone Simulation	6
	SKL3501	Photograpgy and Video Editing	2
	SKL1702	Selling, Negotiating And Persuading Skills	2
	Elective	Elective -1	2
	Elective	Elective -2	2
	SIP4701	Summer Internship - 08 Weeks	8
SEMESTER - VI	MGT6703	International Business Management	3
	OPS3001	Project Management	3
	DSC6505	Data Science Using R and Python (Along with MBA students)	2
	PRJ3502	Integrated Project	8
	Elective	Elective -3	2
	Elective	Elective -4	2
	Elective	Elective -5	2
	Elective	Elective -6	2
Bridge Module	MGT6801	Bridge to MBA Capsule	15
	PSP6701	Personal Journey for Excellence	
Semester VII	SKL6702	Written Analysis and Communication	2
	MGT7702	Business Model and Intellectual Property	2
	Elective	Elective -7	2
	Elective	Elective -8	2
	Elective	Elective -9	2
	Elective	Elective -10	2
	OPS6001	Operations Research	2
	TAL7701	Managing Stakeholders and Legal Processes	2
	SKL7705	Problem Solving and Consulting Skills	2
	Elective	Elective-11	2
	Elective	Elective-12	2
	Elective	Elective-13	2
Semester VIII	MGT7004	Analyzing and Mitigating Risk	2
	Elective	Elective-14	2
	Elective	Elective-15	2
	Elective	Elective-16	2
	PSP7703	Ethics and Indian Ethos	2
	MGT7905	Integrated Decisions Making	4
	MGT7706	Leveraging Information Technology for Business	2
	MGT7707	Strategic Management	2
	PSP7704	Indian Economy in the Global Context	2
	SKL7706	Leadership Development	2
	CoCurricular	Co-Curricular Activity	8
	PRJ5503	Sankalp- Social Entrepreneurship Project	4
Semester IX	SIP5702	On-the-job training Diary Writing & Presentation	10
	Elective	MOOCs Based Industry Specific Elective 1	2
	Elective	MOOCs Based Industry Specific Elective 2	2
Semester X	SIP5703	On-the-job training Presentation and Report	10
	Elective	MOOCs Based Industry Specific Elective 3	2
	Elective	MOOCs Based Industry Specific Elective 4	2
	PRJ5504	Applied Business Research Project	4
		Total Credits	**230**

MBA with specialization in Marketing	MBA with specialization in Finance	MBA with specialization in Human Resources	MBA with specialization in Business Analytics	MBA with specialization in Operations and Supply Chain
Luxury Management	Business Valuation and Modelling	Talent Acquisition and Management	Advanced Business Research	Lean Six Sigma
Consumer Behavior	Derivatives and Financial Risk Management	Compensation Management	Data Visualization for Managers	Global Supply Chain Management
Brand Management and IMC	Treasury and Forex Management	Mentoring and Coaching	VBA and SQL	Service Operations
Marketing at the bottom of the Pyramid	Advanced Corporate Finance			
Sales and Distribution Management	Portfolio Management and Analytics	Industrial relations and labor legislation	Machine Learning Algorithms	Software Based Project Management
Service Management	Mergers and Acquisitions	Performance Management and Competency mapping	NLP and Text Analytics	Operations Strategy
Relationship Marketing	Fixed Income Securities			
Digital and Social Media Marketing	Private Equity & Venture Capitalists	Cross-Cultural HRM	Big Data Analytics	Operational Leadership
Marketing Metrics	Wealth Management	Strategic Human Resource Management	Marketing and Pricing Analytics	Integrated Management System
International Marketing	Behavioral Finance and Technical analysis		HR Analytics	
	Legal and Regulatory compliance (KPMG)		Financial Analytics	
	Fraud Risk Management (KPMG)			
	Accounting and Auditing (KPMG)			
	Fraud in Digital Environment (KPMG)			

Module 5   Module 6   Module 7

Annexure 4: BBA Skills and Perspective Courses

Generic Elective (GE) Course (Unrelated discipline) - Perspectives - 3 Credits
Introduction to Psychology
Introduction to Sociology
Living Literature and Arts
Philosophy and Logic
World Civilizations
Indian Economy
Political Science
Social Communication
Photography and Video Editing
Indian Culture & Ethos
Foreign Language
Contemporary Societal Issues
Indian Constitution

Skill Enhancement Courses (SEC) - Skills - 2 Credits
Critical Reasoning and Systems Thinking
Data Visualization
Effective Presentation skills
Etiquette and Conversational Skills
Excel Spreadsheet Modelling
Joy Of Innovation
Negotiation and Dispute Resolution
Problem Solving and Consulting Skills
Quantitative Techniques
R for Data Engineering
Resume Writing and Career Skills
Selling, Negotiating, and Persuading Skills
Strategic Risk-Taking Skills
Teamwork and Leadership

Master of Business Administration (MBA) : Core			
Module – 1	**Category**	**Course Title**	**Credits**
	Foundation	Finance for Non-Finance	0
	Foundation	Personal Journey for Excellence (Strength Finder and Training Need Identification Workshop)	0
	Core	Joy of Management	2
	Core	Micro-Economics	2
	Core	Business Statistics	2
	Core	Marketing and Consumer Behaviour	2
	Skill	Excel Spreadsheet Modelling	2
	Skill	Written Analysis and Communication	2
	Project	Sankalp - Social Entreprenurship Project (Module 8)	
			12
Module – 2	**Category**	**Course Title**	**Credits**
	Foundation	Learning R	0
	Core	Organizational Behaviour	2
	Core	Financial Statement Analysis and Reporting	2
	Core	Business Research Methodology	2
	Core	Operations Research	2
	Core	Macro Economics & Policy	2
	Skill	Business Communication & Presentation Skills	2
			12
Module – 3	**Category**	**Course Title**	**Credits**
	Core	Costing Products and Services	2
	Core	Synthesizing and Analyzing Data using R	2
	Core	Managing Operations and Supply Chain	2
	Core	Human Resource Management	2
	Core	Indian Banking and Financial Markets	2
	Core	Marketing of Products and Services	2
			12
Module – 4	**Category**	**Course Title**	**Credits**
	Core	Managing Financial Resources	2
	Core	Bringing Ideas to Market	2
	Core	Project Management	2
	Core	Data Science Using R and Python	2
	Perspective	Critical Reasoning and Systems Thinking	2
	Skill	Selling, Negotiation and Persuading Skills	2
			12
Module – PS	**Category**	**Course Title**	**Credits**
	Project	Summer Internship - 08 Weeks	8
Module – 5	**Category**	**Course Title**	**Credits**
	Foundation	Personal Journey for Excellence (Strength Finder and Training Need Identification Workshop)	0
	Core	Management of Design	2
	Core	Business Model and Intellectual Property	2
	Elective	Elective-1	2
	Elective	Elective-2	2
	Elective	Elective-3	2
	Elective	Elective-4	2
	Project	Applied Business Research (Till Module 8)	
		Global Module Track -International Business @ Summer School Abroad	
			12
Module – 6	**Category**	**Course Title**	**Credits**
	Project	Capstone Simulation	2
	Core	Managing Stakeholders and Legal Processes	2
	Elective	Elective-5	2
	Elective	Elective-6	2
	Elective	Elective-7	2
	Skill	Problem Solving and Consulting Skills	2
			12
Module – 7	**Category**	**Course Title**	**Credits**
	Core	Analyzing and Mitigating Risk	2
	Elective	Elective-8	2
	Elective	Elective-9	2
	Elective	Elective-10	2
	Perspective	Ethics and Indian Ethos	2
	Project	Integrated Decisions Making	4
			14
Module – 8	**Category**	**Course Title**	**Credits**
	Core	Leveraging IT for Business	2
	Core	Strategic Management	2
	Perspective	Indian Economy in the Global Context	2
	Skill	Leadership Development	2
	Project	Applied Business Research Project	4
	Project	Sankalp- Social Entreprenurship Project	4
			16
Total Credits and teaching hours in the program			**110**

BML MUNJAL UNIVERSITY™
FROM HERE TO THE WORLD

BMU/RO/2021/087

Date: March 20, 2021

Board of Studies (BoS)
School of Management

In continuation of previous notification No. BMU/RO/2020/78(I); dated May 07, 2019; The Board of Studies, School of Management is further re-constituted with the following members from the date of notification.

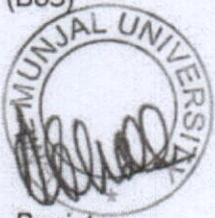| S.N.	Constitution	Name of Member	Designation	Membership
1	Dean	Dr. Vishal Talwar	Professor & Dean School of Management	Chairperson
2	All Professors and Associate Professors, and a maximum of two Assistant Professors from each academic programme	Dr. Jaskiran Arora	Professor & Associate Dean (Academic Affairs & Operations), School of Management	Member
3		Prof. Davinder Singh	Associate Professor	Member
4		Dr. Chirag Malik	Associate Professor	Member
5		Dr. Aunsree Paul	Associate Professor	Member
6		Dr. Rik Paul	Associate Professor	Member
7		Dr. Jaya Ahuja	Assistant Professor	Member
8		Dr. Ritu Chhikara	Assistant Professor	Member
9	One Professor from the other School	Dr. Goldie Gabrani	Professor School of Engineering & Technology	Member
10	Maximum of two subject experts (mix of academics, industry and research labs) per programme nominated by the Dean	Dr. Viswanath Pingali	Professor, Indian Institute of Management , Ahmedabad	Member
11		Mr. Jagvinder Singh Brar	Partner, Forensic Services, KPMG	Member
12		Mr. Sandeep Kohli	Partner & Talent leader, EY India	Member
13		Mr. Geetraj Singh	Group Head Organizational Development, Mount Meru	Member
14		Mr. S. V Nathan	Chief Talent Officer, Deloitte India	Member
15	One Alumni	Ms. Rubal Rathi	Alumni, MBA 2017-2019 Batch	Member

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16	One student per programme	Mr. Apoorv Malik	Student; BBA 2019-2022 Batch	Special Invitee
17		Mr. Anshul Sharma	Student; MBA 2020-2022 Batch	Special Invitee

Tenure of Memberships: 02 years from the date of notification.

Quorum & Frequency of the meeting: As mentioned in "Constitution and Functions of Boards of Studies (BoS)"

Registrar

Campus: 67ᵗʰ Milestone, NH-8, Sidhrawali, Gurugram, Haryana-122413
Corporate Office: 2ⁿᵈ floor, Tower-2, NBCC Plaza, Sector-V,
Pushp Vihar, Saket, New Delhi - 110017

Mentored by: **Imperial College**
London
BUSINESS SCHOOL

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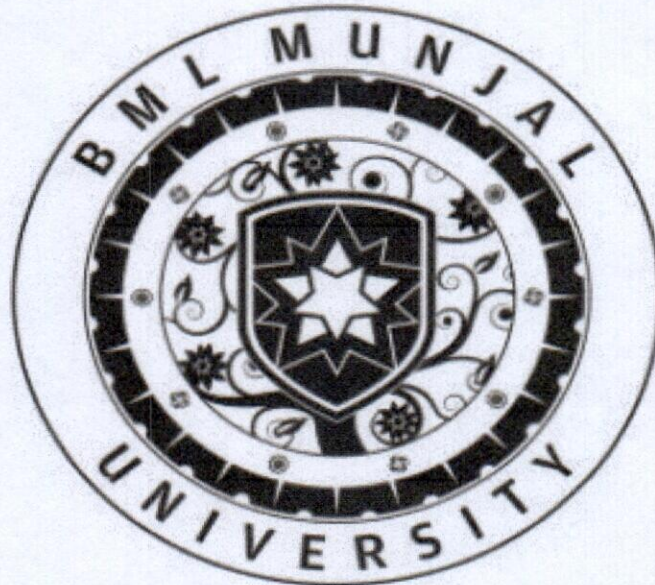
Board of Studies
School of Management
(Revised)

BML Munjal University, Gurugram

Campus: 67th Milestone, NH-8, Sidhrawali, Gurugram, Haryana-122413
Toll Free No:. 1800-103-6888 | info@bmu.edu.in | www.bmu.edu.in

Mentored by: Imperial College
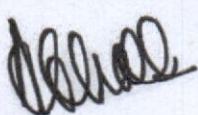London
BUSINESS SCHOOL

BML MUNJAL UNIVERSITY™

Board of Studies (BoS)
School of Management

In continuation of previous notification No. BMU/RO/2021/087; dated March 20, 2021, the following members have been included in the Board of Studies-SOM in place of vacant memberships:
a) Dr. Vishal Talwar- Director IMT, Ghaziabad as a new external member
b) Dr. Sarabjot Singh Anand- Professor & Director, CSE, School of Engineering and Technology as a member
c) Dr. Deepak Pandit- Chair Professor, (I2E) as a member
d) Dr. Sangita Dutta Gupta- Associate Professor, School of Management as a member
e) Prof. Sumedh Kulkarni- Associate Professor of Practice, School of Management as a member
f) Dr. Vaishali Sharma- Assistant Professor, School of Management as a member

The revised memberships of Board of Studies-School of Management w.e.f. September 14, 2021 are as follows:

S.N.	Constitution	Member	Designation	Membership
1	Dean-School of Management	Dr. Jaskiran Arora	Professor & Dean School of Management	Chairperson
2	All Professors and Associate Professors, and a maximum of two Assistant Professors from each academic programme	Dr. Deepak Pandit	Chair Professor, (I2E)	Member
3		Dr. Sangita Dutta Gupta	Associate Professor School of Management	Member
4		Prof. Sumedh Kulkarni	Associate Professor of Practice School of Management	Member
5		Prof. Davinder Singh	Associate Professor School of Management	Member
6		Dr. Chirag Malik	Associate Professor School of Management	Member
7		Dr. Aunsree Paul	Associate Professor School of Management	Member
8		Dr. Rik Paul	Associate Professor School of Management	Member
10		Dr. Ritu Chhikara	Associate Professor School of Management	Member
		Dr. Jaya Ahuja	Assistant Professor School of Management	Member
11		Dr. Vaishali Sharma	Assistant Professor School of Management	Member

BML MUNJAL UNIVERSITY ™

12	One Professor from the other School	Dr. Sarabjot Singh Anand	Director, Computer Science & Engineering, School of Engineering and Technology	Member
13	Maximum of two subject experts (mix of academics, industry, and research labs) per programme nominated by the Dean.	Dr. Vishal Talwar	Director IMT, Ghaziabad	Member
14		Dr. Viswanath Pingali	Professor Indian Institute of Management Ahmedabad	Member
15		Mr. Jagvinder Singh Brar	Partner, Forensic Services, KPMG	Member
16		Mr. Sandeep Kohli	Partner & Talent leader, EY India	Member
17		Dr. Geetraj Singh	Group Head Organizational Development, Mount Meru	Member
18		Mr. S. V Nathan	Chief Talent Officer, Deloitte India	Member
19	One Alumni to be co-opted by the BOS and nominated by the Dean	Ms. Rubal Rathi	Alumni, MBA 2017-2019 Batch	Member
20	One student per programme normally on the basis of merit and nominated by the Dean, as special invitees.	Mr. Apoorv Malik	Student; BBA Registration No: 190A2010002	Special Invitee
21		Mr. Anshul Sharma	Student; MBA Registration No: 200A3010054	Special Invitee

Registrar

BML MUNJAL UNIVERSITY

Minutes of Meeting

15th Academic Council

March 27, 2021; 11:00 AM

MINUTES OF THE 14th MEETING OF THE ACADEMIC COUNCIL

The 15th meeting of the Academic Council was held virtually on March 27, 2021. Following were present:

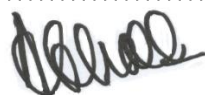| Sr. No.	NAME	DESIGNATION
1.	Dr. Manoj K. Arora	Vice Chancellor & Chairperson
2.	Dr. K. R. Sarma	Member
3.	Dr. Vinay K. Nangia	Member
4.	Mr. Purushottam C. Kaushik	Member
5.	Dr. Vishal Talwar	Member
6.	Prof. Ajay Mohan Goel	Member
7.	Dr. Kiran Khatter	Member
8.	Dr. Jaskiran Arora	Member
9.	Dr. Nandita Choudhury	Member
10.	Dr. Kamal Kant Jain	Member
11.	Ms. Suneet Soni	Special Invitee
12.	Sh. Abhay Sharma	Member Secretary

At the outset, the Chairperson, Prof. Manoj K. Arora, thanked all the members for joining and taking time out for this meeting during this unprecedented situation. The Chairperson welcomed Dr Kamal Kant Jain, Assistant Professor & Assistant Dean (Academic Affairs & Operations), School of Engineering and Technology as the new Academic Council member w.e.f. January 27, 2021. He also informed the members that BMU will start **four years B. Tech-Electronics & Computer Engineering** and **five years integrated BBA MBA programmes** from the academic session 2021-22 and has plans to start **three-years Bachelor of Vocation (B.Voc.) & three years LLB (Hons.)** and Post Graduate Diploma programmes in various specializations once NOC is received from the Directorate of Higher Education, Haryana. He requested all the members to continue to give suggestions on the proposed new programmes.

Thereafter, the Chairperson requested the member secretary to present the agenda items for discussion.

LEAVE OF ABSENCE

Leave of absence was granted to Dr. Neela Natraj, Dr. N. S. Nigam & Dr. Maneek Kumar as they could not attend the meeting due to some other commitments.
....
Once quorum was established, the meeting commenced. The agenda items were taken up for the consideration and approval of the Academic Council.
....

A. STATUTORY AGENDA

AC.15/2021/01/15.A.01: Reconstitution of the Academic Council w.e.f. January 27, 2021

The revised constitution of the Academic Council of the University, duly approved by the vice-chancellor as the Chairperson, as placed at **annexure 1**, was presented to the council for ratification. Dr. Kamal Kant Jain, Assistant Professor & Assistant Dean (Academic Affairs & Operations), School of Engineering and Technology, is appointed as the new member of the Academic Council from January 27, 2021, in place of Dr. Kalluri Vinayak, who has left the university.

<u>The council considered and ratified the same.</u>

AC.15/2021/01/15.A.02: To confirm the minutes of the 14th meeting of Academic Council held on November 07, 2020.

A copy of the minutes was circulated to the members of the Academic Council. As no comments were received, the minutes were confirmed.

The minutes of 14th meeting of Academic Council meeting is placed at annexure 2.

B. AGENDA ITEMS FOR RATIFICATION

AC.15/2021/01/15.B.01: Reconstitution of Examination Committee

The revised constitution of the University's Examination Committee, duly approved by the vice-chancellor as the Chairperson of the Council, as placed at **annexure 3,** was presented to the Council for ratification. The following members have been included in the Examination Committee of the University in place of vacant memberships:
- Dr. Maneek Kumar- Professor & Dean, School of Engineering & Technology as a member
- Dr. N. S. Nigam- Professor & Dean, School of Law as a member
- Dr. Anusree Paul- Associate Professor, School of Management as a member

<u>The council considered and ratified the same.</u>

AC.15/2021/01/15.B.02: Reconstitution of Research Advisory Board

The constitution of the Research Advisory Board, duly approved by the vice-chancellor as the Chairperson of the Council, as placed at **annexure 4,** was presented to the Council for ratification.

<u>The council considered and ratified the same.</u>

AC.15/2021/01/15.B.03: Reconstitution of Internal Quality Assurance Cell

The constitution of the Internal Quality Assurance Cell, duly approved by the vice-chancellor as the Chairperson of the Council, as placed at **annexure 5,** was presented to the Council for ratification.

The council considered and ratified the same.

AC.15/2021/01/15.B.04: Constitution of Research and IPR Ethics Committee

The constitution of the University's Research and IPR Ethics committee, duly approved by the vice-chancellor as the Chairperson of the Council, as placed at **annexure 6,** was presented to the Council for ratification. This committee is constituted to:

- Facilitate and promote ethical research that is of potential benefit to participants and society,
- Ensure that the research conducted is of high ethical standard, integrity, good research governance and compliance to the legal regulations.

The council considered and ratified the same.

AC.15/2021/01/15.B.05: Reconstitution of Library Committee

The revised constitution of the Library Committee, duly approved by the vice-chancellor as the Chairperson of the Council, as placed at **annexure 7,** was presented to the Council for ratification. The amendments effective from March 8, 2021, in the Library Committee are as follow:

"Dr. Kamal Kant Jain, Assistant Professor & Assistant Dean (Academic Affairs & Operations), School of Engineering and Technology is appointed as the new member in place of Dr. Kalluri Vinayak".
"Dr. Vivek Sehrawat, Assistant Professor, School of Law is appointed as the new member in place of Mr. Shiladitya Rakshit".
"Ms. Khushi Jain, (Student, MBA First Year 2020 Batch; Registration No: 200A3010036) is appointed as the new member in place of Ms. Adya Gaur".
"Ms. Shivani Mittal, (Student, B.Tech. Second Year 2019 Batch; Registration No: 190C2020016) is appointed as the new member in place of Ms. Deepika Bist".
"Mr. Vipin Kumar (Library Assistant) is appointed as a new member".
"Ms. Deepa Sharma is appointed as the new member secretary in place of Dr. Ashok Upadhyay".

The council considered and ratified the same.

AC.15/2021/01/15.B.06: Reconstitution of Board of Studies, School of Engineering & Technology

The revised constitution of the Board of Studies, School of Engineering & Technology, duly approved by the vice-chancellor as the Chairperson of the Council, as placed at **annexure 8 (a),** was presented to the Council for ratification.

Dr. Vinnie Jauhari, Director- Education Advocacy (Learning Specialist), Microsoft Corporation India Pvt. Ltd., is appointed as a new member of the Board in place of Mr. Rajinder Kr. Kaura, who has joined the university as a Ph.D scholar.

The CVs of experts from Academics, Industry, Research nominated as external members of Board of Studies, School of Engineering & Technology are placed at **annexure 8 (b).**

The council considered and ratified the same.

AC.15/2021/01/15.B.07: Reconstitution of Board of Studies, School of Economics & Commerce

The constitution of the Board of Studies, School of Economics & Commerce, duly approved by the vice-chancellor as the Chairperson of the Council, as placed at **annexure 9 (a),** was presented to the Council for ratification.

The CVs of experts from Academics, Industry, Research nominated as external members of Board of Studies, School of Economics & Commerce are placed at **annexure 9 (b).**

The council considered and ratified the same.

AC.15/2021/01/15.B.08: Reconstitution of Board of Studies, School of Management

The constitution of the Board of Studies, School of Management, duly approved by the vice-chancellor as the Chairperson of the Council, as placed at **annexure 10 (a),** was presented to the Council for ratification.

The CVs of experts from Academics, Industry, Research nominated as external members of Board of Studies, School of Management are placed at **annexure 10 (b).**

The council considered and ratified the same.

AC.15/2021/01/15.B.09: Reconstitution of Board of Studies, School of Law

The revised constitution of the Board of Studies, School of Law, duly approved by the vice-chancellor as the Chairperson of the Council, as placed at **annexure 11 (a),** was presented to the Council for ratification.

"Mr. Badrinath Durvasula, Vice President and Head Legal, ESSAR-Mumbai, is appointed as the new member of the Board".
"Class representatives of BA LLB (Hons.) & BBA LLB (Hons.) programmes of 2019 batch, are appointed as special invitees of the Board".
"Dr. Kavita Chawla, Assistant Professor, School of Law is appointed as the member under the category of faculty related to the concerned school".

The CVs of experts from Academics, Industry, Research nominated as external members of Board of Studies, School of Law are placed at **annexure 11 (b).**

<u>**The council considered and ratified the same.**</u>
AC.15/2021/01/15.B.10: Minutes of the 02nd Examination Committee meeting held on Feb 12, 2021

A copy of the minutes of 02nd Examination Committee meeting held on Feb 12, 2021, as placed at **annexure 12**, was presented by Controller of Examinations to the Council for ratification.

<u>**The council considered and ratified the same.**</u>

AC.15/2021/01/15.B.11: Revised IPR Policy

The revised IPR, duly approved by the vice-chancellor as the Chairperson of the Council, as placed at **annexure 13,** was presented to the Council for ratification. The key points of the policy are as follows:

- **Promotion of IP utilization:** The intent of this IP Policy is to facilitate the widespread use of and access to, the Institution's IP through various means.
- **IP management:** The IP Policy seeks to set the framework for the translation of the IP arising from the Institution's research into products, services, and processes. It encourages Staff Members, Students and Visitors to become Creators and to identify IP with potential commercial value. It also establishes clear rules and procedures for the management and Commercialization of such IP generated at the Institution.
- **Local development:** The Institution encourages Research that responds to the local, regional, and national needs.

The members appreciated the policy. The members suggested a few minor changes in the policy.

Prof. Vishal and the team will have a discussion with Prof. Nangia on the changes suggested, make appropriate amendments, and share the revised draft with the members, which can then be put to the Chairman, Academic Council, for the approval and subsequent action by the member secretary

AC.15/2021/01/15.B.12: Ph.D. Admission (Winter Session: Academic Year 2020-21)

The list of candidates admitted to the PhD programme during the Winter Session: Academic Year 2020-21, as placed at **annexure 14**, was presented to the Council for ratification.

<u>**The council considered and ratified the same.**</u>

AC.15/2021/01/15.B.13: Scholarship Status: MBA, B.Tech, BBA, B.Com (Hons), BA (Hons) Economics, BA LLB (Hons), BBA LLB (Hons) & Ph.D for Even Semester (Academic 2020-21)

The list of students who were admitted with scholarships in MBA, B.Tech, BBA, B.Com (Hons.), BA (Hons) Economics, BA LLB (Hons.) & BBA LLB (Hons.) & Ph.D programmes in the academic year 2020-21, as placed at **annexure 15** were presented to the Council for ratification.

The council considered and ratified the same.

AC.15/2021/01/15.B.14: Integrated BBA-MBA Program Admission Policy (AY: 2021-22)

The Integrated BBA-MBA Program Admission Policy (AY: 2021-22), duly approved by the vice-chancellor as the Chairperson of the Council, as placed at **annexure 16** presented to the Council for ratification. The key points of the policy are as follows:

Programme	Eligibility criteria	Evaluation process
Integrated BBA-MBA	minimum aggregate of 60% in 3 Core subjects of their class XII final board examinations	Class X and Class XII final examination scores (40% weightage
	Cambridge/IGCSE board- 3A-levels minimum	BMU-SAT (through this test, the candidate will be specifically evaluated on aptitude and communication skills) (40% weightage
	IB Diploma/ Certificate -24 points with 3 subjects at HL and 3 subjects at SL	Personal Interview (20% weightage)

The applicants will be admitted based on the cumulative score in Class 10th, 12th, BMU-SAT, and the Personal Interview.

The council considered and ratified the same.

B. AGENDA ITEMS FOR RECOMMENDATIONS AND APPROVALS

AC.15/2021/01/15.C.01: University Calendar: Academic Year 2021-22

The University Calendar: Academic Year 2021-22, as placed at **annexure 17,** was presented to the Council for approval.

The council considered and approved the same.

AC.15/2021/01/15.C.02: Basic General Program Scheme and Structure of B.Voc Programmes

The basic general program scheme and structure of B.Voc Programmes, duly recommended by BOS, School of Engineering & Technology, as placed at **annexure 18,** was presented to the Council for approval.
The key points are as follows:

Awards proposed:

Award	Duration	Corresponding NSQF level
Diploma	1 year	5
Advanced Diploma	2 years	6
B.Voc. Degree	3 years	7

Each of the awards shall specify within parenthesis, the skill(s) specializations.:
- B.Voc. (Automobile); B.Voc. (Manufacturing); B.Voc. (Business Analytics); B.Voc. (Retail Management and IT).
- Advanced Diploma (Automobile); Advanced Diploma (Retail Management) Advanced Diploma (Renewable Energy)
- Diploma (Solar Energy)

Employment Opportunities and Upward Mobility: Graduates of B.Voc. Program will be able to work in diverse manufacturing and services sector organizations in the geographical proximity of the University in many different sectors, such as:
- Automotive, Electronics, Instrumentation related manufacturing
- IT/ITES sector in varied areas in Software solutions, Business process outsourcing, Cloud computing, AI, ML, and Data sciences
- Energy, Environment, and Sustainable Development
- Data Analytics, Business Analytics, and Consulting

Curriculum Design - Basic Principles:
- Credit based Semester system
- Align Vocational Education component with QPs / NOSs
  - Relevant to Industries requirements
  - Relevant Job Roles based on Exit Profile
  - Assessment for QP/NOS based component through respective SSCs
- Design and Delivery of the Program to be aligned with:
  - Industry requirement; Employability, Student upskilling and employment
- Credits for practical work, apprenticeship, on job training, project work
- Multiple entry-exit points
- Credits for General Education and Skill Education in 40:60 ratio
- Interdisciplinary futuristic program curriculum with exposure to sustainability, AI and machine learning, and automation, etc.

The recommendations for basic general program scheme and structure of B.Voc Programmes are placed at **annexure 19.**

The council complimented the School in devising an excellent program scheme and structure of B.Voc Programmes and unanimously approved the same.

AC.15/2021/01/15.C.03: Program Structure and Syllabi of 2ⁿᵈ and 3ʳᵈ year courses for B.Tech.-Electronics and Computer Engineering Program.

The programme structure and syllabi of 2ⁿᵈ and 3ʳᵈ year courses for B.Tech.-Electronics and Computer Engineering Program, duly recommended by BOS, School of Engineering & Technology, as placed at **annexure 20,** was presented to the Council for approval. The key points are as follows:

Program Overview:
➢ Fractional Credits
➢ Practice School
➢ Choice Based Credit System
➢ Specialisations Major / Minors
➢ Outcome Based Education – PEO, PO, PSO, CO
➢ Industry Aligned

Course category wise credit distribution:

Course Category	Credits
Perspective Courses	13
- School	- 10
- Student Specific	- 3
Skill Courses	9
- School	- 7
- Student Specific	- 2
Foundation Courses	37
- School	- 21
- Program Specific	- 16
Core Courses	44
- Classroom	- 34
- Lab	- 8
- Seminar / Case Studies	- 2
Core Elective Courses [Student Specific]	20
- Classroom	- 15
- Major Project	- 5
Open Elective Courses [Student Specific]	9
- Classroom / Lab	- 9

Practice School		18	
- PS – I		-	Audit
- PS – II		-	4
- PS – III		-	14
Co-Curricular		5	
Program Total Credits		155	

Program Delivery:
➢ Integrated delivery
  ▪ Integrated projects from 1st semester to 8th semester
  ▪ Course / Lab wise syllabus to also reflect the principle of seamlessness
➢ Options for major and minor specializations
➢ Learning through various modes, such as: Classroom teaching, MOOCs, Industry engagement. Use of available technology and resources through a combination of different learning schemes, such as: flipped classroom, experiential, application based, classroom, and projects
➢ Integrated Practice school engagement spread across the degree tenure
➢ Build expertise in at least one application domain areas (e.g., Healthcare, FinTech, Retail, Manufacturing etc.)

The recommendations for programme structure and syllabi of 2nd and 3rd year courses for B.Tech.-Electronics and Computer Engineering Program are placed at **annexure 21.**

The council after deliberations approved the program structure and syllabi of 2nd and 3rd year courses for B.Tech.-Electronics and Computer Engineering Program

AC.15/2021/01/15.C.04: Pre-Ph. D Courses of School of Engineering & Technology

The pre-Ph.D courses of School of Engineering & Technology, duly recommended by BOS, School of Engineering & Technology, as placed at **annexure 22,** was presented to the Council for approval.

The recommendations for pre-Ph.D courses of School of Engineering & Technology are placed at **annexure 23.**

The council after deliberations approved the pre-Ph.D courses of School of Engineering & Technology

AC.15/2021/01/15.C.05: Change in Academic Delivery Plan for 2018 Batch B.Tech. Students

The change in academic delivery plan for 2018 Batch B.Tech. Students, School of Engineering & Technology, as placed at **annexure 24,** was presented to the Council for approval. The key points are as follows:

Background

- 2018 batch B. Tech. students were scheduled to engage in practice school-III (PS-III) during VIth semester i.e., Even semester, AY 2020-21.
- School decided to postpone PS-III for 2018 batch B. Tech. students to VIIIth semester i.e., Even semester, AY 2021-22 (final semester).
  - Decision driven by inputs from various stakeholders
  - Academic delivery plan for semester VI, VII, and VIII was changed for 2018 batch B. Tech. students.
  - Coursework from semesters VII/VIII was preponed to semesters VI/VII
  - PS-III was postponed to semester VIII (final semester) from semester VI.

The council after deliberations approved the change in academic delivery plan for 2018 Batch B.Tech. Students.

AC.15/2021/01/15.C.06: Program Scheme and Structure of BBA-MBA Integrated Program

The program scheme and structure of BBA-MBA integrated program, duly recommended by BOS, School of Management, as placed at **annexure 25,** was presented to the Council for approval.

The recommendations for program scheme and structure of BBA-MBA integrated program, are placed at **annexure 26.**

The council after deliberations approved the programme scheme and sstructure of BBA-MBA integrated programme

AC.15/2021/01/15.C.07: Establishment of Institute of Innovation & Entrepreneurship (I2E) as a new constituent of the University

The Institute of Innovation & Entrepreneurship (I2E) has been established as a new constituent of the University. So, a detailed proposal as placed at **annexure 27**, was presented to the Council for approval. The key points are as follows:

AIMs of I2E

Year 2024 -25: BMU (I2E) is #1 University for Entrepreneurship

Teaching: Full spectrum programs – UG Entrepreneurship degree, Specialization courses, Certificate courses

- +150 UG students enrolled in the institute
- +25 Graduate entrepreneurs (first batch)
- +100 certificate course graduates

Research & Consultancy: Joint research with industry, government, and other institutions

- +3 cr in Research Grants
- +5 cr Industry Consultation
- +5 Publications in High-Ranking Journals (ABDC, Scopus, Web of Science etc.); +15 White papers

Incubation: Cover entire entrepreneurship spectrum - pre-incubate (ACIC), early stage, accelerator incubates

- +30 incubates
- +50 graduate incubates
- +200 cr valuation of incubate ventures

Financial: Achieve sustainability by year 4

- +20 cr annual revenue (+50 cr cumulative revenue)
- Cash positive

Prof. Nangia suggested that only certification programmes should be started by I2E at initially level, instead of degree programmes.

The council after deliberations recommended the proposal to establish the Institute of Innovation & Entrepreneurship (I2E) as a new constituent of the University to the Governing Body for approval.

D. ADDITIONAL AGENDA ITEMS WITH THE PERMISSION OF CHAIR

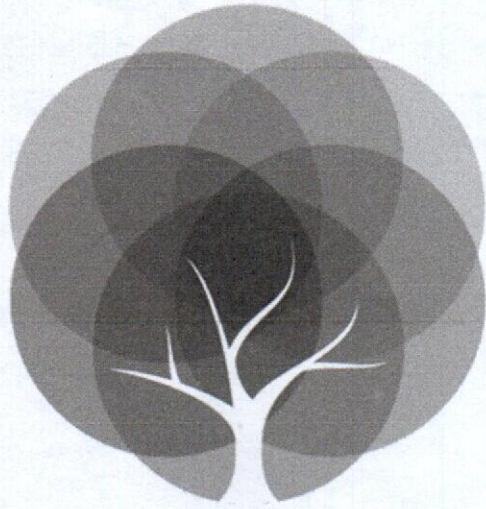**AC.15/2021/01/15.D.01: Additional agenda items with permission of the chair**

The Chairperson confirmed that the quorum was present throughout the meeting. As there was no other business, the meeting ended with a vote of thanks to the Chair.

Date: March 27, 2021

Abhay Sharma
Member Secretary & Registrar

BML MUNJAL UNIVERSITY™

FROM HERE TO THE WORLD

BOARD OF STUDIES MEETING

8th November 2019

Board of Studies Meeting on 8th November, 2019

Board Room, 1st Floor, Gateway Building

Agenda Points:

S. No.	Topic
1	To review the minutes of the last Board of Studies meeting
2	To discuss and approve the programme structure of BA (Hons) Economics **(Appendix 1)**
3	To discuss and approve the revised programme structure of B.Com (H) **(Appendix 2)**
4	To discuss and approve the curriculum for BBA in Digital marketing **(Appendix 3)**
5	To present the Progressive Trends amongst Advanced and slow learners
6	Any other issue with the permission of the Chair

BOARD OF STUDIES
SCHOOL OF MANAGEMENT

ATTENDANCE   **Date: 8th November 2019**

Dr. Vishal Talwar	Dean – School of Management	*(signature)*
Dr. Jaskiran Arora	Professor & Associate Dean	*Jaskiran (signature)*
Dr. Prabal K. Sen	Former Professor, XLRI	*P K Sen (signature)*
Dr. Pitabas Mohanty	Professor & Associate Dean, XLRI	*Pitabas (signature)*
Dr. Sapna Poti	IIT Madras Indian Institute of Corporate Affairs (IICA), Head-CSR-CESD Vice President Development	*(signature)*
Mr. Vijay Sethi	HR – Hero MotoCorp	
Dr. Anusree Paul	Associate Professor (Guest Member)	*A Paul (signature)*
Dr. Kavita Chawla	Assistant Professor, SoL (School of Law)	*Kavita (signature)*
Dr. Payal Kumar	Professor	*Payal Kumar (signature)*
Dr. Subaran Roy	Associate Professor	*(signature)*
Prof. Davinder Singh	Associate Professor	
Dr. Rik Paul	Associate Professor	
Dr. Jaya Ahuja	Assistant Professor	*(signature)*

BML MUNJAL UNIVERSITY™
A Hero GROUP INITIATIVE

Board of Studies Meeting on 8th November, 2019

Board Room, 1st Floor, Gateway Building

MINUTES of the meeting

1. Minutes of the last BOS were presented and approved.

2. The Program Structure for BA Economics (Hons) was presented to the Board and the following suggestions were received:
   o Introduce short desk research projects with some of the courses. This will enable students to get used to real world data and enhance their analytical and writing skills. This can be used as an additional instrument for assessment for various courses.
   o An elective course on Predictive Analysis must be in the pool of electives in this ever-changing business environment.
   o Instead of Institutional Economics course, Regulatory Economics course should be included. In that case basic concepts of law, business contracts etc., can be also part of the course content. The Board suggested that it is imperative to include a portion of law into the curriculum.
   o In order to focus more on employability, the working committee of the economics program, should also speak to industry experts regarding the latest software use. In case there is any industry specific software, students should be trained accordingly.
   o In addition, students should be encouraged to earn online certificates from platforms like NPTEL. Similar certificates add value to their skill set.
   o Students who will opt for Management as minor must start with Business Organization and Principles of Management (as their general elective course from management) in their third semester. Similarly, Principles of Financial Management should be the first general elective course for Finance minor students in the third semester.

   All these changes are being made and the revised curriculum is being submitted to the Academic Council for approval **(Annexure 1)**.

3. The Program Structure for B.Com (H) was presented to the Board and the following suggestions were received:
   o To consider integrating NPTEL certifications on Block-Chain and Fintech related courses in various elective courses for the B.Com(H) FinTech Track
   o To consider adding a course of 'Credit Appraisal & Business Valuation' as an elective for the students.

   These suggestions are being adopted and added to the course offering. The revised structure is being submitted to the Academic Council for approval **(Annexure 2)**

4. The program structure for BBA in Digital Marketing was shared with the Board. The suggestion was received in getting the structure reviewed by practitioners into digital marketing.

5. MBA program structure for 2020 was considered and suggestion was received to consider instituting Center for Excellence in Corporate Social Responsibility to carry Research and related activities. This is expected to provide students with opportunities for live projects and also expose them to contemporary social, economic and environmental issues.

   This suggestion is being seriously considered and will be actioned appropriately.

6. A presentation on Progressive Trends amongst advanced and slow learners was made. The board took a note of efforts made by the school to assist and encourage the students at different levels of their learning stage:

   o Identification: At the time of entry of the students, AMCAT exam is conducted to identify the initial profile of the students. The second level of identification is based on the internal marks of the students and a third level is track the students' academic performance in the University. The students with less than 6.5 CGPA are categorized as slow learners and the ones with more than 8 CGPA as advanced learners.

   o Their performance is being tracked and reviewed during the one-to-one sessions by their mentors and appropriate strategies, amongst the following, are used to facilitate student learning experience.

   - Slow Learners
     - A peer/buddy (who essentially is an advanced learner in the same class) is requested to provide support to the slow learner
     - A senior student is requested to tutor the slow learner
     - One-to-one remedial sessions are conducted for the group of students facing difficulty in the course
     - Remedial Tutorials sessions are conducted by the concerned course instructor for the entire class

   - The advanced learners are
     - Motivated to audit multiple courses to help them build a wider perspective of things in addition to their core chosen discipline
     - Encouraged to earn additional professional certifications related to the courses being taught in the core program structure.
     - Encouraged to carry research along with faculty members in the areas of mutual interest and to make paper presentations at various national and international platforms.

   The following additional suggestions were made by the board:

   o On identifying the courses that are critical for slow learners' choice of career and guiding them to focus more on 'related' courses rather than 'all' courses.

   o Suggestion was also made on considering an award for students who have progressed the most i.e. not essentially the academic toppers but those slow learners who have transitioned upwards quite well.

7. The meeting ended with a vote of thanks.

BA in Economics (Honors)- Core

Annexure - 1

Semester 1	Courses	Credits	L	T	P	hrs/week
AECC	Communicating and Presenting Skills/ Business Communication	2	1	0	2	3
Core	Mathematics for Economics	6	5	1	0	6
Core	Microeconomics I	6	5	1	0	6
Core	Macroeconomics I	6	5	1	0	6
Core	Statistics for Economics	6	5	1	0	6
	Total	26	21	4	2	27
Semester 2						
AECC	Environmental Studies and Disaster Management	2	1	0	2	3
Core	Microeconomics II	6	5	1	0	6
Core	Macroeconomics II	6	5	1	0	6
Core	Econometrics	6	5	1	0	6
Core	Indian Economic History	6	5	1	0	6
	Total	26	21	4	2	27
Semester 3						
Core	Game Theory	6	5	1	0	6
Core	Monetary Economics	6	5	1	0	6
DSE	Discipline (Economic) Specific Electives	6	5	1	0	6
SEC	Electives to be chosen	2	1	0	2	3
GE	General Elective from Inter Disciplinary filed (Introduction to Psychology)	6	5	1	0	6
	Total	28	22	4	4	30
Semester 4						
Core	Development Economics	6	5	1	0	6
Core	International Trade	6	5	1	0	6
DSE	Discipline (Economics) Specific Electives	6	5	1	0	6
DSE	Discipline (Economics) Specific Electives	6	5	1	0	6
SEC	Electives to be chosen	2	1	0	2	3
GE	General Elective from Inter Disciplinary filed (Philosophy and Logic)	6	5	1	0	6
	Total	32	26	5	2	33
Semester 5						
Project	Internship dissertation	10				
Semester 6						
Core	Public Finance	6	5	1	0	6
Core	Regulatory Economics	6	5	1	0	6
DSE	Discipline (Economics) Specific Electives	6	5	1	0	6
GE	General Elective from Inter Disciplinary filed (Introduction to Sociology)	6	5	1	0	6
GE	General Elective from Inter Disciplinary filed (Political Science)	6	5	1	0	6
SEC	Electives to be chosen	2	1	0	2	3
	Total	32	26	5	2	33
	Total Academic Program Credits	154	116	22	12	150
	Co-curricular Credits for Co-curricular Activities 1 in each semester	5				
	TOTAL PROGRAM CREDITS	159				

Category	Number of Courses	Credits	%
AECC	2	4	3%
Core	14	84	53%
DSE	4	24	15%
GE	4	24	15%
SEC	4	8	5%
Co-curricular	5	5	3%
Project	1	10	6%
	34	159	

Generic Elective (GE) Course Regular - Perspectives - 3 Credits
- Introduction to Psychology
- Introduction to Sociology
- Living Literature and Arts
- Philosophy and Logic
- World Civilizations
- Indian Economy
- Political Science
- Social Communication
- Photography and Video Editing
- Indian Culture & Ethos
- Foreign Language
- Contemporary Societal Issues
- Indian Constitution

Generic Elective (GE) Course Finance
- Foreign Exchange Market
- Fundamental Analysis of stocks
- Financial Risk Management
- Business Tax Procedures
- Fundamentals of E-Commerce
- Retail and Distribution Management
- Wealth Management
- Financial Reporting, Planning, Performance & Control
- Financial Decision Making
- Frauds in Financial Statements, Institutions and Products
- Asset Misappropriation & Palm Greasing (Bribery & Corruption)
- Portfolio Management

Generic Elective (GE) Management
- Family Business Management
- Project Management
- Performance Management
- Brand Management
- Marketing of Services
- Compensation Management
- Cross-Cultural HRM

Ability Enhancement Compulsory Courses (AECC) - 3 Credits
- Business Communication
- Environmental Studies and Disaster Management

Skill Enhancement Courses (SEC) - Skills - 2 Credits
- Critical Reasoning and Systems Thinking
- Data Visualization
- Effective Presentation skills
- Etiquette and Conventional Skills
- Excel Spreadsheet Modelling
- Joy Of Innovation
- Negotiation and Dispute Resolution
- Problem Solving and Consulting Skills
- Quantitative Techniques
- R for Data Engineering
- Resume Writing and Career Skills
- Selling, Negotiating, and Persuading Skills
- Strategic Risk Taking Skills
- Teamwork and Leadership

Discipline Specific Electives
- Introduction to Predictive Analysis
- Advanced Macroeconomics
- Corporate Finance
- Quantitative Techniques
- Environmental Economics
- Industrial Organization
- International Finance
- Labor Economics
- Urban Economics
- Corporate Governance
- Economics for Social Sector: Education and Health
- Energy Economics
- Entrepreneurship & New Ventures
- Experimental Economics
- Behavioral Economics
- Time Series Analysis
- Advanced Econometric Analysis
- Health Economics
- Political Economy
- Social Banking & Microfinance

B.Com (H) Program Structure - CORE

	Courses	Credits	L	T	P	hrs/week
Semester 1						
AECC	Business Correspondence and Reporting	2	1	0	2	3
Core	Financial Accounting	6	4	2	0	6
Core	Micro Economics	6	4	2	0	6
Core	**Data Analytics Fundamentals**	6	4	2	0	6
Core	Business Law	6	4	2	0	6
Semester 2		26	17	8	2	27
AECC	Environmental Studies and Disaster Management	2	1	0	2	3
Core	Cost and Management Accounting	6	4	2	0	6
DSE	Income Tax Law	6	4	2	0	6
Core	Advanced Accounting	6	4	2	0	6
Core	Corporate Law and Regulatory Environment	6	4	2	0	6
Semester 3		26	17	8	2	27
GE	To be Chosen	6	4	2	0	6
Skills	Electives to be chosen	2	1	0	2	3
Core	**Data Visualization**	2	1	0	2	3
Core	**Robotic Process Automation (RPA) Fundamentals**	6	4	2	0	6
DSE	Corporate Accounting	6	4	2	0	6
Core	Indirect taxes	6	4	2	0	6
Semester 4		28	18	8	4	30
GE	To be Chosen	6	4	2	0	6
Skills	Electives to be chosen	2	1	0	2	3
DSE	Electives to be chosen	6	4	2	0	6
Core	**Block Chain Fundamentals**	6	4	2	0	6
Core	Financial Management	6	4	2	0	6
Core	Financial Reporting	6	4	2	0	6
Semester 5		32	21	10	2	33
GE	To be Chosen	6	4	2	0	6
Skills	Electives to be chosen	2	1	0	2	3
DSE	Electives to be chosen	6	4	2	0	6
DSE	Electives to be chosen	6	4	2	0	6
Core	Strategic Management	6	4	2	0	6
Semester 6		32	21	10	2	33
Project	Internship/Article ship	10	10			10
		10	10			10

Co-curricular

Total Academic Program Credits		154
Credits for Co-curricular Activities 1 in each semester		5
TOTAL PROGRAM CREDITS		**159**

Category	Credits
AECC	2
Core	14
DSE	4
GE	4
Skills	4
Co-curricular	1
Project	1
	30

Category	Credits	%
AECC	4	3%
Core	84	53%
DSE	24	15%
GE	24	15%
Skills	8	5%
Project	10	6%
		159

Generic Elective (GE) Course (Unrelated discipline) - Perspectives - 6 Credits

- Introduction to Psychology
- Living Literature and Arts
- Introduction to Sociology
- Philosophy and Logic
- World Civilizations
- Derivatives and Risk Management
- Political Science
- Social Communication
- Photography and Video Editing
- Indian Culture & Ethos
- Foreign Language
- Contemporary Societal Issues
- Indian Constitution
- Forex and Treasury Management

Ability Enhancement Compulsory Courses (AECC) - 2 Credits

- Business Communication
- Environmental Studies and Disaster Management

Skill Enhancement Courses (SEC) - Skills - 2 Credits

- Critical Reasoning and Systems Thinking
- Data Visualization
- Effective Presentation skills
- Etiquette and Conversational Skills
- Excel Spreadsheet Modelling
- Joy Of Innovation
- Negotiation and Dispute Resolution
- Problem Solving and Consulting Skills
- Anti Money laundering Laws (Anti- Money Laundering Specialist)
- Wealth Management and Financial Planning
- Resume Writing and Career Skills
- Selling, Negotiating, and Persuading Skills
- Strategic Risk Taking Skills
- Teamwork and Leadership

Discipline Specific Electives

Block Chain and Financial Technology

- Sem 4 Fundamentals of Artificial Intelligence and Machine Learning
- Sem 6 Predictive Business Analytics using R
- Sem 6 Cryptocurrency and Blockchain Technology

Forensic Accounting and Corporate Fraud

- Sem 4 Frauds in Financial Statements, Institutions and Products
- Sem 6 Asset Misappropriation & Palm Greasing (Bribery & Corruption)
- Sem 6 Cyber Security and Frauds

Banking and Insurance

- Sem 4 Principles and Practices of Banking and insurance
- Sem 6 Actuarial Science in Financial Institutions
- Sem 6 Legal & Regulatory Aspects of Banking and Insurance

Derivative and Risk Management

- Sem 4 Derivatives and Risk Management
- Sem 6 Actuarial Science in Financial Institutions
- Sem 6 Credit Appraisal and Business Valuation

Policy on Slow and Advanced Learners

Preamble: The learning abilities of the students who are enrolled in the university are not similar. However, the programs offered at the university shall have a common Program Outcome specific to each of the program. In order to successfully attain these program outcomes to an accepted level, it is mandatory for the university to evolve a mechanism to cater to these different levels of learning ability students in a structured way. In view of this a generalized policy is formulated to carry out this activity.

1.0 Scope of this document:

This policy document lays down the mechanism for continuously monitoring learning pace of students at the University and various initiatives taken by the Schools to assist the slow learners to achieve the Program Outcomes and encourage the advanced learners to excel further. The schools have adopted the following policy mechanism to identify and assist learners in their learning journey.

2. 0 Identification of abilities to learn:

This is a very challenging task as no one instrument/methodology may accurately categorize. One or more following parameters are used to profile the students-

o At the time of entry of the students, AMCAT exam profiling is conducted for the students, highlighting their **AMCAT scores** (covering – English Comprehension, Quantitative Ability, Logical Ability, MS Excel, Programming Efficiency and other discipline specific areas) ; **students' personality type, based on the Big-5 personality factors** (i.e. in terms of Extraversion, Conscientiousness, Emotional Stability, Openness To experience, Agreeableness, Polychronicity); and a personalized feedback. This profiling is repeated in the beginning of the final year of the program to track the progressive trends of AMACT scores, while personality dimensions remain fairly static throughout. The dual advantage of this test is that it is indicative of what professions will suit the personality of the student, and also the student is able to compare their scores on a national level with other students.

o Another way of identification is based on academic performance of the students. The students with less than a specific CGPA (decided by respective school) are categorized as slow learners and the ones with more than 8.5 CGPA as advanced learners.

o Faculty Mentors interact with students as a part of Mentor-Mentee program to identify their problems in academic performance and analyze their results after each term. More often interaction with slow learners are held to track their performance and progress in one-to-one sessions by their respective mentors, Mentoring Head and the Program Heads.

o Technical placement training sessions are conducted to identify the students' skills and further categorized into different categories (from basic skills to advanced skills).

3.0. Nurturing of the students:

The activities conducted and the facilities offered to these category students are different based on their category.

3.1 Strategies adopted by various schools to facilitate learning for Slow learners are as follows:

- A peer/buddy (who essentially is an advanced learner in the same class) provides support to the slow learners

- Senior students mentor/tutor the slow learners to enhance their skills

- *Students with different ability/aptitude are formed in one group. At least one slow learner student will be the part of this group to improve his/her understanding of the subject through cooperative learning.*

- One-to-one remedial sessions are conducted for the students facing difficulty in the course by faculty members in extra slot.

- Remedial Tutorials sessions are conducted by the concerned course instructor for the interested students. These sessions aim to create interest in the student to learn on his own. Suitable tailored lesson plan and careful monitoring will help them in better learning.

- Once a semester, a parent-teacher interaction is organized to let parents and teachers work together as a team to motivate students

- Identifying the courses that are critical for slow learners' choice of career and guiding them in laying greater focus on 'related certain' courses rather than 'all' courses.

- They are provided an opportunity to register for the "Summer Term" and re-learn the course. This provision assists the slow learners to cope up with the other level students without losing their time.

- Slow learners who have progressed the most will be recognized by the School i.e. the student with less than 6 CGPA, who has worked hard and ended with a significant leap in his/her CGPA.

3.2 Strategies adopted for facilitating Advanced Learners:

Advanced learners are:

- Motivated to audit multiple courses to help them build a wider perspective of things in addition to their core chosen discipline.

- Encouraged to undergo MOOCs offered at different platforms to strengthen their depth and breadth in their area of interest.

- Fostered to earn additional professional certifications related to the courses being taught in the core program structure.

- Motivated to carry research along with faculty members in the areas of mutual interest and to make paper presentations at various national and international platforms.

- The students, who are identified as advanced learners, dedicated training sessions are conducted to enhance their skills at advanced level.

- Students are motivated to work on live projects/research projects to gain applied and hands-on experience.

BML MUNJAL UNIVERSITY

Minutes of Meeting

12th Academic Council

May 05, 2020; 3:00 PM

MINUTES OF THE 12th MEETING OF THE ACADEMIC COUNCIL

The 12th meeting of the Academic Council was held electronically on May 05, 2020. Following were present:

Sr. No.	NAME	DESIGNATION
1.	Dr. Manoj K. Arora	Vice Chancellor & Chairperson
2.	Dr. Vishal Talwar	Member
3.	Dr. N. S. Nigam	Member
4.	Dr. Maneek Kumar	Member
5.	Prof. Ajay Mohan Goel	Member
6.	Dr. Kiran Khatter	Member
7.	Dr. Jaskiran Arora	Member
8.	Dr. Nandita Choudhury	Member
9.	Dr. Kalluri Vinayak	Member
10.	Sh. Purushottam C. Kaushik	Member
11.	Dr. Neela Natraj	Member
12.	Dr. Vinay K. Nangia	Member
13.	Dr. K. R. Sarma	Member
14.	Dr. Vandana Suhag	Special Invitee
15.	Col. Mohit Bawa	Special Invitee
16.	Ms. Suneet Soni	Special Invitee
17.	Sh. Abhay Sharma	Member Secretary

At the outset, the Chairperson, Prof Manoj K. Arora thanked all the members for joining and taking time out during this unprecedented situation. He enquired about the health and safety of all the members of the Academic Council. The Chairperson then addressed the Academic Council and shared his thoughts.

We took some timely decisions All of us have started working from homes and very efficiently. We swiftly moved to virtual learning and advanced our summer breaks. In School of Management and School of Law, online examinations will also be conducted. Through student mentoring programme, our faculty mentors and wardens are in regular touch with students and their parents to ensure that they are not stressed due to this disruption. We have started a weekly master class series on "When Tomorrow Comes", where leaders from different walks of life share their views on different topics which may have impact in future. Our faculty and staff are upgrading their skills in many ways through, webinars, online courses and earning certificates. We are also working with Hero Group of industries to launch customized virtual learning programmes for their work force.

The chairperson then welcomed Prof. Maneek Kumar as member of Academic Council. He joined as the Dean of School of Engineering Technology on April 13, 2020. He comes from Thapar Institute of Engineering and Technology with more than 25 years of teaching, research, and administrative experience. He also welcomed Prof. Ajay Goel and Dr. Kiran Khatter, faculty members, as the new members from the SOET on Academic council, and Dr. Vandana Suhag, Dean Education Quality, Col Mohit Bawa, Dean Student Welfare and Ms. Suneet Soni, Controller of Examiner, as special invitees to Academic Council. He then requested the external members, Prof. Neela from IIT Bombay, Dr. Nangia, former professor at IIT Roorkee, Dr. K. R. Sarma, Professor Emeritus, International Institute of Information Technology, Hyderabad , and Sh. Purushottam Kaushik, Head India Centre, World Economic Forum to introduce themselves.

The Chairperson, thereafter, requested the member secretary to present the agenda items for discussion.

LEAVE OF ABSENCE

Dr. K. R. Sarma was present for initial 15 minutes. He could not attend the meeting after that due to connectivity issues.
....
Once quorum was established, the meeting commenced. The agenda items were taken up for the consideration and approval of the Academic Council.
....

A. STATUTORY AGENDA AND ACADEMIC UPDATES

AC.11/2019/03/11.A.01: To confirm the minutes of the 11th meeting of Academic Council held on August 23, 2019.

A copy of the minutes was circulated to the members of the Academic Council. As no comments were received, the minutes were confirmed.

The minutes of 11th meeting of Academic Council meeting is placed at annexure- 1.

AC.12/2020/01/12.A.02: Updates on Key Academic Activities

Updates on Key Academic Activities @ School of Engineering & Technology

Dr. Maneek Kumar, Dean, School of Engineering & Technology presented an update on the activities of School of Engineering & Technology since last Academic Council meeting.

The key highlights are as follows:

Academic Activities

New Curricula for B. Tech (CS, ECE and ME) based on fractional credit system has started from AY 2019-20. Following specialisations have been introduced,

- Cyber Security
- Data Sciences and Artificial Intelligence
- IOT
- Automation and Robotics
- Automobile Engineering

Some of the courses are taught jointly with our partners like Microsoft, Subodh Foundation and Ativiti. A novel B.Tech (Engineering Sciences) Programme with following specialisations is being introduced from AY 2020-21. Each specialization will have courses amounting to 30% of total credits.

- Materials Science
- Nano-Science
- Environmental Science
- Geospatial Science

The curriculum for the above programme is placed as an at agenda no. AC.12/2020/01/12.B.01 for discussion. He said that during last six months, about 30 research papers in Peer Reviewed Journals, a number of research projects with an outlay of more than INR 7.00 Cr have been submitted to different agencies. During this period, a number of leadership and academic talks (e.g., Prof. Jim Conrad, North Carolina State University USA, Mr. Shishir Gupta, Head - Power Electronics & Automation Technology Centre, EAIC Larsen & Toubro Limited, Dr. R. Sonde, Executive VP, Research Tech. & Innovation, Thermax, Prof. Rajkumar S. Pant, IIT Bombay) were organized. One executive education programme with an outlay of more than Rs. 27 Lakhs was completed successfully. He also briefed the house on calendar of academic activities during the summer 2019-20.

The details are annexed as annexure- 2.

The Council took the note of the same.

Updates on Key Academic Activities @ School of Management

Dr. Vishal Talwar, Dean, School of Management presented an update on the activities of School of Management since last Academic Council meeting.

The key highlights are as follows:

A number of leadership and academic talks (e.g., Prof. Amitav Chakravarty, Professor of Marketing. London School of Economics; Claire Sealey, Professional Development Leader, Coach & Mentor, Head of Teacher Development Centre & Instruction Coach, Doon School; Prof. G. Varaprasad, Professor-CSE, BMS College of Engineering, Bangalore, Aditya Ghosh - CEO OYO, Rahul Krishna - CHRO, Interups Inc., Himanshu Manglik - Founder and President, WALNUTCAP, Dr. Prabal K. Sen-Professor, XLRI, Devan Bhalla - Sr. Brand Manager IndiaMART), were organized. Four executive education programmes with an outlay of more than Rs. 3.5 Crores were completed successfully. Many research papers in Peer Reviewed Journals have been published by the faculty members.

Some of the key events organized during this period are:

BMU Faculty and PAN India Research Scholar Conference, Momentum 2.0, AI Conclave- Artificial Intelligence workshop

The details are annexed as annexure- 3.

<u>The Council took the note of the same.</u>

Updates on Key Academic Activities @ School of Law

Dr. N.S. Nigam, Dean, School of Law presented an update on the activities of School of Law since last Academic Council meeting. The School of Law continues to implement the problem solving-case law method of teaching, which is adopted at various leading law schools in the United States. The School of Law also conducts open book exams. These initiatives are meant to underscore the practical elements of the law programme. The school has established a Legal Aid Centre to provide free legal aid to the poor people and help students acquire experiential learning. The centre has an empathetic approach towards those who are seeking justice. A number of leadership talks and events were also organized. He also informed the house that the School will start Ph.D. programme from the Academic Year 2020-21.

The details are annexed as annexure- 4.

<u>The Council took the note of the same.</u>

The members appreciated the progress of the schools and congratulated the faculty members for their continued contribution to the growth of the schools.

B. AGENDA ITEMS FOR RECOMMENDATIONS AND APPROVALS

AC.12/2020/01/12.B.01: Curriculum of B.Tech Engineering Science (Academic Year 2020-21)

The B. Tech Engineering Science curriculum duly recommended by the BOS of SOET was presented to the Council for approval.

BMU, since its inception, has been at the forefront of imparting quality higher education in the field of science, engineering, technology, and management and has introduced flexible and innovative curriculum in higher education. Within a short span of time, the School of Engineering and Technology has created a niche for itself in the higher education technology sphere with world class infrastructure, global international linkages with academic universities and technology partners, highly qualified and experienced faculty from top ranked International and Indian institutes and a strong technology and industry orientation for all its programs.

Having recognized the need to develop professionals with strong foundations in science, mathematics and engineering, School of Engineering and Technology at BMU has launched a unique B.Tech. Engineering Science program. In terms of basic structure, for the first four semesters, students will be taught courses in basic sciences like Mathematics, Physics, Chemistry, and different engineering disciplines to develop strong fundamentals for their future specializations. Based on their interest and market demand, at the end of the third semester, students will choose their specialization to enhance their knowledge and skills in selected specialization. They will get the flexibility to choose a specialization in one of the following domains: Environmental Science, Geospatial Science, Materials Science, and Nano Science.

The proposed program B. Tech. in Engineering Science, duly approved by the BOS of SOET has been developed in line with the philosophy and structure of 2019-20 B. Tech. degree programs offered at BMU, and is submitted for the consideration and approval of the Academic Council

After deliberations, the B. Tech Engineering Sciences programme was approved subject to incorporating comments from the members.

The programme structure including semester wise plan and the syllabi of first year courses was sent to the external members for their comments and suggestions. The external members including Prof. Sarma were happy that the university took such a bold initiative. However, Prof Sarma has suggested that since the programme is complex and very hard to pedagogically plan and execute, and risky as an end product, the programme must be started very cautiously by parallelly discussing with experts and factoring in their opinions and continuously reviewing the progress of the programme in terms of quality and delivery.

Based on the suggestions received, the revised curriculum of B. Tech Engineering Sciences Program with four specializations is placed at **annexure- 5.** The document also provides details on the genesis of the programme, background and benchmarking, justification and career opportunities etc. The programme will start from the Academic Year 2020-21.

AC.12/2020/01/12.B.02: Curriculum of B.Tech-2019 Batch .

The curricula of all the existing B. Tech Programmes along with new specialisations to be effective from the Academic Year 2019-20, and the syllabi of first year courses was approved by the Academic Council in 10th meeting held on May 17,2019 . During that meeting, the council had also suggested to merge B. Tech CS and CSE programmes.

The BOS of SOET have now recommended minor revisions in the semester wise schemes of the curricula and also the syllabi of courses from 2nd year onwards. The revised curricula of B. Tech CS, CSE, ECE and ME along with syllabi of all the courses is placed at **annexure- 6.**

The Council considered and approved the same.

Further, the suggestions given by Academic Council members on the merger of two programmes in computer Science, as B Tech in Computer Science Engineering has been accepted and the School of Engineering and Technology is offering only B. Tech CSE programme from AY 2020-21

AC.12/2020/01/12.B.03: PEO's and PO's for the B. Tech programs in CSE, ME, ECE and Engineering Sciences.
and
AC.12/2020/01/12.B.04: Course Outcomes of the first-year courses to be taught in all the B. Tech programs

A proposal from School of Engineering and Technology [SoET] on mapping the curricula of all B. Tech Programmes to outcome-based education [OBE] framework was presented to the Academic Council. The Programme Educational Objectives (PEOs) and Programme Outcomes (POs)/ Programme Specific Outcomes (PSOs) and Course Outomes (COs) of all the 1st years courses of the four B. Tech programs in CSE, ME, ECE and Engineering Sciences duly recommended by the BOS of SOET were presented.

Due process was followed in putting the curricula on the OBE framework. After deliberations, the PEO's, PO's, PSOs and COs of all first-year courses for the B. Tech programs in CSE, ME, ECE and Engineering Sciences are placed at **annexure- 7.**

The Council considered and approved the same.

AC.12/2020/01/12.B.05: Curriculum of B.A (Hons) Economics (Academic Year 2020-21)
and
AC.12/2020/01/12.B.06: Revised Curriculum of B.Com (Hons) (Academic Year 2020-21)

The curricula of B.A (Hons) Economics and B.Com (Hons) duly recommended by BOS of School of Management were presented to the Council. After deliberations, the Programme Structures of B. A. (Hons) Economics and B. Com (Hons) were approved subject to incorporating comments from the members.

The programme structures including semester wise plan were sent to the external members for their comments and suggestions. Based on advice and suggestions of all the Academic Council members certain changes to the programme structures majorly around the internship element have been made. Students would now start the internship just after Semester 4 exams (June) and carry on with their internship till the middle of October. They will then come back to the campus for face to face classes and training. This would enable continuity of academic instruction as well as enable a robust and elaborate industry internship. The programme structures are placed at **annexure- 8** . As the programme will start from the Academic Year 2020-21, the syllabi of the courses may also be got approved the Academic Council.

AC.12/2020/01/12.B.07: Mapping of Course Outcomes with the Program Outcomes of the MBA programme

A proposal from School of Management (SOM) on mapping the curricula of M.B.A. Programme to outcome-based education [OBE] framework was presented to the Academic Council. The Programme Educational Objectives (PEOs), Programme Outcomes (POs) and COs of all courses was presented to the Council for approval. Due process was followed in putting the curricula on the OBE framework.

After deliberations, the PEO's, PO's and COs of all courses for the M.B.A. program, placed at **annexure- 9 (a) & (b)**, were approved.

AC.12/2020/01/12.B.08: Curriculum of MBA (Executive) and MBA (Part-time)

A proposal on M.B.A. (Executive) and MBA (Part-time) programmes for the working professionals was presented to the Academic Council. The outcomes of the programmes are,

- Prepare working executives to excel and move forward in their career
- Master specific business functions and understand organizational structure and processes
- Refine personal management style for more effective corporate leadership
- Prospects - The students are expected to continue with their respective organizations with their roles getting enriched.

The eligibility requirements are:

- Possess minimum Graduate degree or equivalent degree with at least 50% score and
- **MBA (Executive)**-Have minimum of three years Full Time work experience in a registered firm/ Company/ Industry/ Educational and/ Government, Autonomous Organizations
- **MBA (Part-time)** - Have minimum of Five years Full Time work experience in a registered firm/ Company/Industry/ Educational and/ Government, Autonomous Organizations

The salient features of the programmes are,

- Program is intensive to meet the changing needs of industry and participants, address's recent trends and innovations.
- Consists of Core and Elective subjects delivered in blend of classroom, on the job projects and asynchronous online modes.
- The students have choice of electives and MOOCs to strengthen themselves in specific areas of management

After detailed deliberations, and incorporating the suggestions from the members, the Programme Structure of MBA (Executive) and MBA (Part-time), as placed at **annexure- 10,** was approved.

C. AGENDA ITEMS FOR REPORTING & RATIFICATION

AC.12/2020/01/12.C.01: Updates on IQAC activities

Dr Vandana Suhag, Dean- Education Quality provided an update on activities related to IQAC and Sponsored Research & Development since last Academic Council meeting.

The details are annexed as annexure- 11.

The Council took the note of the same.

AC.12/2020/01/12.C.02: Updates on Academic Agreements/Contracts/MoU's

The Academic Agreements/Contracts/MoU's executed since last Academic Council meeting were presented.

The list of Agreements/Contracts/MoU's executed since last Academic Council meeting are placed at annexure- 12.

The Council took the note of the same.

AC.12/2020/01/12.C.03: Grant of approval for establishment of Atal Community Innovation Centre (ACIC) in our University by Atal Innovation Mission, NITI Aayog

BML Munjal University has been selected by NITI Aayog for the establishment of Atal Community Innovation Centre (ACIC) under the Atal Innovation Mission (AIM). The University was one of the 298 applicants. After several rounds of discussion, the University was selected to establish ACIC amongst 24 other applicants subject to meeting compliances. As per the requirement of ACIC, BMU has agreed to provide a grant of 3.5 Crores for the infrastructure as well as operation of the ACIC for the period of 5 years starting from AY 2020-21 to AY 2024-25.

The details are annexed as annexure- 13.

The Governing Body has authorized Prof. Manoj K. Arora, Vice Chancellor & Abhay Sharma, Registrar to such acts and deeds which are necessary in this regard.

<u>The Council took the note of the same.</u>

AC.12/2020/01/12.C.04: New Programmes (Academic Year: 2020-21)

As a process to be followed, the university had applied to the Haryana Government to issue NOCs for starting new academic programmes from the Academic Year 2020-21. The council was informed that the requisite NOCs related to the new programmes, as detailed below, have already been obtained by Department of Higher Education, Haryana vide letter no 18/298-2019 UNP(5), dated May 01, 2020.
1. B.Tech-Engineering Science
2. B.A.(Hons.) Economics
3. B.A. (Hons.) Liberal Arts
4. Ph.D. in Law
5. MBA (Executive)
6. MBA (Part-time)

The proposals related to aforesaid programmes are annexed as annexure- 14 (a), 14 (b), 14 (c), 14 (d), 14 (e) & 14 (f).

<u>The Council took note of the same.</u>

AC.12/2020/01/12.C.05: PhD Admission-Winter Session
and
AC.12/2020/01/12.C.06: Scholarship Awarded to Ph.D. Students: 2019-20

The details on the number of Ph.D. admissions during the odd semester 2019-20, as given in **annexure- 15,** and also the details of Scholarships awarded, were presented to the Council.

<u>The Council ratified the same.</u>

In order to promote the university Ph.D programme, an office of Assoc. Dean (Doctoral Programmes) has been created at the university.

AC.12/2020/01/12.C.07: Re-constitution & Functions of Board of Studies

The re-constitution & functions of Board of Studies duly approved by the Vice Chancellor as the Chairperson of the Council, as placed at *annexure-16* was presented to the Council for ratification.

The Council considered and ratified the same.

AC.12/2020/01/12.C.08: Re-constitution of Library Committee

The re-constitution of Library Committee, duly approved by the Vice Chancellor as the Chairperson of the Council, as placed at *annexure- 17* was presented to the Council for ratification.

The Council considered and ratified the same.

AC.12/2020/01/12.C.09: Revised Scholarship Policy

The revised Scholarship Policy, duly approved by the Vice Chancellor as the Chairperson of the Council, as placed at *annexure- 18* was presented to the Council for ratification.

The Council considered and ratified the same.

AC.12/2020/01/12.C.10: Revised Haryana Domicile Scholarship Policy

The Haryana Domicile Scholarship Policy duly approved by the Vice Chancellor as the Chairperson of the Council and placed at *annexure- 19* was presented to the Council.

The Council considered and ratified the same.

AC.12/2020/01/12.C.11: Revised PhD Scholarship Policy

The revised Ph.D. Scholarship Policy, duly approved by the Vice Chancellor as the Chairperson of the Council, as placed at *annexure- 20* was presented to the Council for ratification.

The Council considered and ratified the same.

AC.12/2020/01/12.C.12: Admission Policies (Academic Year: 2020-21)

The Admission Policies for the admissions in various academic programmes in the Academic Year 2020-21, duly approved by the Vice Chancellor as the Chairperson of the Council, as placed at *annexure- 21 (a), 21 (b), 21 (c), 21 (d), 21 (e), 21 (f), 21 (g), 21 (h) & 21 (i)* were presented to the Council for ratification.

<u>The Council considered and ratified the same.</u>

AC.12/2020/01/12.C.13: Corrigendum in University Calendar: Even Semester (Academic Year: 2019-20)

Due to the prevailing Covid 19 situation, a revision in the academic calendar for some of the academic activities during the months of May-July 2020, was approved by the Vice Chancellor as the Chairperson of the Council. The details are annexed at *annexure- 22*. .

<u>The Council considered and ratified the same.</u>

Further, since there are still uncertainties due to Covid situation, the members suggested that the university should work on alternative plans so that students are able to complete their academic activities without compromising on the quality. The council authorized the Chairperson to take decisions as deemed appropriate.

AC.12/2020/01/12.C.14: Standard Operating Procedure for Book Procurement

The Standard Operating Procedure for Book Procurement, duly approved by the Vice Chancellor as the Chairperson of the Council, as placed at *annexure- 23* was presented to the Council for ratification

<u>The Council considered and ratified the same.</u>

AC.12/2020/01/12.B.09: Amendment in Conduct of Examinations for MBA programme for 2018 batch

Due to prevailing Covid 19 situation, an amendment in the conduct of examination including change in weightages for MBA programme, as given below, was approved by the Chairman, Academic Council.

Existing Clause: Written examinations of 35% Weightage.
Amendment : Change in the mode of conduct of end term exams of MBA **due to COVID-19.**

The End Term Examination will be conducted as a combination of Comprehensive Viva and completion of MOOC Course. The weightage of comprehensive viva is 15% and for the MOOC course it is 20%.

<u>The Council considered and ratified the same.</u>

AC.12/2020/01/12.C.15: Guidelines Governing Advanced & Slow Learners

The Guidelines Governing Advanced & Slow Learners, duly approved by the Vice Chancellor as the Chairperson of the Council, as placed at *annexure- 24* were presented to the Council for ratification

The Council considered and ratified the same.

D. ADDITIONAL AGENDA ITEMS WITH THE PERMISSION OF CHAIR

AC.12/2020/01/12.D.01: Additional agenda items with permission of the chair

The Chairperson confirmed that the quorum was present throughout the meeting. As there was no other business, the meeting ended with a vote of thanks to the Chair.

Date: May 05, 2020

Abhay Sharma
Member Secretary & Registrar

4th Board of Studies Meeting
School of Engineering and Technology
10:00 AM - 1:00 PM, Saturday, 4th May 2019

BML MUNJAL UNIVERSITY
FROM HERE TO THE WORLD

Agenda

S. No	Agenda item	Remarks	Time
1.	Welcome Note and Member Introduction	Chairman, BoS	10:00 – 10:15
2.	Vision and Mission of BML University	VC, BML University	10:15 – 10:30
3.	Proposed B. Tech Curriculum framework -2019 Batch	Convener, Curriculum Development Committee	10:30 – 11:00
4.	Discussion on the Framework	All Members	11:00 – 11:30
5.	Discussion on Syllabus for First Year Courses	All Members	11:30 – 12:00
6.	Final Discussion and Approval of New Curriculum Framework & First Year Syllabus-2019 Batch	All Members	12:00 – 12:30
7.	Any Other Item with the Permission of the Chairman	All Members	12:30 – 12:45
8.	Closing Remarks	Chairman, BoS	12:45– 13:00
9.	Lunch	All Members	13:00
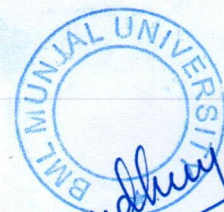
Minutes of the 04th meeting of the Board of Studies of School of Engineering and Technology held on Saturday, May 04, 2019.

The 04th meeting of the Board of Studies was held on Saturday, May 04, 2019 at Gateway Boardroom in BMU Campus.

Members of the Board of Studies of School of Engineering and Technology are as following:

Sr No	Members Name	Designation	BOS Designation
1	Prof. M.B. Srinivas	Dean, SOET, BMU	Chairman
External Members			
2	Prof. S.RN Reddy	Professor, CSE. IGDTU	Member
3	Prof. Brahmjit Singh	Professor & Dean, ECE, NIT Kurukshetra	Member
4	Prof. P. Srinivasan	HOD, Mechanical Engg, BITS, Pilani	Member
5	Prof. Vijay Minocha	Professor, Civil Engg, DTU	Member
6	Prof. Mani Mehra	Associate Professor, Mathematics, IIT Delhi	Member
7	Prof. Ashavani Kumar	Professor, Physics, NIT Kurukshetra	Member
8	Prof. P.S. Pandey	Former Professor, Chemistry, IITDelhi	Member
9	Prof. Arya Kumar	Professor, Management, BITS, Pilani	Member
10	Mr. Subhankar Pal	Industry Expert	Member
11	Mr. Jitendra Mann	Industry Expert	Member
Internal Members			
	Prof Manoj K Arora	Vice-Chancellor, BML Munjal University	**Special Invitee**
12	Dr. Sudip Sanyal	Director,CSE, BMU	Member
13	Dr. Ratna Sanyal	Professor, BMU	Member
14	Dr. Goldie Gabrani	Professor, BMU	Member
15	Dr. AK Prasada Rao	Professor, BMU	Member
16	Prof. Mohit Sinha	Professor, BMU	Member
17	Dr. Kalluri Vinayak	Associate Professor, BMU	Member
18	Dr. Sunil Gupta	Associate Professor, BMU	Member
19	Dr. Nandita Choudhary	Associate Professor, BMU	Member
20	Dr. Akhlaq Husain	Associate Professor, BMU	Member
21	Dr. Yarramaneni Sridharbabu	Associate Professor, BMU	Member

22	Dr. Ziya Uddin	Associate Professor, BMU	Member
23	Dr. Amarnath Bheemaraju	Assistant Professor, BMU	Member
24	Dr. Kamal Kant Jain	Assistant Professor, BMU	Member
25	Dr. Satyendr Singh	Assistant Professor, BMU	Member
26	Dr. Ashok Suhag	Assistant Professor, BMU	Member
27	Dr. Abhishek Jindal	Assistant Professor, BMU	Member
28	Dr. Surya Prakash	Assistant Professor, BMU	Member
29	Dr. Tabish Rasheed	Assistant Professor, BMU	Member
30	Dr. Deepti Sharma	Assistant Professor, BMU	Member
31	Dr. Sanjay Kashyap	Assistant Professor, BMU	Member
32	Dr. Swetasree Roy	Assistant Professor, BMU	Member

All the members were present for the meeting and Once quorum was established, the BoS meeting commenced.
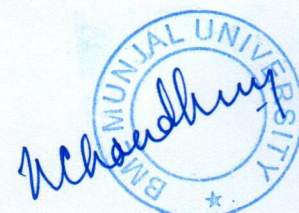
Agenda # 1: Welcome Note and Member Introduction

Dr. M.B. Srinivas, Dean, SoET and Chairman of BoS Committee, welcomed the BoS members and explained the purpose of the meeting, that is, ratification of updated curriculum for B.,Tech. batch 2018 and approval of new curriculum for batch 2019. He requested Prof. Manoj Arora, Vice Chancellor, BML Munjal University and special invitee to the BoS meeting, to address the members.

Agenda # 2: Vision and Mission of BML University

Prof. Manoj Arora explained the philosophy of engineering education at BML Munjal University and how it's reflected in the new B.Tech. curriculum, such as, fractional credit system, blended learning based on MOOCs, amalgamation of multiple ways of teaching and learning such as education, training and certification, and meeting the requirements of regulatory bodies, etc.

Agenda # 3 : Proposed B. Tech Curriculum framework -2019 Batch

Dr. K.K. Jain, Convener, New Curriculum Committee, made a presentation on B.Tech. 2018 curriculum, wherein a few changes have been made in elective offering and included shifting of PS3 to the sixth semester, as well as new B.Tech. 2019 curriculum wherein fractional credit system has been introduced. Curriculum document along with first year syllabus is listed as **APPENDIX - A** (later) in this document.

Agenda # 4 & 5 : Discussion on the Framework & Discussion on Syllabus for First Year Courses

The BoS committee initially deliberated on B.Tech. 2018 curriculum and after some discussion accepted the shifting of PS3 to sixth semester while suggesting appropriate changes in elective offering to facilitate early PS3. The BoS committee also deliberated on B.Tech. 2019 curriculum and suggested several changes, such as, inclusion of a course on linear algebra to the students of civil engineering, introduction of additional labs in computer science, changing the syllabus of Physics I course, etc. Responding to changes suggested, HoDs of various departments worked with the members to discuss and incorporate the same in the new curriculum while ensuring that the overall philosophy remained the same.

Agenda # 6: Final Discussion and Approval of New Curriculum Framework & First Year Syllabus-2019 Batch

Post changes, members deliberated again and approved the modified B.Tech. 2018 curriculum as well as new B.Tech. 2019 curriculum.

Agenda # 7: No other Item was proposed and discussed

Agenda # 8: Closing Remarks.

The meeting ended with the Chairman of BoS committee conveying his sincere appreciation to all the BoS members for their active participation and contribution to academic activities of the University.

APPENDIX - A
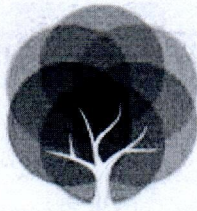
BML MUNJAL UNIVERSITY™

FROM HERE TO THE WORLD

SCHOOL OF ENGINEERING & TECHNOLOGY

4th Board of Studies Meeting

B.Tech Curricullum-2019

04-05-2019

Contents

Preamble

Our objective at BML Munjal University [BMU] is to prepare ethical, knowledgeable and skilled individuals, who are employable and have the potential to lead their organizations to success in future. Efforts in this regard require, transformation of higher education by adopting innovative (and practically oriented) teaching, learning, and research environment that stands as equal among best global standards.

Recent developments in technology have changed the way of education at all levels. Higher education has also evolved considerably as technology has enabled, in terms of
- Increased flexibility
- Personalized learning experience
- Freedom to aspire, approach, and achieve personal goals (learning paths) by choice.

Further, increasing presence of technology in education and industry, demands awareness regarding several inter-disciplinary practical applications of concepts/principles such as, Sustainable Development, Artificial Intelligence and Machine Learning, Data Analytics, Cloud Computing, Internet of Things, Robotics, Automation, etc.

Evolving education scenario has also sown seeds of doubt among students across the country, regarding quality and relevance of academic programs in context of their perceived (and available) career options, thus, leading to low academic motivation and limited career choices for uninitiated students. To address these concerns of the students, academic regulations recommend that curriculum for undergraduate degrees in engineering and technology must have reduced credits (contact hours), increased inter-disciplinary engagements, and be futuristic in approach, design, and delivery.

Considering above mentioned, we realize that the best way forward to achieve BMU's objectives is to design and deliver education programs which make best use of the available technologies to improve learning experience, thus, enhancing quality and employability of the students.

Accordingly, a new curriculum is being proposed for undergraduate courses offered by the School of Engineering and Technology at BMU. Philosophy behind the new curriculum, salient features, and program structures of B. Tech. programs offered are discussed below:

Philosophy of the New Curriculum

The following important aspects have been considered while designing the proposed curriculum:
- Vision of BMU
- Choice-based credit system
- Philosophy of regulatory bodies (AICTE model Curriculum – 2018)
- Use of available technologies and resources in a more efficient manner through a combination of different learning schemes, such as, Blended, Flip, Experiential, Skill based, Classroom, etc.
- Interdisciplinary and futuristic program curriculum with emphasis on sustainability, AI and machine learning, and automation, etc. all being necessary knowledge areas in the era of Industry 4.0

Some salient features of the proposed curriculum
- Fractional credit system *[Details in next section]*
- Option for branch change at the end of 1st semester
- Option for specializations in core programs
- Option for additional inter-disciplinary minor programs
- Variety of courses (in different categories) to enable holistic learning and personal development opportunities *[Course category wise credit distribution is given on next page]*
- Separate pre-defined credits for core labs, seminar/case-studies, and major project
- Scope for teaching and learning through various modes, such as, Classroom teaching, MOOCs, Industry engagement, Certification and Training
- Practice schools [PS] to enable relevant industry exposure and practical (hands-on) experience in core areas of interest. PS - III in 6th semester [Duration: Full semester] will additionally provide students with career direction, entrepreneurial motivation, and enhanced understanding of choice of electives in Final year.

Curriculum - Course category-wise credit distribution

Course Category	Credits
Perspective Courses	**13**
- School	- 10
- Student Specific	- 3
Skill Courses	**9**
- School	- 7
- Student Specific	- 2
Foundation [Basic and Engineering Science] Courses	**36**
- School	- 21
- Department Specific	- 15
Core Courses	**45**
- Classroom	- 35
- Lab	- 8
- Seminar / Case Studies	- 2
Core Elective Courses [Student Specific]	**20**
- Classroom	- 15
- Major Project	- 5
Open Elective Courses [Student Specific]	**9**
- Classroom / Lab	- 9
Practice School	**18**
- PS – I	- Audit
- PS – II	- 4
- PS – III	- 14
Co-Curricular	**5**
Program Total Credits	**155**

% Credit Distribution among Different Course Categories

Category	%
Perspective	8.4%
Skill	5.8%
Foundation	23.2%
Core	29.0%
Core Elective	12.9%
Open Elective	5.8%
Practice School	11.6%
Co-Curricular	3.2%

Fractional Credit system

Proposed curriculum makes use of what is called fractional credit system to enable delivery as per the design philosophy. The fractional credit system divides each semester into six (06) segments of equal duration wherein each segment may be assigned ½ (0.5) credit equivalent [or remain unassigned]. Accordingly, course credits range from 0.5 to 3.0 [in multiples of 0.5, so course credits may be: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0].

Fractional credit scheme has been judiciously used to prepare course category wise credit distribution across semester, which has further been expanded to prepare program structure for all the programs offered to the incoming (2019-2023) batch of students, by School of Engineering and Technology at BMU *[Program structures are reported in next section]*

Some salient features and advantages of the Fractional credit system are as following:
- Scheduling and student contact hours across semester: Depending on course credits, any course may be scheduled to begin and end across different segments of the semester (continuous, non-continuous, or discrete segments), thus enabling scattered scheduling and promoting efficient use of resources and time.
- Scattered scheduling provides scope for incorporation of course delivery through industry professionals in the classrooms, who otherwise are typically not available for semester long engagements.
- Flexibility to incorporate range of courses enabling both breadth and depth of knowledge as per students' choice
- Scope for combining education, training and certification for earning credits, along with seamless inclusion of available quality online learning courses
- Enhanced scope for continuous assessment as course may complete in 1-2 segments also, leading to innovations in evaluation and grading process
- Enhanced scope for blended learning as student may come prepared to class using course material available online or provided by the course instructor. Hence, classrooms will become discussion rooms, teachers will play the role of mentors / local course coordinators [Thus, also addressing the issue of shortage of quality faculty]

Scheduling of the 1st year courses explains the features, advantages, and practice of the fractional credit system. *[reported in later sections of this document]*. Some highlights of the same are following:
- Non-continuous scheduling for Joy of Engineering course [02-credits], to be implemented across total 04 segments [segments 1-2 and 5-6]
- Continuous scheduling of 01 and 02 credit courses [e.g. Communication Skills, Technical Report Writing]
- Different begin and end segments for different course, enabling regularization of contact hours for the students
- Provision for conducting separate labs for any of the courses [e.g. computer programming]
- Increase in number of courses conducted across the semester hence increased breadth of knowledge (even with reduced semester credits)
- Different credits and scheduling for department specific courses, course ranging from 0.5 to 02 credits

Course category wise credit distribution across semesters

Semester	Course Category	Credits	
		Category	Semester
Sem - I	Co-Curricular	1	
	Perspective - School	2	21
	Skill - School	3	
	Foundation – School	15	
Sem - II	Co-Curricular	1	
	Perspective - School	4	
	Skill - School	2	21
	Foundation - School	6	
	Foundation - Department Specific	6	
	Core – Lab	2	
ST-I	Practice School - I	Audit	-
Sem - III	Co-Curricular	1	
	Perspective - School	2	
	Skill - School	2	
	Foundation - Department Specific	6	22
	Core - Classroom	9	
	Core – Lab	2	
Sem - IV	Co-Curricular	1	
	Perspective - School	2	
	Skill - Student Specific	2	
	Foundation - Department Specific	3	22
	Core - Classroom	12	
	Core – Lab	2	
ST-II	Practice School - II	4	4
Sem - V	Co-Curricular	1	
	Perspective - Student Specific	2	
	Core - Classroom	14	21
	Core - Lab	2	
	Core - Seminar / Case Studies	2	
Sem - VI	Practice School - III	14	14
Sem - VII	Perspective - Student Specific	1	
	Core Elective - Classroom	9	15
	Core Elective - Major Project	2	
	Open Elective - Classroom / Lab	3	
Sem - VIII	Core Elective - Classroom	6	
	Core Elective - Major Project	3	15
	Open Elective - Classroom / Lab	6	

B. Tech. - Civil Engineering (CE)

Sem	Category	Sub-Category	Course Title	Credits
1	Co-Curricular			1
1	Perspective	School	Joy of Engineering	2
1	Skill	School	Communication Skills	1
1		School	Technical Report Writing	2
1	Foundation	School	Calculus for Engineers	2
1		School	Ordinary Differential Equations	2
1		School	Engineering Chemistry	1
1		School	Physics for Engineers	2
1		School	Basic Electrical Engineering	2
1		School	Computer Programming	2
1		School	Fundamentals of Data Science	2
1		School	Programming Lab	1
1		School	Data Science Lab	1
			Semester Total	**21**
Sem	Category	Sub-Category	Course Title	Credits
2	Co-Curricular			1
2	Perspective	School	Engineering Ethics	2
2		School	Environmental Studies	2
2	Skill	School	Coding Skills	2
2	Foundation	School	Engineering Graphics	2
2		School	Introduction to Sensors and IoT	2
2		School	Electrochemistry and Energy Storage	1
2		School	Automation and Industry 4.0	1
2	Foundation	Department Specific	Units and Measurements	1
2		Department Specific	Probability and Statistics	2
2		Department Specific	Engineering Mechanics	2
2		Department Specific	Elements of Manufacturing	1
2	Core	Lab	Introduction to Civil Engineering Lab	1
2		Lab	Engineering Measurements and Mapping Lab	1
			Semester Total	**21**
ST1	Practice School		Practice School -I	Audit

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Sem	Category	Sub-Category	Course Title	Credits
3	Co-Curricular			1
3	Skill	School	Etiquettes and Conversational Skills	2
3	Perspective	School	Critical Reasoning and Design Thinking	2
3	Foundation	Department Specific	Engineering Analysis and Design	2
3		Department Specific	Numerical Methods	2
3		Department Specific	Environmental Engineering and Sustainability	2
3	Core	Classroom	Construction Materials	1
3		Classroom	Surveying and Geomatics	2
3		Classroom	Concrete Technology	2
3		Classroom	Geotechnical Engineering	2
3		Classroom	Mechanics of Solids	2
3	Core	Lab	Civil Engineering Materials Lab	2
			Semester Total	**22**
Sem	Category	Sub-Category	Course Title	Credits
4	Co-Curricular (1)			1
4	Perspective	School	Global Energy: Politics, Markets and Policy	1
4		School	Innovation and Entrepreneurship	1
4	Skill	Student Specific		2
4	Foundation	Department Specific	Fluid Mechanics	1.5
4		Department Specific	Modelling and Simulation	1.5
4	Core	Classroom	Structural Analysis	3
4		Classroom	Highway Design and Construction	2
4		Classroom	Engineering Hydrology and Hydraulic Structures	2
4		Classroom	Structural Applications of Concrete	1
4		Classroom	Reinforced Concrete Design	2
4		Classroom	Sensor Applications in Civil Engineering	2
4	Core	Lab	Computer Aided Analysis and Design Lab	1
4		Lab	Performance and Condition Assessment Lab	1
			Semester Total	**22**
ST2	Practice School		Practice School -II	4
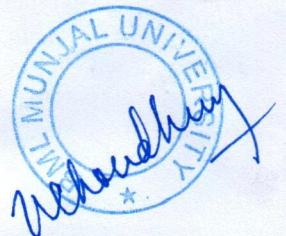
Sem	Category	Sub-Category	Course Title	Credits
5	Co-Curricular			1
5	Perspective	Student Specific		2
5	Core	Classroom	Industrial Structures	1
5		Classroom	Design of Steel Structures	2
5		Classroom	Water and Wastewater Engineering	2
5		Classroom	Construction Project Management	2
5		Classroom	Water, Air, and Rail Transportation	2
5		Classroom	Foundation Engineering and Design	1.5
5		Classroom	Construction Automation and Analytics	2
5		Classroom	Estimation & Costing	1.5
5	Core	Lab	Water Engineering Lab	1
5		Lab	Project Modelling and Management Lab	1
5	Core	Seminar / Case Studies		2
			Semester Total	**21**
Sem	Category	Sub-Category	Course Title	Credits
6	Practice School		Practice School-III	14
			Semester Total	**14**
Sem	Category	Sub-Category	Course Title	Credits
7	Perspective	Student Specific		1
7	Core Elective	Classroom		3
7		Classroom		3
7		Classroom		3
7	Core Elective	Major Project		2
7	Open Elective	Classroom / Lab		3
			Semester Total	**15**
Sem	Category	Sub-Category	Course Title	Credits
8	Core Elective	Classroom		3
8		Classroom		3
8	Core Elective	Major Project		3
8	Open Elective	Classroom / Lab		3
8		Classroom / Lab		3
			Semester Total	**15**
			Program Total	**155**

B. Tech. - Computer Science [CSC]

Sem	Category	Sub-Category	Course Title	Credits
1	Co-Curricular			1
1	Perspective	School	Joy of Engineering	2
1	Skill	School	Communication Skills	1
1		School	Technical Report Writing	2
1	Foundation	School	Calculus for Engineers	2
1		School	Ordinary Differential Equations	2
1		School	Engineering Chemistry	1
1		School	Physics for Engineers	2
1		School	Basic Electrical Engineering	2
1		School	Computer Programming	2
1		School	Fundamentals of Data Science	2
1		School	Programming Lab	1
1		School	Data Science Lab	1
			Semester Total	**21**

Sem	Category	Sub-Category	Course Title	Credits
2	Co-Curricular			1
2	Perspective	School	Engineering Ethics	2
2		School	Environmental Studies	2
2	Skill	School	Coding Skills	2
2	Foundation	School	Engineering Graphics	2
2		School	Introduction to Sensors and IoT	2
2		School	Electrochemistry and Energy Storage	1
2		School	Automation and Industry 4.0	1
2	Foundation	Department Specific	Fundamentals of Digital Logic	2
2		Department Specific	Linear Algebra	2
2		Department Specific	Discrete Mathematics	2
2	Core	Lab	Advanced Programming lab	1
2		Lab	Lab on Linear Algebra and Discrete Mathematics	1
			Semester Total	**21**
ST1	Practice School		Practice School -I	Audit

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Sem	Category	Sub-Category	Course Title	Credits
3	Co-Curricular			1
3	Skill	School	Etiquettes and Conversational Skills	2
3	Perspective	School	Critical Reasoning and Design Thinking	2
3	Foundation	Department Specific	Probability and Statistics	2
3		Department Specific	Numerical Methods	2
3		Department Specific	Engineering Drawing	2
3	Core	Classroom	Data Structures	3
3		Classroom	Data Base Management System	3
3		Classroom	Computer Organization	2
3		Classroom	Assembly Language Programming	1
3	Core	Lab	Data Structures Lab	1
3		Lab	Data Base Management System Lab	1
			Semester Total	**22**
Sem	**Category**	**Sub-Category**	**Course Title**	**Credits**
4	Co-Curricular			1
4	Perspective	School	Global Energy: Politics, Markets and Policy	1
4		School	Innovation and Entrepreneurship	1
4	Skill	Student Specific		2
4	Foundation	Department Specific	Quantum Mechanics for Quantum Computing	1.5
4		Department Specific	Modelling and Simulation	1.5
4	Core	Classroom	Object Oriented Programming and Design	3
4		Classroom	Operating System	3
4		Classroom	Design and Analysis of Algorithm	3
4		Classroom	Computer Graphics	2
4		Classroom	Web Programming	1
4	Core	Lab	Object Oriented Programming and Design Lab	1
4		Lab	Design and Analysis of Algorithm Lab	1
			Semester Total	**22**
ST2	Practice School		Practice School -II	4

Sem	Category	Sub-Category	Course Title	Credits
5	Co-Curricular			1
5	Perspective	Student Specific		2
5	Core	Classroom	Software Engineering	2
5		Classroom	Artificial Intelligence	2
5		Classroom	Fundamentals of Machine Learning	2
5		Classroom	Computer Networks and Cloud Computing	3
5		Classroom	Optimization Techniques	2
5		Classroom	Mobile Application Development	1
5		Classroom	Advance Database Management Systems	2
5	Core	Lab	Software Engineering Lab	1
5		Lab	Computer Networks Lab	1
5	Core	Seminar / Case Studies		2
			Semester Total	**21**
Sem	Category	Sub-Category	Course Title	Credits
6	Practice School		Practice School-III	14
			Semester Total	**14**
Sem	Category	Sub-Category	Course Title	Credits
7	Perspective	Student Specific		1
7	Core Elective	Classroom		3
7		Classroom		3
7		Classroom		3
7	Core Elective	Major Project		2
7	Open Elective	Classroom / Lab		3
			Semester Total	**15**
Sem	Category	Sub-Category	Course Title	Credits
8	Core Elective	Classroom		3
8		Classroom		3
8	Core Elective	Major Project		3
8	Open Elective	Classroom / Lab		3
8		Classroom / Lab		3
			Semester Total	**15**
			Program Total	**155**

B. Tech. - Computer Science and Engineering [CSE]

Sem	Category	Sub-Category	Course Title	Credits
1	Co-Curricular			1
1	Perspective	School	Joy of Engineering	2
1	Skill	School	Communication Skills	1
1		School	Technical Report Writing	2
1	Foundation	School	Calculus for Engineers	2
1		School	Ordinary Differential Equations	2
1		School	Engineering Chemistry	1
1		School	Physics for Engineers	2
1		School	Basic Electrical Engineering	2
1		School	Computer Programming	2
1		School	Fundamentals of Data Science	2
1		School	Programming Lab	1
1		School	Data Science Lab	1
			Semester Total	**21**
Sem	Category	Sub-Category	Course Title	Credits
2	Co-Curricular			1
2	Perspective	School	Engineering Ethics	2
2		School	Environmental Studies	2
2	Skill	School	Coding Skills	2
2	Foundation	School	Engineering Graphics	2
2		School	Introduction to Sensors and IoT	2
2		School	Electrochemistry and Energy Storage	1
2		School	Automation and Industry 4.0	1
2	Foundation	Department Specific	Fundamentals of Digital Logic	2
2		Department Specific	Linear Algebra	2
2		Department Specific	Discrete Mathematics	2
2	Core	Lab	Advanced Programming Lab	1
2		Lab	Lab on Linear Algebra and Discrete Mathematics	1
			Semester Total	**21**
ST1	Practice School		Practice School -I	Audit

Sem	Category	Sub-Category	Course Title	Credits
3	Co-Curricular			1
3	Skill	School	Etiquettes and Conversational Skills	2
3	Perspective	School	Critical Reasoning and Design Thinking	2
3	Foundation	Department Specific	Probability and Statistics	2
3		Department Specific	Numerical Methods	2
3		Department Specific	Engineering Drawing	2
3	Core	Classroom	Data Structures	3
3		Classroom	Data Base Management System	3
3		Classroom	Computer Organization	2
3		Classroom	Assembly Language Programming	1
3	Core	Lab	Data Structures Lab	1
3		Lab	Database Management System Lab	1
			Semester Total	**22**
Sem	Category	Sub-Category	Course Title	Credits
4	Co-Curricular			1
4	Perspective	School	Global Energy: Politics, Markets and Policy	1
4		School	Innovation and Entrepreneurship	1
4	Skill	Student Specific		2
4	Foundation	Department Specific	Quantum Mechanics for Quantum Computing	1.5
4		Department Specific	Modelling and Simulation	1.5
4	Core	Classroom	Object Oriented Programming and Design	3
4		Classroom	Operating System	3
4		Classroom	Design and Analysis of Algorithm	3
4		Classroom	Internet of Things	2
4		Classroom	VHDL	1
4	Core	Lab	Object Oriented Programming and Design Lab	1
4		Lab	Design and Analysis of Algorithm Lab	1
			Semester Total	**22**
ST2	Practice School		Practice School -II	4

Sem	Category	Sub-Category	Course Title	Credits
5	Co-Curricular			1
5	Perspective	Student Specific		2
5	Core	Classroom	Software Engineering	2
5		Classroom	Artificial Intelligence	2
5		Classroom	Fundamentals of Machine Learning	2
5		Classroom	Computer Networks and Cloud Computing	3
5		Classroom	Microprocessors and Microcontrollers	3
5		Classroom	Digital Hardware Design	2
5	Core	Lab	Software Engineering Lab	1
5		Lab	Computer Networks Lab	1
5	Core	Seminar / Case Studies		2
			Semester Total	**21**
Sem	Category	Sub-Category	Course Title	Credits
6	Practice School		Practice School-III	14
			Semester Total	**14**
Sem	Category	Sub-Category	Course Title	Credits
7	Perspective	Student Specific		1
7	Core Elective	Classroom		3
7		Classroom		3
7		Classroom		3
7	Core Elective	Major Project		2
7	Open Elective	Classroom / Lab		3
			Semester Total	**15**
Sem	Category	Sub-Category	Course Title	Credits
8	Core Elective	Classroom		3
8		Classroom		3
8	Core Elective	Major Project		3
8	Open Elective	Classroom / Lab		3
8		Classroom / Lab		3
			Semester Total	**15**
			Program Total	**155**

B. Tech. - Electronics and Communication Engineering [ECE]

Sem	Category	Sub-Category	Course Title	Credits
1	Co-Curricular			1
1	Perspective	School	Joy of Engineering	2
1	Skill	School	Communication Skills	1
1		School	Technical Report Writing	2
1	Foundation	School	Calculus for Engineers	2
1		School	Ordinary Differential Equations	2
1		School	Engineering Chemistry	1
1		School	Physics for Engineers	2
1		School	Basic Electrical Engineering	2
1		School	Computer Programming	2
1		School	Fundamentals of Data Science	2
1		School	Programming Lab	1
1		School	Data Science Lab	1
			Semester Total	**21**
Sem	Category	Sub-Category	Course Title	Credits
2	Co-Curricular			1
2	Perspective	School	Engineering Ethics	2
2		School	Environmental Studies	2
2	Skill	School	Coding Skills	2
2	Foundation	School	Engineering Graphics	2
2		School	Introduction to Sensors and IoT	2
2		School	Electrochemistry and Energy Storage	1
2		School	Automation and Industry 4.0	1
2	Foundation	Department Specific	Linear Algebra	2
2		Department Specific	Complex Variable Analysis	2
2		Department Specific	Electro-Mechanical Energy Conversion	2
2	Core	Lab	Advanced Programming lab	1
2		Lab	Electrical Circuits lab	1
			Semester Total	**21**
ST1	Practice School		Practice School -I	Audit

Sem	Category	Sub-Category	Course Title	Credits
3	Co-Curricular			1
3	Skill	School	Etiquettes and Conversational Skills	2
3	Perspective	School	Critical Reasoning and Design Thinking	2
3	Foundation	Department Specific	EMSA	1.5
3		Department Specific	Semiconductor Physics	1.5
3		Department Specific	Mathematics for Communication System	3
3	Core	Classroom	Electronic Devices and Circuits	2
3		Classroom	Digital Electronics	2
3		Classroom	Circuit Analyses and Synthesis	2
3		Classroom	Signal and Systems	3
3	Core	Lab	Digital Design Lab	2
			Semester Total	**22**
Sem	Category	Sub-Category	Course Title	Credits
4	Co-Curricular			1
4	Perspective	School	Global Energy: Politics, Markets and Policy	1
4		School	Innovation and Entrepreneurship	1
4	Skill	Student Specific		2
4	Foundation	Department Specific	OOPS with C++	2
4		Department Specific	Introduction to Python	1
4	Core	Classroom	Linear Integrated Circuits	2
4		Classroom	Computer Organization and Architecture	2
4		Classroom	Electro Magnetic Field Theory	2
4		Classroom	Microprocessors	2
4		Classroom	Analog Communication Systems	2
4		Classroom	Digital Signal Processing	2
4	Core	Lab	Microprocessor Lab	1
4		Lab	Electronics Lab	1
			Semester Total	**22**
ST2	Practice School		Practice School -II	4

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Sem	Category	Sub-Category	Course Title	Credits
5	Co-Curricular			1
5	Perspective	Student Specific		2
5	Core	Classroom	Digital Communication Systems	3
5		Classroom	Control Systems	2
5		Classroom	Principles of VLSI Design	3
5		Classroom	Antenna and Microwave Engineering	2
5		Classroom	Embedded Systems & Robotics	2
5		Classroom	Power Electronics & Drives	2
5	Core	Lab	Embedded Systems Lab	1
5		Lab	Communication Lab	1
5	Core	Seminar / Case Studies		2
			Semester Total	**21**
Sem	Category	Sub-Category	Course Title	Credits
6	Practice School		Practice School-III	14
			Semester Total	**14**
Sem	Category	Sub-Category	Course Title	Credits
7	Perspective	Student Specific		1
7	Core Elective	Classroom		3
7		Classroom		3
7		Classroom		3
7	Core Elective	Major Project		2
7	Open Elective	Classroom / Lab		3
			Semester Total	**15**
Sem	Category	Sub-Category	Course Title	Credits
8	Core Elective	Classroom		3
8		Classroom		3
8	Core Elective	Major Project		3
8	Open Elective	Classroom / Lab		3
8		Classroom / Lab		3
			Semester Total	**15**
			Program Total	**155**

B. Tech. - Mechanical Engineering [ME]

Sem	Category	Sub-Category	Course Title	Credits
1	Co-Curricular			1
1	Perspective	School	Joy of Engineering	2
1	Skill	School	Communication Skills	1
1		School	Technical Report Writing	2
1	Foundation	School	Calculus for Engineers	2
1		School	Ordinary Differential Equations	2
1		School	Engineering Chemistry	1
1		School	Physics for Engineers	2
1		School	Basic Electrical Engineering	2
1		School	Computer Programming	2
1		School	Fundamentals of Data Science	2
1		School	Programming Lab	1
1		School	Data Science Lab	1
			Semester Total	**21**

Sem	Category	Sub-Category	Course Title	Credits
2	Co-Curricular			1
2	Perspective	School	Engineering Ethics	2
2		School	Environmental Studies	2
2	Skill	School	Coding Skills	2
2	Foundation	School	Engineering Graphics	2
2		School	Introduction to Sensors and IoT	2
2		School	Electrochemistry and Energy Storage	1
2		School	Automation and Industry 4.0	1
2	Foundation	Department Specific	Digital Manufacturing	1
2		Department Specific	Linear Algebra	2
2		Department Specific	Engineering Mechanics	2
2		Department Specific	Elements of Manufacturing	1
2	Core	Lab	Workshop Practice	1.5
2		Lab	Introduction to MATLAB	0.5
			Semester Total	**21**
ST1	Practice School		Practice School -I	Audit

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Sem	Category	Sub-Category	Course Title	Credits
3	Co-Curricular			1
3	Skill	School	Etiquettes and Conversational Skills	2
3	Perspective	School	Critical Reasoning and Design Thinking	2
3	Foundation	Department Specific	Engineering Thermodynamics	2
3		Department Specific	Probability & Statistics	2
3		Department Specific	Experimental Testing Techniques	2
3	Core	Classroom	Metallic Materials	1
3		Classroom	Physical Metallurgy	2
3		Classroom	Mechanics of Materials-I	2
3		Classroom	Fluid Mechanics	2
3		Classroom	Casting & Forming of Metals	2
3	Core	Lab	Material Testing Lab	1
3		Lab	Fluid Mechanics Lab	1
			Semester Total	**22**
Sem	Category	Sub-Category	Course Title	Credits
4	Co-Curricular			1
4	Perspective	School	Global Energy: Politics, Markets and Policy	1
4		School	Innovation and Entrepreneurship	1
4	Skill	Student Specific		2
4	Foundation	Department Specific	Operations Research	1.5
4		Department Specific	Numerical Methods	1.5
4	Core	Classroom	Mechanics of Materials-II	2
4		Classroom	Metal Cutting	2
4		Classroom	Hydraulic Machines	2
4		Classroom	CAD	2
4		Classroom	Heat & Mass Transfer	3
4		Classroom	Industrial Engineering	1
4	Core	Lab	Manufacturing Lab-II	1
		Lab	CAD Lab	1
			Semester Total	**22**
ST2	Practice School		Practice School -II	4

Sem	Category	Sub-Category	Course Title	Credits
5	Co-Curricular			1
5	Perspective	Student Specific		2
5	Core	Classroom	Kinematics of Machines	1.5
5		Classroom	Dynamics of Machines	2
5		Classroom	Machine Design-1	1.5
5		Classroom	Machine Design-II	2
5		Classroom	IC Engines	2
5		Classroom	Production Planning & Control	1.5
5		Classroom	Metrology & Instrumentation	2
5		Classroom	Power and Refrigeration Systems	1.5
5	Core	Lab	Thermal Engineering Lab	1
5		Lab	Simulation Lab	1
5	Core	Seminar / Case Studies		2
			Semester Total	**21**
Sem	Category	Sub-Category	Course Title	Credits
6	Practice School		Practice School-III	14
			Semester Total	**14**
Sem	Category	Sub-Category	Course Title	Credits
7	Perspective	Student Specific		1
7	Core Elective	Classroom		3
7		Classroom		3
7		Classroom		3
7	Core Elective	Major Project		2
7	Open Elective	Classroom / Lab		3
			Semester Total	**15**
Sem	Category	Sub-Category	Course Title	Credits
8	Core Elective	Classroom		3
8		Classroom		3
8	Core Elective	Major Project		3
8	Open Elective	Classroom / Lab		3
8		Classroom / Lab		3
			Semester Total	**15**
			Program Total	**155**

Scheduling and Syllabus of 1st Year Courses

1st Year - School Courses

Sem	Category	Course Title	Credits	Semester - Segments					
				1	2	3	4	5	6
1	Co-Curricular		1						
1	Perspective	Joy of Engineering	2	*	*			*	*
1	Skill	Communication Skills	1	*	*				
1		Technical Report Writing	2			*	*	*	*
1	Foundation	Calculus for Engineers	2	*	*	*	*		
1		Ordinary Differential Equations	2			*	*	*	*
1		Engineering Chemistry	1	*	*				
1		Physics for Engineers	2			*	*	*	*
1		Basic Electrical Engineering	2	*	*	*	*		
1		Computer Programming	2	*	*		*	*	
1		Fundamentals of Data Science	2	*	*		*	*	
1		Programming Lab	1			*			*
1		Data Science Lab	1			*			*

Sem	Category	Course Title	Credits	1	2	3	4	5	6
2	Co-Curricular		1						
2	Perspective	Engineering Ethics	2	*	*	*	*		
2		Environmental Studies	2			*	*	*	*
2	Skill	Coding Skills	2	*	*	*	*		
2	Foundation	Engineering Graphics	2			*	*	*	*
2		Introduction to Sensors and IoT	2			*	*	*	*
2		Electrochemistry and Energy Storage	1	*	*				
2		Automation and Industry 4.0	1					*	*

Remark: Syllabus [content] for above school courses is provided in **Annexure- I.**

1st Year - Department Specific Courses

[1]. For B. Tech. - Civil Engineering [CE]

Sem	Category	Course Title	Credits	Semester - Segments					
				1	2	3	4	5	6
2	Foundation	Units and Measurements	1			*	*		
2		Probability and Statistics	2			*	*	*	*
2		Engineering Mechanics	2	*	*	*	*		
2		Elements of Manufacturing	1	*	*				
2	Core - Lab	Introduction to Civil Engineering Lab	1	*	*				
2		Engineering Measurements and Mapping Lab	1					*	*

[2]. For B. Tech. - Computer Science [CSC] <and> B. Tech. - Computer Science and Engineering [CSE]

Sem	Category	Course Title	Credits	Semester - Segments					
				1	2	3	4	5	6
2	Foundation	Fundamentals of Digital Logic	2	*	*	*	*		
2		Linear Algebra	2			*	*	*	*
2		Discrete Mathematics	2	*	*	*	*		
2	Core - Lab	Advanced Programming lab	1					*	*
2		Lab on Linear Algebra and Discrete Mathematics	1	*	*				

[3]. For B. Tech. - Electronics and Communication Engineering [ECE]

Sem	Category	Course Title	Credits	Semester - Segments					
				1	2	3	4	5	6
2	Foundation	Linear Algebra	2	*	*	*	*		
2		Complex Variable Analysis	2			*	*	*	*
2		Electro-Mechanical Energy Conversion	2	*	*	*	*		
2	Core - Lab	Advanced Programming lab	1					*	*
2		Electrical Circuits lab	1	*	*				

[4]. For B. Tech. - Mechanical Engineering [ME]

Sem	Category	Course Title	Credits	Semester - Segments					
				1	2	3	4	5	6
2	Foundation	Digital Manufacturing	1	*	*				
2		Linear Algebra	2			*	*	*	*
2		Engineering Mechanics	2	*	*	*	*		
2		Elements of Manufacturing	1	*	*				
2	Core - Lab	Workshop Practice	1.5				*	*	*
2		Introduction to MATLAB	0.5		*				

Remark: Syllabus [content] for above department specific courses is provided in **Annexure- II.**

Elective Course Baskets

[1]. Foundation Courses

School Courses	Credits	Department Specific Courses
Basic Electrical Engineering	2	Advanced Computer Programming
Calculus for Engineers	2	Analytical Chemistry
Computer Programming	2	Basic Electronics Engineering
Programming Lab	1	Complex Variable Analysis
Engineering Chemistry	1	Data Structures and Algorithms
Fundamentals of Data Science	2	Discrete Mathematics
Data Science Lab	1	Electricity and Magnetism
Ordinary Differential Equations	2	Elements of Manufacturing Process
Physics for Engineers	2	Emerging Life Sciences
Engineering Graphics	2	Engineering Analysis and Design
Introduction to Sensors and IoT	2	Engineering Mechanics
Electrochemistry and Energy Storage	1	Environmental Engineering and Sustainability
Automation and Industry 4.0	1	Fluid Mechanics
		Geo-spatial Science
		Industrial Automation
		Inorganic Chemistry
		Instrumentation and Measurements
		Integral Transforms
		Linear Algebra
		Material Science
		Mechanics and Waves
		Modelling and Simulation
		Numerical Methods
		Operations Research
		Organic Chemistry
		Partial Differential Equations
		Physical Chemistry
		Probability and Statistics
		Python Programming
		Quantum Mechanics
		Regression and Predictive Modelling
		Statistical Decision Making
		Units and Measurements

[2]. Skill Courses

School Courses	Credits
Communication Skills	1
Technical Report Writing	2
Coding Skills	2
Etiquettes and Conversational Skills	2

Student Specific Courses

- Business Correspondence and Report Writing
- Cross Cultural Communication Skills
- Problem Solving and Consulting Skills
- Quantitative and Analytical Skills
- Resume Writing and Career Skills
- Selling, Negotiating and Persuading Skills
- Technical Communication
- Theatre Studies
- Writing Skills

[3]. Perspective Courses

School Courses	Credits
Joy of Engineering	2
Engineering Ethics	2
Environmental Studies	2
Critical Reasoning and Design Thinking	2
Good Citizenry	1
Innovation and Entrepreneurship	1

Student Specific Courses

- Geo-politics and Geo-economics
- Global Energy: Politics, Markets and Policy
- Human Geography
- Indian Political System
- Intellectual Property Laws
- International Human Rights
- Living Arts and Literature
- Public Administration
- Right to Information
- Science, Technology and Public Policy
- Systems Approach
- World Civilizations
- Philosophy and Logic
- Principles of Management
- Understanding Business

[4]. Core Specialization Courses [Elective]

Program: B. Tech. - Civil Engineering [CE]
Specialization: Construction Management [CM]

1	Building Services and Infrastructure Maintenance
2	Construction Equipment and Methods
3	Construction Material & Quality Management
4	Economics and Financial Accounting of Construction Projects
5	Environmental Management in Construction Projects
6	Infrastructure Planning and Management
7	Introduction to Building Information Modelling (BIM)
8	Legal and Policy Framework for Construction Industry
9	Risk Analysis and Management for Construction Projects

Program: B. Tech. - Civil Engineering [CE]
Specialization: Smart Cities and Sustainable Development [SCSD]

1	Environment, Society, and Economics: Three Pillars of Sustainability
2	Green Buildings: Planning, Design, and Construction
3	ICT Applications and Data Analytics for Smart Cities
4	Intelligent Transport Systems
5	Introduction to Life Cycle Assessment (LCA)
6	Management and Economics of Smart and Sustainable Infrastructure
7	Pollution Control and Solid Waste Management
8	Smart Cities: Philosophies, Practices, and Future
9	Sustainable Development Goals: Civil Engineering Perspective
10	Sustainable Developments in Civil Engineering Practice
11	Urban Infrastructure: Architecture and Built Environment

Program: B. Tech. - Computer Science [CSC] **<and>** B. Tech. - Computer Science and Engineering [CSE]
Specialization: Data Science and Artificial Intelligence [DS & AI]

1	Audio & Speech Processing
2	Data Mining
3	Data Visualization
4	Deep Learning
5	Image Processing
6	Information Retrieval
7	Natural Language Processing & Text Analytics
8	Soft Computing
9	Statistical Machine Learning and Feature Engineering
10	Time Series Analysis

Program: B. Tech. - Computer Science [CSC] **<and>** B. Tech. - Computer Science and Engineering [CSE]
Specialization: Cyber Security [CS]

1	Application Security testing
2	Cloud Security
3	Cryptography
4	Cyber Forensics
5	Database Security
6	Ethical Hacking and Penetration Testing
7	Introduction to Information Security
8	Malware Detection
9	Network Security
10	Security Audit
11	Security in Social Media

Program: B. Tech. - Electronics and Communication Engineering [ECE]
Specialization: Internet of Things [IoT]

1	Big Data Analytics
2	Cloud Computing and App Development
3	Embedded Systems and Architecture Programming
4	Embedded Testing
5	Information Security
6	Machine Learning and AI
7	Network on Chip
8	Real Time Operating Systems +Lab
9	Sensors and Networking
10	System on Chip Design

Program: B. Tech. - Mechanical Engineering [ME]
Specialization: Automobile Engineering [AE]

1	Automotive Chassis and Suspension
2	Automotive Components and Assembly Drawing
3	Automotive Control Engineering
4	Automotive Electrical & Electronics System
5	Automotive Pollution Control and Alternative Fuels
6	Automotive Structures and Design
7	Automotive Transmission Systems
8	Electric & Hybrid Vehicles
9	Vehicle Body Engineering and Aerodynamics
10	Vehicle Dynamics
11	Automotive Materials and Processes
12	Design for Manufacture
13	Design for Vehicle Safety
14	Design for Vehicle Comfort
15	Fuel Cells and Energy Storage

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Program: B. Tech. - Mechanical Engineering [ME]
Specialization: Robotics & Automation [R&A]

1   Drives and Control Systems for Robots
2   Human Machine Interface
3   Hydraulic and Pneumatic Systems
4   Industrial Automation
5   Introduction to Robotics
6   Kinematics and Dynamics of Robots
7   Mechatronic Systems
8   Sensors and IOT
9   Advanced Robotics
10 Automation and Robotics
11 Electromechanical System Design
12 Quality Systems
13 Simulation of Operations

[5]. [Basic] Core Electives Courses

Program: B. Tech. - Civil Engineering [CE]

Courses: Core Elective [Basic]

1	Advanced Geotechnical Engineering
2	Advanced Structural Analysis
3	Civil Engineering Drawing and Estimation
4	Computer Aided Drawing and Design of Structures
5	Geomatics Engineering and Applications
6	Infrastructure Maintenance and Management
7	Introduction to Earthquake Resistant Design of RC Structures
8	Introduction to Finite Element Methods
9	Pre-stressed Concrete Structures
10	Repair and Rehabilitation of Structures
11	Transportation Planning and Management
12	Construction Economics and Infrastructure Finance
13	Data Analytics for Infrastructure Management
14	Design of Industrial Structures
15	Geotechnical Hazards
16	National Building Code and Building Services
17	Predictive Modelling for Urban Planning & Infrastructure Development
18	Transport Demand and Economics

Program: B. Tech. - Computer Science [CSC] **<and>** B. Tech. - Computer Science and Engineering [CSE]

Courses: Core Elective [Basic]

1	Advanced Database Management Systems
2	Advanced Design and Analysis of Algorithms
3	Distributed and Parallel Processing
4	Enterprise Resource Planning
5	Geographical Information Systems
6	Human Computer Interaction
7	IoT on Cloud
8	Software Reliability & Testing
9	Theory of Computation

Program: B. Tech. - Electronics and Communication Engineering [ECE]

Courses: Core Elective [Basic]

1	Advanced Computer Networking
2	Advanced Signal Processing
3	Advanced VLSI Design
4	Analog CMOS Design
5	Analog Signal Processing
6	Antenna and Wave Propagation Theory
7	Bio-medical Electronics

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8   Bio-medical Electronics
9   Design for Testability
10   Design for Testability Lab
11   Digital Image and Video Processing
12   Fundamentals Nano-electronics
13   Fundamentals of PCB Design
14   Hardware Software Co-Design
15   IC Technology
16   Information Theory and Coding
17   Instrumentation and Automation
18   Instrumentation and Automation Lab
19   Low Power CMOS VLSI Circuit Design
20   Micro-Electro-Mechanical Systems (MEMS)
21   Mobile Communication
22   Optical Fiber Communication
23   Radar Systems and Satellite Communication
24   RF Microelectronics
25   Sensors and Actuators
26   System on Chip Design and Test
27   VLSI Digital Signal Processing Systems
28   Wireless Communication
29   Wireless Networks

Program: B. Tech. - Mechanical Engineering [ME]

Courses: Core Elective [Basic]

1   Additive Manufacturing
2   Bio Mechanics
3   Composite Materials
4   Computational Fluid Dynamics
5   Computational Modeling of Mechanics of Materials
6   Finite Element Method
7   Material Characterization
8   Material Processing
9   Mechanical Vibrations
10   Product Design
11   Supply Chain Management
12   Surface Engineering
13   Tribology
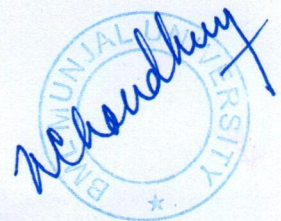
[6]. Minor Program Courses [Elective]

Minor Program: Computational Linguistics

1	Context-Free Grammars and Parsing
2	Introduction to Linguistics Analysis
3	Introduction to Morphology
4	Introduction to Phonology, Phonetics and Syntax
5	Language and Computers
6	Lexical Semantics and Computational Discourse

Minor Program: Computational Mathematics

1	Advanced Numerical methods/ Numerical Linear Algebra
2	Computational Geometry
3	Design and Analysis of Experiments
4	Industrial Statistics
5	Mathematical Finance
6	Mathematical Modelling in Industry
7	Number Theory & Cryptography
8	Numerical solution of PDE's
9	Probability theory and Monte Carlo simulation
10	Time Series Analysis and Dynamical Modelling

Minor Program: Energy Harvesting and Storage

1	Bio Fuels
2	Characterization Techniques for Energy Materials and Devices
3	Fuel Cell, Li- ion Battery and Supercapacitors
4	Hydrogen Energy
5	Renewable and Non-renewable Energy
6	Solar Energy

Minor Program: Functional English

1	Critical Reasoning, Writing and Presentation
2	Culture & Civilization
3	Introduction to Theatre Studies
4	Landmarks in English Literature
5	Media Studies
6	Methodology Functional Language

Minor Program: Liberal Arts

1	Cultures of Computing
2	Geo-politics and Geo-economics
3	Indian Political System
4	Living Arts and Literature
5	Public Administration
6	Science, Technology and Public Policy

Minor Program: Material Science

1	Computational Materials Science
2	Energy Materials
3	Engineering Materials
4	Materials Characterization
5	Science and Engineering of Composite Materials
6	Science and Engineering of Light Weight materials for Transportation applications
7	Surface Engineering

Minor Program: Nanotechnology

1	Applications of Nanotechnology
2	Bio Nanomaterials
3	Computational Materials Science
4	Micro and Nano systems
5	Nano Metrology
6	Synthesis and Fabrication of Nano Materials

Minor Program: VLSI Design

1	Advanced VLSI Design
2	Analog CMOS Design
3	Design for Testability
4	Hardware Software Co-Design
5	IC Technology
6	Low Power CMOS VLSI Circuit Design
7	Micro-Electro-Mechanical Systems (MEMS)
8	RF Microelectronics
9	System on Chip Design
10	VLSI Digital Signal Processing System

SCHOOL OF ENGINEERING & TECHNOLOGY

4th Board of Studies Meeting

Annexure-I

Joy of Engineering

This course focuses on design for purpose, as well as opportunities to create innovative solutions to given theme problems. *Develop Ideas and Design Concepts:* The students will be given the opportunity to work in teams to develop ideas and design concepts and propose solutions for specific design theme projects. *Product Development Process:* Students will be given the space to enhance creativity and experience fundamental aspects of the product development process, including determining needs, brainstorming, estimation, sketching, sketch modelling, concept development, design aesthetics, detailed design, prototyping and manufacturing. The course shall also provide a platform to develop written, visual, and oral communication. *Themes Selection:* The instructor will propose the themes for student projects. The themes are representing broad areas. *Prototype and Fabrication:* Students will work on at least one idea from each theme and in fabrication stage they will work on any one idea of their choice. Students have to ensure that their final choice of project have capability to demonstrate its functioning i.e. a working physical prototype of product or a working software solution or working mobile app etc.

Communication and Presentation Skills

Fundamentals of Communication, Process of Communication, Purpose, Role of Critical and Creative Thinking in Effective Communication, Inter- Cultural Communication, Forms of Communication, Verbal Communication, Types of Oral Communication, Non- Verbal Communication, Barriers to Communication, Classification of Barriers, Active Listening, Listening vs Hearing, Types of Listening, Barriers to Effective Listening, Effective Speaking, Basic Phonetics, Public Speaking, Formal Presentations, Nuances of Delivery, Controlling Nervousness and Stage Fright, Individual and Group Presentations, Interviews, Types of Interviews, Resume Design and Structure, Types of Resumes, Cover Letter, Group Discussion, General Dos and Don'ts, Body Language, Grammar and Vocabulary Development, Word Formation: Prefix and Suffix, Synonyms n Antonyms, Idioms, Confusables, One-word Substitutes, Sentence Structure, Types of Sentences, Conjunctions, Prepositions, Articles.

Technical Report Writing

Introduction to Technical Communication, Difference between Technical and General Communication, Written and Oral Communication Channels, Teamwork and Collaborative Writing, Digital Communication, the Writing Process, External and Internal Motivation, Organising and Formatting Documents, Objectives in Technical Writing, Style in Technical Writing, 7 C's of Technical Writing, Audience Analysis, Ethics in Technical Writing, Document Design, Visual Aids, Objectives and Characteristics of Technical Reports, Criteria for Writing Reports, Types of Reports, Formats, Short Informal Reports, Long Formal Reports in Manuscript Format, Research in Report Writing, Oral Presentations.
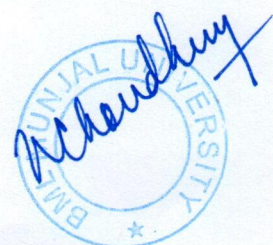
Calculus for Engineers

Functions and their Graphs, Applications of derivative, application of Integrals to find volume of a solid, area of a surface of revolution, center of mass, Maclaurin and Taylor series expansions of functions of one variable, Sequence and Series, infinite series, tests for convergence, integral test, comparison test, D'Alembert's Ratio test, Cauchy's root test, alternating series, Leibnitz test, absolute convergence, Limits & Continuity in higher dimension, Partial derivatives, Applications of Partial derivatives in Maxima and Minima, Lagrange's method, Taylor's expansion for functions of two variables, Double and triple integrals: Change of order of integration, Change of coordinates, Cylindrical co-ordinates and Spherical polar co-ordinates, Change of variables, Jacobian of transformation.

Ordinary Differential equations

First order ordinary differential equations: Exact, linear and Bernoulli's equations, Euler's equations, Equations not of first degree: equations solvable for p, equations solvable for y, equations solvable for x and Clairaut's type. Applications of differential equations of first order, Orthogonal trajectories, Ordinary differential equations of higher order, Second order linear differential equations with variable coefficients, method of variation of parameters, Cauchy-Euler equation; Legendre's linear equations, Applications of linear differential equations in engineering, Introduction to Power series solutions of differential equations.

Engineering Chemistry

Chemical kinetics: Reaction rates and rate law, reaction in liquid solutions, catalysis, adsorption of gases on solids; *Quantum Theory-Basics:* Schrodinger Equation, Particle in a 1D box, UV-Vis spectroscopy; *Polymer chemistry:* Free radical chain growth polymerization, Emulsion Polymerization, Cationic polymerization, Anionic polymerization, Insertion polymerization, characterization of polymers

Physics for Engineers

Relativity: Michelson-Morley experiment, Galilean transformation equations for space and time coordinates, Lorentz transformations for space and time coordinates, velocity transformations using Lorentz transformation equations. Length contraction, time dilation and mass variation with velocity (Analytical treatment only), Global Positioning System (GPS); Optics: Interference, thin film interference, Newton's rings and Fresnel Biprism experiment. Diffraction, diffraction from single and multi-slit (grating). Polarization, Brewster's law, Birefringence - e-ray, o-ray, optical activity and specific rotation. Half-shade and bi-quartz polarimeter. Polaroid sun glasses and anti-glare coatings. Laser, absorption, spontaneous and stimulated emission, active medium, metastable states, and population inversion. He-Ne laser, applications of laser –

LIDAR, Meteorology, Holography; *Electromagnetism:* Maxwell's equations in both differential and integral forms. Engineering applications of electromagnetic principles- photocopier / xerography, laser printer, e–ink, electrostatic spray paintings (automobiles). Capacitive touch screens, Ground fault interrupter (GFI), metal detector, storing and reading of information in hard drive, swiping of credit card, wireless battery charger, volume gauge, velocity selector, mass spectrometer and the Hall Effect. Electromagnetic wave equations for both magnetic and electric fields in free space. Poynting's theorem.

Basic Electrical Engineering

DC Circuits: Electric charge and current, Ohm's laws, Electrical circuit elements (R, L and C), Series and parallel reduction of circuit elements, voltage and current sources (Independent and Dependent), Kirchhoff current and voltage laws, analysis of simple circuits with dc excitation using Mesh and Nodal Analysis. Superposition, Thevenin, Norton and Maximum Power Transfer Theorems, Star-delta transformation, Time-domain analysis of first-order RL and RC circuits. *AC Circuits:* Representation of sinusoidal waveforms, average and effective or rms values, form and peak factors, phasor representation of sinusoidal quantity, real power, reactive power, apparent power, power factor. Analysis of single-phase ac circuits consisting of R, L, C, RL, RC, RLC combinations (series and parallel), resonance. Three phase balanced circuits, voltage and current relations in star and delta connections, three phase power measurement. *Transformers and DC Machine*: Magnetic materials, BH characteristics, equivalent circuit, voltage regulation, losses and efficiency. Introduction to D.C. machines- Construction, DC motors and generators, methods of excitation, armature and field windings, emf equations in DC machines.

Computer Programming

Syntax and semantics of programming languages, Functions of a compiler, Interpreted vs compiled code, Languages and translation, Data representation; Types, operators, variables, constants, Strings. Operators and expressions using arithmetic and relational operators, mixed operands, type conversion, logical operators, assignment operator, operator precedence and associativity; Designing the solution of a problem using Flow Charts, developing pseudo-code, Stepwise refinements, Workflow Control Constructs (using sequence, Selection, Repetition, Unconditional Branching). Sequence, Selection, Nested Branches, Iteration, Nested Loops. Methods: Parameter passing, Variable lifetime and scope, returning value, calling method; *Composite Data Type:* Defining, accessing the members, distinction between primitive and composite data types. Understanding arrays and array bounds, Single dimensional arrays, two-dimensional arrays, reading array elements; *Some Basic Algorithms:* Summation, counting, reverse, numeric operations, swapping, maximum, minimum, developing basic calculator, prime number, palindrome number, factorial of a number, Fibonacci series, even or odd numbers, simple array manipulation, operations on matrix.

Fundamentals of Data Science

Introduction: Understanding data science, its need and importance, learning multiple paths landing to data science; *Data science tools and technology:* Reading and interpreting the data in multiple context, learning data analysis process, Analyzing the data quantitatively and qualitatively (Working with different types of data), Descriptive measures for Categorical Variables and Numerical Variables; *Working with data:* Business data Understanding, Data Requirements, Synthesizing the data, Data Preparation (Open data, Text files, Excel files, SQL databases, NoSQL databases, Multimedia, Web scraping), Missing Values handling, Data scrubbing, Data Formats, Analyzing data using basic Charts and basic data analyst toolkit, Understanding and working on the datasets, Apply summary statistics to draw inferences; *Modeling and Evaluation:* Linear and multi-linear models, Clustering and cluster analysis, Naïve Bayes for model creation, Training, testing and evaluation of models; *Data Science in Business:* Look up through the data, What-If Analysis, Apply analytics methods to industry and business scenarios, Applications for data science.

Programming Lab

Building flow charts for problems, converting flow charts into executable code. Taking decisions and solving problems using iterations. Examining the efficiency of various sorting and searching algorithms. Building programs for doing numerical calculations like integration, differentiation.

Data Science Lab

Students will be given real world data sets (available in various government web sites as well as sites like Kaggle) and will be given tasks that have to be performed on those data sets. Standard tools like Excel, Weka etc. will be used for performing the analytics and visualization. The allotted tasks will ensure that the students go through the complete cycle of data scraping, cleaning, preparing, visualizing and analyzing to gain insight from the data.

SCHOOL OF ENGINEERING & TECHNOLOGY

4th Board of Studies Meeting

Annexure-II

Engineering Ethics

Ethical theories, Geo-engineering, bio-engineering, genetic engineering, environmental ethics, Kohlberg Theory, Heinz's Dilemma, Ethics and Programming, Ethics of Social Media platforms, Ethics of data collection and data sharing, Ethics and AI, Industrial Revolution 4.0, Future of AI and Technological unemployment.

Environmental Studies

Introduction to Environmental Studies, Biodiversity, Ecological footprint, wetlands, Field trip to Yamuna Bio-diversity park, Food-chains, Alternate energy scenario in India, Water Pollution, Sewage treatment, Air pollution, CO_2 emission, Green-house effects, UNFCCC, Clean Air act, Global Warming, Environmental policy making, Race to bottom, Pollution Haven, Global South, Air pollution in emerging economies like India and China, Disaster Management, SDGs.

Coding Skills

Pointers and pointer arithmetic, Dynamic memory allocation, elementary data structures – linear data structures like linked list, stacks and queues. Recursion. Bit wise operations. File handling – Opening and closing files, input from files, output to files. Using methods available in other files. Command line arguments – building commands used in shell. Learning to install and use libraries – using linear algebra libraries as an example. Creating new libraries. Version management – using online resources like GitHub. Testing and debugging of computer programs – tools and techniques.

Engineering Graphics

The course covers fundamentals of Engineering Drawing with ISO standard. The course practices all basic theories of projection and the concepts of Engineering Drawing using AutoCAD (widely used CAD software) to the students. sheet sizes & layouts (ISO), line types with application, Dimensioning and overview of projection types (orthographic, isometric, oblique & perspective projection), Orthographic Projection, Projection of Points, Projection of Lines, Projection of Planes, Projection of Solids, Section of Solids, Development and Intersection of Surfaces, Isometric Drawing.

Introduction to Sensors and IoT

Measurement errors: Gross and systematic errors, absolute and relative errors, Accuracy, precision and significant errors. Laboratory power supplies: unregulated power supply, DC voltage regulators, output

current limiting, power supply performance and application, and DC power supply use. Power supply testing and a brief introduction to operational amplifiers; *Introduction to various types of sensors:* Strain and pressure sensor, position, direction, distance, and motion sensors. Light and associated radiation sensors, temperature sensors and thermal transducers, sound infrasound, and ultrasound sensors. Solid, liquid and gas sensors; *Sensor signal conditioning:* Basics and types of signal conditioning e.g. Analog signal conditioning (amplification, level shifting, filtering, current to voltage conversion and vice versa, clipping, and clamping) and Digital signal conditioning (removing noise, analog to digital conversion isolation using opto-couplers) ; *Introduction to Internet of Things:* Genesis internet of things (IoT), impact of IoT, and IoT challenges. IoT network architecture and design: Drivers behind network architecture, comparing IoT architecture e.g. machine to machine (M2M) IOT architecture, IoT world forum standardize architecture etc. Layers of IoT architecture. The things in IoT e.g. sensors actuators and MEMS, smart objects, trends in smart objects. Wireless sensor networks, communication protocols for wireless sensor networks.

Electrochemistry and Energy Storage

Electrochemical cell reaction, Standard potentials, Introduction to Li-ion batteries, materials and mechanism of working of Li-battery, recent progress and parameters to test the Li batteries; Different types of fuel cells for various applications, Mechanism on which different fuel cells work

Automation and Industry 4.0

The Various Industrial Revolutions, Technologies of Industry 4.0, Big Data and Predictive Analytics, Digital Manufacturing, Augmented Reality and Virtual Reality, Artificial Intelligence etc. Cyber Physical Systems and digitalization, Drivers, Enablers, and Challenges for Industry 4.0, Developments in USA, Europe, China and other countries, comparison of Industry 4.0 Factory and Today's Factory, Smart Manufacturing, Smart Logistics, Internet of Things (IoT) and Industrial Internet of Things (IIoT), Automation Introduction, Types of automation, Manufacturing versus service automation, Need for automation, Sensing & Actuation, Application in industry.

Units and Measurements

Revise the basic concepts of units, System of Units (CGS, FPS, MKS & MKSA, SI), Measurement of Length, Mass and Time, Accuracy, Precision of instruments and errors in measurement, Significant figures in measurements, Dimensions of physical quantities, Dimensional formulae and dimensional equations, Dimensional analysis and its applications

Probability and Statistics

Sample Space, Dependent and Independent Events, Conditional Probability, Bayes' Rule; Random Variables, discrete and continuous random variables, Probability distribution functions, Joint probability distribution, Conditional probability distribution, Marginal probability distribution, Statistical independence, Mathematical Expectation, Variance, covariance, Mean/expected value of a random variable, Bernoulli, Binomial, Geometric, Poisson, Uniform, Normal distributions, Random sampling, estimation of population parameters, confidence interval, prediction interval and tolerance interval, testing of hypotheses, t-Distribution, F-Distribution.

Engineering Mechanics

Rigid Body equilibrium; System of Forces, Coplanar Concurrent Forces, Components in Space – Resultant-Moment of Forces and its Application; Couples and Resultant of Force System, Laws of Friction, Static and Dynamic Friction; Motion of Bodies, wedge friction, screw jack & differential screw jack; Equilibrium in three dimensions; Centroid and Centre of Gravity, Area moment of inertia, Moment of inertia of plane sections from first principles; Mass moment inertia of circular plate, Cylinder, Cone, Sphere, Hook; Virtual Work and Energy Method; Virtual displacements, principle of virtual work for particle and ideal system of rigid bodies, degrees of freedom. Conservative forces and potential energy (elastic and gravitational), energy equation for equilibrium. Applications of energy method for equilibrium. Stability of equilibrium.

Elements of Manufacturing

Engineering Materials and Property Manipulation, Mechanical Behavior, Testing and Manufacturing Properties, Theory of Metal Cutting (Fundamentals of machining), Introduction to the Lathe: Chuck work-Face plate-Taper turning-Screw cutting, Introduction to Drilling, Shaping and Milling, Introduction to Welding: Gas/Arc/MIG/TIG/Spot & Seam (Mechanical Joining Process), Introduction to Forming and Shaping: Rolling, Forging and Sheet metal working, Introduction to CNC machines and Part Programming fundamentals, CNC Milling Part Programs, CNC Turning Part Programs, Fundamentals of Casting.

Introduction to Civil Engineering Lab

Evolution of civil engineering practices, Scope and applications of civil engineering, Model creation for civil engineering projects, Trends and recent advances in civil engineering, Introduction to Sustainable Development

Engineering Measurements and Mapping Lab

Measurements: Horizontal and vertical distances, Internal and external angles, Latitude and Longitude, Area and Volume; *Mapping:* Plane surveying, Geodetic surveying, Levelling, Contouring, GIS

Fundamentals of Digital Logic

Introduction to Digital Systems: Number Systems, Real Number Representation, Conversions, Compliment of Number, Binary Arithmetic, Binary Codes. Boolean Algebra: Introduction, Basic Theorems, Properties of Boolean Algebra, Boolean Functions, Canonical forms, Standard forms, DeMorgan's Theorem, Principle of Duality, Sum of Minterms and Product of Maxterms. Logic Gates and Gate level Minimization: Binary logic, Digital Logic Gates, Universal Gates - NAND Gate, NOR Gate, Exclusive OR (XOR) Gate, Exclusive NOR (XNOR) Gate, Sum of Products, Product of Sums, Universal Buildings blocks and Karnaugh Map - Two variable, Three variable, Four Variable, Don't Care Conditions. Combinational Logic: Introduction, Combinational Circuits, Analysis Procedure, Design Procedure, Adder Circuits, Subtractor Circuits, Multiplexer, Types of Multiplexer, De-multiplexer and its types, Decoders (2 to 4, 3 to 8), Encoders (Octal to binary, Decimal to BCD). Sequential Circuits: Flip Flops - Introduction, RS Flip Flop, Clocked Flip Flops, D Flip Flop, JK Flip Flop, Master Slave JK Flip Flop, T Flip Flop and Applications of Flip Flop, Conversion. Counters - Introduction, Types of Counters. Synchronous Sequential Circuits - Introduction, Classification of Sequential circuits, Analysis of Synchronous Circuits; *Asynchronous Sequential Circuits:* Introduction, Modes of Asynchronous Sequential circuits, Disadvantages.

Linear Algebra

Matrices, Row reduced echelon form of a matrix, Linear equations and their solvability, applications of system of liner equations in engineering problems, Vector spaces, subspaces, linear dependence and independence of vectors, basis and dimension of a vector space, null space, range spaces, finite dimensional vector space and it's applications, Linear transformation, matrix of linear transformation, applications of linear transformations in different physical/engineering phenomena, characteristic polynomials and Caley-Hamilton theorem, diagonalization, eigen values and eigen vectors, applications of eigen values and eigen vector to solve differential equations arising in electric circuit, dynamical systems.

Discrete Mathematics

Sets, Relation and Function: Operations and Laws of Sets, Cartesian Products, Binary Relation, Partial Ordering Relation, Equivalence Relation, Functions, Bijective functions, Inverse and Composite Function, Size of a Set, Finite and infinite Sets, Countable and uncountable Sets; *Propositional Logic:* Basic Connectives and Truth Tables, Logical Equivalence, The Laws of Logic, Logical Implication, Rules of Inference, Validity of

Arguments, The use of Quantifiers, Predicate Logic, Arguments in Predicate Logic; *Proof Techniques:* Some Terminology, Proof Methods and Strategies, Forward Proof, Proof by Contradiction, Proof by Contraposition, Proof of Necessity and Sufficiency, Proof by induction, automatic theorem proving. Combinatorics: Counting Principles, Functions and Counting, Permutations and Combinations, Combinatorial Arguments, Infinite Sets and Countability. Algebraic Structures and Morphism: Algebraic Structures with one Binary Operation, Semi Groups, Monoids, Groups, Congruence Relation and Quotient Structures, Free and Cyclic Monoids and Groups, Permutation Groups, Substructures, Normal Subgroups, Algebraic Structures with two Binary Operation, Rings, Integral Domain and Fields. Boolean algebra.

Advanced Programming lab

Students will be assigned programming tasks that will involve the complete cycle of designing a solution, identifying external libraries, developing the code, testing, debugging and presenting it. Some of the tasks will be developing animations of algorithms in action. Other tasks will involve downloading a project from GitHub and modifying it.

Lab on Linear Algebra and Discrete Mathematics

Students will write and test code for applying the techniques of linear algebra for problems like solving a system of linear equations, performing linear multivariate regression, performing polynomial regression, performing singular value decomposition, finding eigenvalues and eigen vectors of matrices. In the area of discrete mathematics, the students will develop automatic theorem proving systems, develop libraries to perform set theoretic operations.

Complex Variable Analysis

Functions of complex variables, limits, continuity and differentiability, analytic functions, elementary analytic functions (exponential, trigonometric, logarithm), Cauchy-Riemann equations, Harmonic functions, applications of harmonic functions, complex potential theory, complex integration, Contour Integrals, Cauchy's theorem, Cauchy's integral formula, derivative of analytic functions, Taylor and Laurent series, singularities and zeros, residues, Cauchy Residue theorem, Evaluation of definite integral involving sine and cosine, Evaluation of certain improper integrals

Electro-Mechanical Energy Conversion

DC Motors: Basic construction of a DC motor, visualization of magnetic field produced by the field winding excitation, back EMF, induced EMF in an armature coil, Torque equation. Armature circuit equation for

BML MUNJAL UNIVERSITY

Minutes of Meeting

10th Academic Council

May 17, 2019; 11 AM

VENUE: BOARD ROOM, 1st FLOOR, GATEWAY BUILDING (A BLOCK), BMU CAMPUS, 67th MILESTONE, NH-8, SIDHRAWALI, GURUGRAM, HARYANA-122413

MINUTES OF THE 10ᵗʰ MEETING OF THE ACADEMIC COUNCIL HELD ON MAY 17, 2019 IN BOARD ROOM, FIRST FLOOR, GATEWAY BUILDING (A BLOCK), BMU CAMPUS, 67ᵗʰ MILESTONE, NH-8, SIDHRAWALI, GURUGRAM, HARYANA-122413

The 10ᵗʰ meeting of the Academic Council was held on May 17, 2019 in Board Room, BMU Campus. Following were present:

Attendance:

Sr. No.	NAME OF THE MEMBER	DESIGNATION
1.	Dr. Manoj K. Arora	Chairperson
2.	Dr. M .B. Srinivas	Member
3.	Dr. Vishal Talwar	Member
4.	Dr. Sudip Sanyal	Member
5.	Dr. Jaskiran Arora	Member
6.	Dr. Nandita Choudhury	Member
7.	Dr. Kalluri Vinayak	Member
8.	Dr. K R Sarma	Member
9.	Purushottam C Kaushik	Member
10.	Dr. Vinay K. Nangia	Member
11.	Dr. M. C. Sharma	Special Invitee
12.	Dr. K. K. Jain	Special Invitee
13.	Abhay Sharma	Member Secretary

At the outset, the Chairperson welcomed all members including the newly appointed members of the Academic Council. He briefed the members about the progress of the university and ongoing activities with regard to academic excellence, research and development, faculty recruitment, collaborations with industries and international universities. Thereafter, he requested the member secretary to present the agenda items for discussion.

LEAVE OF ABSENCE

Leave of absence was granted to Dr Neela Natraj who could not attend the meeting at the last moment due to some mis-communication.

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Once quorum was established, the meeting commenced. The items on the agenda were taken up for the consideration and approval of the Academic Council.

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A. STATUTORY AGENDA

AC.10/2019/02/10.A.01: To confirm the minutes of the 09th meeting of Academic Council held on January 18, 2019

A copy of the minutes of the 9th meeting of Academic Council was circulated to all the members. As no comments were received, the minutes were confirmed.

The minutes of 09th meeting of Academic Council are placed at Annexure-1.

B. AGENDA ITEMS FOR REPORTING

AC.10/2019/02/10.B.01: Appointment of Dr. Neela Natraj, Dr. Vinay K. Nangia & Dr. Nandita Choudhury as new members of the Academic Council

The Academic Council took note of the appointment of Dr. Neela Natraj, Dr. Vinay K. Nangia and Dr. Nandita Choudhury, as new members of the Academic Council, nominated by the Vice Chancellor w.e.f. March 14, 2019

The members opined that the induction of new members would bring in more diversity and would strengthen the Academic Council.

A brief introduction of Dr. Neela Natraj, Dr. Vinay K. Nangia and Dr. Nandita Choudhury are placed at Annexure-2.

The re-constitution of Academic Council duly approved by Chairperson-Academic Coucil w.e.f. March 14, 2019 is placed at Annexure-3.

The council took note of the same.

AC.10/2019/02/10. B.02: Announcement of the date of Convocation-2019

The members were informed that the Governing Body in its 11th meeting held on April 11, 2019 approved the date of 4th Convocation-2019, as August 31, 2019.

The council took note of the same.

AC.10/2019/02/10.B.03: Conferment of Doctorate Honoris Causa to Mr. George Goh Ching & Mr. Uday Kotak at 4th Convocation of the University on 31st August 2019

According to the provisions in Chapter XIV-C: *"Conferment of Honorary Degrees and Academic Distinctions"* of First Statute and Section-4 of *"Regulations Governing the Conduct of Convocation"*, following distinguished professionals were duly recommended by the Vice Chancellor, as the Chairperson of Academic Council & approved by the Governing Body in 11th meeting held on April 11, 2019 for the conferment of the award of Doctorate Honoris Causa degrees, for the consideration of the governing body.

1. Mr. George Goh Ching Wah, a Singaporean Entrepreneur, Philanthropist, Ambassador and Honorary Advisor, was proposed by Dr. Gerry George, Governing Body member

2. Mr. Uday Kotak, Founder and MD & CEO of Kotak Mahindra Bank, was proposed by Sh. Akshay Munjal, President BMU & Governing Body member.

The CVs of Mr. George Goh Ching Wah & Mr. Uday Kotak are placed at Annexure-04.

The council took note of the same.

AC.10/2019/02/10. B.04: Appointment of Dr. Vandana Suhag, Dean Education & Quality as Director-IQAC

The Vice Chancellor has appointed Dr Vandana Suhag, Dean Education & Quality as Director-IQAC.

The notification related to Appointment of Dr Vandana Suhag, Dean Education & Quality as Director-IQAC placed at Annexure-05.

The council took note of the same.

AC.10/2019/02/10.B.05: New Student Council-2019

The members were informed about the election of the 2nd Student Council Executive Committee (SCEC) members held on March 25, 2019. The names of newly elected members of SCEC are as follows:

S.No	Registration No.	Name in Full	Course	Position
1	1700255C203	Ajitesh Reddy	B. Tech	President
2	1700086A202	Anmol Srivastava	BBA	Events Secretary
3	1700253C203	Sampath Paduchuri	B. Tech	Club Affairs Secretary
4	1800086A301	Sanchi Arora	MBA	Hostel Affairs Secretary
5	1700428C205	Ramprasad Reddy Sirpy Reddy	B. Tech	Sports Secretary
6	1700432C205	Swastika Gupta	B. Tech	Treasurer
7	16B16185	M Mithila Reddy	B. Tech	Speaker

The council took note of the same.

AC.10/2019/02/10.B.06: BCI Inspection for B.A.,LL.B(Hons) & B.B.A.,LL.B(Hons.)

The members were informed about the inspection of the School of Law by the BCI for recognition/approval of 5 years integrated B.A.,LL. B(Hons) & B.B.A.,LL.B(Hons) programmes on April 28, 2019. The outcome is awaited.

The council took note of the same.

AC.10/2019/02/10.B.07: Alumni Association of BML Munjal University

The members were informed about the constitution of BMU Alumni Association and that the 1st Alumni Meet was held on April 27, 2019 at the campus. During this meet, the 1st alumni board, as given below, was also constituted. The meet was quite successful. The members of the alumni board assured full support to the university for its growth and prosperity.

Alumni Board		
S.No	Name	Designation
1	Utkarsh Singh	President
2	Mrinal Tyagi	Vice-President
3	Dhruv Dua	Joint- Secretary
4	Aishwarya Bhatia	Secretary
5	Anshuman Pandey	Treasurer
6	Anubhav Sharma	Honorary Member

The council took note of the same.

AC.10/2019/02/10.B.08: Grant of renewal of recognition as a Scientific and Industrial Research Organization (SIRO) by the Department of Scientific and Industrial Research (DSIR) to University for a period of three years i.e. from April 01, 2019 to March 31, 2022.

The members were informed on the renewal of recognition as a Scientific and Industrial Research Organization (SIRO) provided by the Department of Scientific and Industrial

Research (DSIR) to University for a period of three years i.e. from April 01, 2019 to March 31, 2022.

The renewal of recognition as a Scientific and Industrial Research Organization (SIRO) of the University is placed at Annexure - 6.

The council took note of the same.

B. AGENDA ITEMS FOR RATIFICATION

AC.10/2019/02/10.C.01: Acceptable IT Use Policy (V.02)

The new version of Acceptable IT Use Policies, duly approved by the Vice Chancellor, was presented to the Council.

The key highlights of this policy are as follows:

❖ This policy applies to all users of computing resources owned or managed by BMU. Individuals covered by the policy include (but are not limited to) faculty and visiting faculty, staff, students, alumni, guests or external individuals and organizations accessing network services via BMU's computing facilities.

❖ This policy applies to technology administered in individual departments, the resources administered by central administrative departments (such as the University Libraries and Computing and Information Services), personally owned computers and devices connected by wire or wireless to the campus network, and to off-campus computers that connect remotely to the University's network services.

The Acceptable IT Use Policy (V.02) is placed at Annexure - 7.

The council considered and ratified the policy.

AC.10/2019/02/10.C.02: Enhancement of Ph.D. Fellowships and provision of Professional Development Grant to PhD Scholars

In order to promote research in the university and to attract quality Ph.D. students to the campus, the management of the university has revised the fellowships .

1. Increase in fellowships to Ph.D. students from 30,000 per month to 40,000 per month (first & second years as JRF) and 50,000 per month (third & fourth years as SRF) w.e.f. 2019-20

2. Additionally, Provision of PDG, as detailed below, to full time and part time Ph.D. scholars. The PDG may be used to meet contingency expenses on stationary, books, thesis writing, membership of societies, field visits, travel to national and international conferences etc.

Amount of PDG:

Full Time Scholars

Year 1 & 2:   INR 20, 000 per annum

Year 3 & 4:   INR 50, 000 per annum

Part Time Scholars (External Candidates)

Year 1 & 2:   INR 15, 000 per annum

Year 3 & 4:   INR 25, 000 per annum

Part Time Scholars (Internal Candidates)

Non- Faculty: Same as Part Time Scholars

Faculty: Nil. They can use Professional Development Allowance, as applicable.

The guidelines pertaining to the use of PDG are given in Annexure-8.

The council considered and approved the guidelines.

AC.09/2019/01/09.C.03: Revised University Calendar for Academic Year: 2019-20

The revised University Calendar for Academic Year 2019-20 was presented to the Council.

The revised academic calendar for Academic Year: 2019-20 is placed at Annexure – 09.

The council considered and ratified the same.

AC.10/2019/02/10.C.04: Revised Academic Programmes in the School of Law commencing from Academic Year: 2019-20

As the NOCs of B.A.,LL.B & B.B.A.,LL.B (Hons) from Directorate of Higher Education Department of Haryana Govt. were received on March 12, 2019 vide letter no 18/19-2018 UNP(5), a fresh application was submitted to BCI for approval of Hons. programmes instead of regular programmes.

The council considered and ratified the same.

AC.10/2019/02/10.C.05: Procedure for the issue of Duplicate Degree Certificate

The procedure for the issue of duplicate degree certificate, duly approved by the Vice Chancellor, was presented to the Council. These guidelines apply to all Graduated Students and Alumni of the University seeking the issuance of a duplicate Degree Certificate.

The procedure for the issue of duplicate degree certificate is placed at Annexure – 10.

The council considered and ratified the procedure.

AC.10/2019/02/10.C.06: Constitution of Examination Committee

In accordance with section 2 of the *"Regulations Governing Conduct of Examinations Scheme of Evaluation and Discipline among Students in University Examinations"*, the constitution of examination committee, duly approved by the Vice Chancellor was presented to the Council.

The constitution of examination committee is placed at Annexure – 11.

The council took note of the same.

B. AGENDA ITEMS FOR APPROVAL

AC.10/2019/02/10.D.01: Nomination of University Nodal officer for UGC Credit Framework for Online Learning Courses through SWAYAM

Dr. Mukesh Mann, Asst. Professor, Dept. of Computer Science has been nominated as the SWAYAM Nodal Officer for the University

The council considered & approved the same.

AC.10/2019/02/10.D.02: B.Tech programmes structure- Academic Year:2019-20

A need was felt to revise the curriculum of all the B. Tech programmes due to new technological advancements in Industry 4.0 era, new regulations from the regulatory bodies, recruiters expectations on skilled engineers, availability of quality online learning content and technology savvy students. A core committee with Dr. K. K. Jain as the convener was constituted. The committee was given the mandate to work with an open mind but keeping the BMU pedagogy at the core. The committee studied the curricula in institutes of excellence such as IITs, IIITs, MIT, Stanford University etc. and obtained views from all stakeholders, namely, students, industry, alumni, faculty and recruiters and also from renowned academicians. In this process, several meetings were held with different stakeholders. After taking suggestions, the curriculum was presented to the BOS of SOET, which also had memberships drawn from academicians and industry professionals.

The BOS approved B. Tech curriculum was presented to the Council by Dr. K. K. Jain on behalf of Dean SOET.

After detailed deliberations, the Academic Council approved the curriculum with minor modifications. In particular, following was approved,

1. The curriculum structure of all B. Tech Programmes.

2. Baskets of courses in various categories such as Skill, Perspective, Foundation and Open electives.
3. Semester wise plan of all B. Tech programmes
4. Segment wise plan of 1st year courses
5. Course content of all the 1st year courses

The curriculum will be effective from the academic year 2019-20 and will be applicable to batch of students admitted from the session 2019-20 and onwards.

The approved curriculum and syllabi of 1st year courses are placed at Annexure-12 & 13 respectively.

Members of the Academic Council also suggested the following,
1. A complete assessment plan for each course may also prepared.
2. The time table may be meticulously planned.
3. Complete coordination with the examination section may be made.
4. The course objectives and course outcomes for each course may be clearly defined.
5. The content of all the courses may be presented in a proper and uniform format.

Members were also of the view that both the computer science streams (i.e. computer science and Computer Science & Engineering) may be combined in view of the market demand in the areas of Artificial Intelligence, Machine Learning, Data Science & Big Data Analytics etc.

The council considered & approved the same.

AC.10/2019/02/10.D.03: Graduate Attributes (GAs), Program Educational Objectives (PEOs), Program Specific Outcomes (PSOs) and Program Outcomes (POs) of MBA, BBA & BSc Economics (Hons.) for all specializations

The Graduate Attributes (GAs), Program Educational Objectives (PEOs), Program Specific Outcomes (PSOs) and Program Outcomes (POs) of MBA, BBA & BSc Economics (Hons.) for all specializations, duly recommended by Board of Studies (BOS) of School of Management held on April 16, 2019 were presented to the Council.

After deliberations, the GAs, PEOs, PSOs and POs of various programmes offered by SOM were approved. *These are given in Annexure -14.*

AC.10/2019/02/10.D.04: Revised MBA programme structure for 2017-19

The revised MBA programme structure for 2017-19 batch was presented to the Council for ratification.

The revised curriculum structure of MBA programme for the 2017-19 batch students with some minor modifications was approved by the Chairperson, Academic Council

The council considered & ratified the same.

Additionally, the members suggested that as a University, the school should follow a uniform definition of the credit system, which should also be aligned with those defined by the regulatory bodies, in view of NBA, NAAC and NIRF requirements. The school of management may appropriately do a mapping.

E. ADDITIONAL AGENDA ITEMS WITH PERMISSION OF THE CHAIR

The Chairperson confirmed that the quorum was present throughout the meeting. As there was no other business, the meeting ended with a vote of thanks to the Chair.

Date: May 17, 2019
Place: BMU Campus

Abhay Sharma
Member Secretary & Registrar

MINUTES OF THE 07th MEETING OF THE BOARD OF STUDIES OF SCHOOL OF LAW, BML MUNJAL UNIVERSITY HELD ON 18 JULY 2022

The 7th meeting of the Board of Studies for School of Law was held at BML Munjal University on 18 July 2022 at 10:00 am in a hybrid mode. The following members were present:

1. Prof. (Dr.) Pritam Baruah – Dean, School of Law, BML Munjal University - Chairperson
2. Dr. Kavita Chawla, Assistant Dean Academics and Assistant Professor, School of Law, BML Munjal University - Member
3. Prof. (Dr.) Jaskiran Arora, Dean, School of Management, BML Munjal University - Member
4. Prof. (Dr.) Mrinal Satish, Professor, National Law School of India University, Bangalore - Member
5. Prof. (Dr.) Dalip Kumar Kalra, Professor, School of Law, Kurukshetra University - Member
6. Mr. Badrinath Durvasula, Managing Director, Legal, Essar Capital Advisory Services, Mumbai – Member
7. Ms. Sameeksha Vaishanva – Student Representative – Special Invitee

Prof. Mrinal Satish, Prof. Jaskiran Arora, and Ms. Sameeksha Vaishnav attended the meeting via Google Meet. The other members of the committee were present in conference room no. 85, E2 building, BML Munjal University, Gurgaon. Once the quorum was established, the meeting commenced. The Chairperson welcomed the members to the seventh Board of Studies meeting of the School of Law and conveyed his thanks to the members for attending the meeting.

The following items on the agenda were taken up for consideration and approval of the Board of Studies:

Agenda 1: To discuss and approve the course structure of the first, third, fifth and seventh semesters of B.A., LL.B. (Hons.), and BBA, LL.B. (Hons.).

The course structure was approved with the following suggestions:

- Change the name of the electives – the History of Citizenship, and the History of International Organisations and the Law - to ensure the name is engaging and is reflective of the contents that will be covered in the course.

The committee noted the following changes in the course structure of the 5-year law programme:

- Third semester will have two credits electives instead of a compulsory course on Critical Thinking.

- The subjects - Civil Procedure Code and Limitation Act, and Law of Crimes - will be offered in the fifth semester instead of in the sixth semester.

- Four credit electives will be offered to the students in the fifth semester instead of a compulsory law course.

Agenda 2: To discuss and approve the course outcomes of the first, third, fifth and seventh semesters of B.A., LL.B. (Hons.), and BBA LL.B. (Hons.).

The course outcomes of the first, third, fifth and seventh semesters of B.A., LL.B. (Hons.), and BBA, LL.B. (Hons.) were discussed and approved with the following suggestions:

- For Family Law I: simplify CO2 and CO3.

- For Constitutional Law I: Ensure that the outcomes in CO1 and CO2 do not overlap.

- For Indian Economic History: In CO4, discuss how the Five-Year plans have impacted the Indian economy. Add the role of planning commission to the outcomes.

- For Company Law: Add the concepts of CSR and independent directors in CO5 if it is not covered in some other part of the course.

- For Understanding Regulation: Modify CO1 to include the "constitutional provisions" for regulation of economic activity. Change the language of CO4 to clarify the sectors that would be covered by the instructor, if not already done so in the individual units of the course.

2
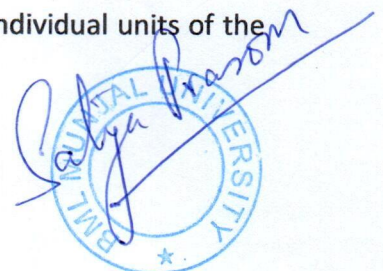
- For Administrative law: CO1 and CO2 may be merged in one outcome as they are repetitive. Change the language of CO3 to make it comprehensible. CO4 may be deleted as that is banal. One of the course outcomes must be on administrative institutions.

- For Financial Market Regulation: Mention the institutions involved in regulating the financial market in the course outcomes.

- For Interpretation of Statutes and Principles of Legislation: Change the language of CO3 to mean how the judges could have applied the principles of interpretation of statutes to write better judgments.

The course outcomes for Banking and Insurance, Intellectual Property Rights, and Property law course could not be presented to the members due to administrative reasons. The outcomes along with the outlines would be sent for comments and approval through circulation.

Agenda 3: To discuss and approve the syllabi of the first, third, fifth and seventh semesters of B.A., LL.B. (Hons.), and BBA, LL.B. (Hons.).

The syllabi of the first, third, fifth and seventh semesters of B.A., LL.B. (Hons.), and BBA, LL.B. (Hons.) were discussed and approved with the following suggestions:

- For Administrative law: Ensure that the topics of exclusion of judicial review, principle of proportionality of judicial review, and Wednesbury reasonableness are included in the syllabus. Consider discussing the inter-state water tribunals. Add academic articles to the outline.

- For Financial Market Regulation: Add the topics of derivatives in commodity markets, small finance banks (in Unit III), and RBI notifications/rules on cryptocurrency. The outline must have recent materials as the area is a fast developing one.

- For Interpretation of Statutes and Principles of Legislation: The theoretical discussion extending upto week 6 in the outline may be blended within the discussions on the principles of interpretation instead of having dedicated hours. This will make the student

3

engage with the course. The outline needs to be updated to have current and more relevant case laws. Recent secondary readings to be added.

- For Understanding Regulation: Discussions may be had on the regulation of the relevant sectors such as hospitality, internet, energy, telecommunications and broadcasting, and mining.

- For Law and Religion: Add the topic of free speech and the relevant constitutional provisions to the syllabus.

- For Company Law: Add the topic of CSR to the syllabus. The instructor must focus on the concepts of transparency and independent directors while discussing the topic of corporate governance.

- For Constitutional Law: The outline needs to be updated to have current case laws. Recent secondary readings need to be added.

The course outline for Banking and Insurance, Intellectual Property Rights, and Property law course could not be presented to the members due to administrative reasons (new faculty joining towards the beginning of the semester). The outline along with the outcomes would be sent for comments and approval through circulation.

Agenda 4: Any other issue with the permission of the Chair.

Mr. Badrinath Durvasula with the permission of the Chair, made the following suggestions:

a) The course outcomes of the subjects should follow a standardized template.

b) The cases and readings in the outlines must be current and relevant.

c) Discussions must be had on recent landmark case laws even if the relevant subject area is not being taught in the semester.

d) The law school must aim to have its academic student journal published soon.

e) The law school must aim to begin its LLM programme.

f) The students must be given an opportunity to intern at government institutions.

4

Prof. Pritam while thanking Mr. Durvasula with the inputs, agreed with all the suggestions and mentioned for (d) that the law school is already working towards having its law journal. Moreover, for point (e), we will soon have the center for constitutional values open, and for point (f), the law students are already interning at various institutions including government institutions.

The Chairperson confirmed that the quorum was present throughout the meeting. As there were no other issues raised, the meeting concluded with a vote of thanks to the Chair.

Minutes of Meeting

17ᵗʰ Academic Council

May 05, 2022

BML MUNJAL UNIVERSITY

MINUTES OF THE 17th MEETING OF THE ACADEMIC COUNCIL

The 17th meeting of the Academic Council was held in hybrid mode on May 05, 2022. Following were present:

S.No	Members	Membership
1	Dr. Manoj K. Arora	Chairperson
2	Dr. Jaskiran Arora	Member
3	Dr. Pritam Baruah	Member
4	Dr. Anirban Chakraborti	Member
5	Dr. Soharab Hossain Shaikh	Member
6	Dr. Kiran Khatter	Member
7	Dr. Sangita Dutta Gupta- attended virtually	Member
8	Dr. Deepak Pandit	Member
9	Dr. Arpit Bhardwaj	Member
10	Prof. Umakant Varottil - attended virtually	Member
11	Dr. Krishna K. Ladha – attended virtually	Member
12	Dr. Vinnie Jauhari- attended virtually	Member
13	Col. Mohit Bawa	Special Invitee
14	Ms. Suneet Soni	Special Invitee
15	Mr. Abhay Sharma	Member Secretary

At the outset, the chairperson welcomed Prof. Umakant Varottil, Associate Professor, Faculty of Law, National University of Singapore; Dr. Krishna K. Ladha, Distinguished Fellow, India Development Foundation, Gurugram & Visiting Professor, Indian School of Public Policy, New Delhi; Dr. Vinnie Jauhari, Director, Education Advocacy (Learning Specialist) Microsoft Corporation India Pvt. Ltd, as the new external members of the Academic Council , which was followed by a brief introduction by the new members.

Brief profiles of three external members, i.e., Prof. Umakant Varottil, Dr. Krishna K. Ladha, Dr. Vinnie Jauhari, are placed in Annexures - 1, 2 & 3 respectively.

He also welcomed Dr. Soharab Hossain Shaikh, Associate Professor & Assistant Dean, Academics (Operations), School of Engineering and Technology; Dr. Deepak Pandit, Chair Professor, Innovation & Entrepreneurship & Dr. Arpit Bhardwaj, Associate Professor, School of Engineering and Technology & Dr. Sangita Dutta Gupta, Associate Professor, School of Management, as the new members from BMU to the Academic Council.

The academic council put on record our gratitude to the outgoing external members, who have completed their tenures,

1. Prof. V. K. Nangia, who has taken over as the Distinguish Professor in School of Management
2. Prof. Neela Natraj, who is now Dean Faculty Affairs at IIT Bombay
3. Dr. KR Sarma, who is Professor Emeritus at IIIT Hyderabad.
4. Mr. Purushottam Kaushik, who is with World Economic Forum, Mumbai

The contributions made by them in respective schools and also towards the overall growth of the university are highly appreciated and acknowledged.

The chairperson gave an update on the progress of the university on academic excellence, research and development, faculty recruitment, and collaborations with industries and international universities during last 6 months.

Thereafter, the chairperson requested the member secretary to present the agenda items for discussion.

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Once quorum was established, the meeting commenced. The agenda items were taken up for the consideration and approval of the academic council.

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A. STATUTORY AGENDA

AC.17/2022/01/17.A.01: Granting leave of absence

All members were present.

AC.17/2022/01/17.A.02: Re-constitution of Academic Council

The revised constitution of the academic council of the university, duly approved by the vice-chancellor as the chairperson, as placed in **annexure- 4**, was presented to the council for ratification.

The academic council ratified the re-constitution of the Academic Council for three years.

AC.17/2022/01/17.A.03: To confirm the minutes of the 16th meeting of Academic Council held on August 28, 2021

A copy of the minutes was circulated to the members of the academic council. As no comments were received, the minutes were confirmed.

The minutes of 16th meeting of Academic Council meeting is placed annexure- 5.

B. AGENDA ITEMS FOR RATIFICATION

AC.17/2022/01/17.B.01: University Calendar (Academic Year: 2022-23)

The academic calendar for the year 2022-23, duly approved by the vice-chancellor as the chairperson of the council, as placed in **annexure- 6**, was presented to the council for ratification.

The council authorized the chairperson to approve the university calendar on behalf of the academic council.

AC.17/2022/01/17.B.02: Ratification of the minutes of meetings:

a) 4th Meeting of Examination Committee held on March 11, 2022

The Controller of Examinations gave a brief account of the recommendations of the examination committee meeting, and is given below:

- Following section shall be added to section 7 as point 7.3 in "Regulations Governing Conduct Of Examinations, Scheme Of Evaluation And Discipline Among Students In University Examinations, 2019" of BML Munjal University:

  "7.3 In exceptional circumstances a further extension of one year may be granted at the recommendations of the Dean of School and duly approved by the Vice Chancellor. During the extended period the student shall be considered as a private candidate and also not be eligible for ranking.

- Section 8.3 of "Regulations Governing Conduct Of Examinations, Scheme Of Evaluation And Discipline Among Students In University Examinations, 2019" of BML Munjal University shall be substituted with the following:

  "8.3 Audit courses may also be offered by the University. The Audit Courses are courses which may not be directly linked with any discipline of study but contribute to sensitizing students on cross-cutting issues relevant to the current pressing concerns both nationally and internationally, such as gender, environment and sustainability, human values and professional ethics, development of creative and divergent competencies. Audit Courses aimed at curriculum enrichment. Apart from generating awareness, these courses are meant to add value and help students in getting placed. The university shall provide a wide range of such courses for students to choose from according to their interests and inclinations. Audit courses are optional. These courses are to be offered outside the curriculum and do not carry any credits and can be of varying duration, but the minimum duration should not be less than 20 hours of study/ related activities. These courses shall be designed like any other credit course and its conduct will be similar to that of credit courses in terms of attendance, teaching/learning, evaluation, certification, etc. The overall objective of audit courses is holistic development of students. The following attendance and passing criteria will be applicable for audit courses:
  a) *Audit Courses should not be offered as mandatory/compulsory courses. Student should be given an opportunity to choose courses as per his own interest and aptitude.*
  b) *Minimum attendance requirement for a Satisfactory Grade should be 65% in school of Law and 60% in other schools of the University.*
  c) *Since the University follows relative grading and there is no minimum passing marks defined for relative grading hence, the passing marks should be same as credit course.*
  d) *The student who fulfils the minimum passing criteria and attendance as given above will be Awarded S Grade (Satisfactory). Whereas a student who fails to meet either of criteria with respect to attendance or the passing marks will be awarded X Grade (Unsatisfactory).*

  A student with an Unsatisfactory Grade will have an option of not appearing for either recourse or repeat examination. However, a student with an Unsatisfactory Grade, who wants to improve his grade to satisfactory, may opt for the following:

a) *If the Unsatisfactory Grade is due to poor performance and the student fulfilled the minimum attendance requirement, the student may take Recourse examination, held immediately after the end-term examinations. A student will be required to pay fee per course as prescribed by the University.*

b) *If the Unsatisfactory Grade is due to low attendance, then the student may re-register for the course and repeat it with the next batch of students. A student will be required to pay fee as prescribed by the University.*

Dr. Krishna K. Ladha & Prof. Umakant Varottil commented that the changes are good from the student's point of view.

b) 9th Meeting of University Research & Progress Committee (URPC) held on January 12, 2022

The chairperson briefed members on the key discussions in the meeting:

- Ph.D admissions summer session 2021
- Withdrawals of the PhD students during July – Dec 2021
- Ratification of the recommendations of RPEC meetings of all Schools

Dr. Krishna K. Ladha observed a lot of involvement from the faculty members and the discussions are based on analysis & are very useful.

c) 1st Meeting of Research Advisory Board held on March 28, 2022

The minutes of 4th Meeting of Examination Committee held on March 11, 2022; 9th Meeting of URPC held on January 12, 2022 & 1st Meeting of Research Advisory Board held on March 28, 2022, are placed in **annexure- 7, 8 & 9.**

The council considered and ratified the same.

AC.17/2022/01/17.B.03: Revision in Programme Structure of MBA (Executive) Programme

The revisions suggested in the current MBA (Executive) programme structure, duly recommended by the BOS of the School of Management, as placed in **annexure- 10**, were presented to the council by the Dean, School of Management, for approval. The key points are as follows:

It is synchronized with the UGC mandate, provisioning up to 40% of the courses to run online. The objective is to use online classes without compromising the academic quality, and the delivery.

- Total number of credits remain unchanged. The detail are as follows:

Type	Existing		Proposed	
	Credits	Hours	Credits	Hours
Core	69	690	69	690
Elective + Choice Based MOOCs + Applied Business Research	42	420	42	420
Project	6	60	6	60

	Existing		Proposed	
In Class	81	810	75	750
Online	24	240	30	300
In Industry	12	120	12	120
Total	117	1170	117	1170

Dr. Krishna K. Ladha suggested taking care of the technical issues in online classes, such as poor network connections, online platforms etc.

Dr. Jaskiran Arora noted & also mentioned that all the online and offline classes are recorded for the students' future reference.

<u>The council considered & approved the revised MBA (Executive) programme structure of the School of Management</u>

AC.17/2022/01/17.B.04: Revision in Programme Structure (Aligned with NEP):
a) MBA Programme
b) BBA Programme
c) B.Com (Hons.) Programme
d) BA (Hons.) Economics Programme

The revisions suggested in the current MBA, BBA, B.Com (Hons.) & BA (Hons.) Economics programmes (aligned with NEP), duly recommended by the BOS of School of Management, as placed in **annexures- 11, 12, 13 & 14**, were presented to the council by the Dean, School of Management for approval.

The changes in the MBA programme are proposed to provide students with an even enhanced flexibility to design their MBA program in terms of the course they decided to study.

<u>2-year NEP aligned MBA programme structure, has the following features:</u>
- Total credits: 80 (Total credits for the program, adopted in cognizance of draft NHEQF framework and relevant UGC guidelines)
- The focus remains on desired learning outcomes
- Provision for the students to take higher credits and the scope for "Double Major", if required, provisioned for in the curriculum
- Credits courses distributed across 04 broad categories: Core, Elective, Project, Skill
- Non-credit [Audit] courses in Foundation category including customized interventions for "Personalized Journey of Excellence" [PJOE] across all modules
- Exit opportunity: PG Diploma following completion of Year – I
  - Year - I: 38 Credits + Summer Internship: 6 Credits + Year - II: 36 Credits
  - Core [28 Credits] + Elective [30 Credits] + Project [12 Credits] + Skill [10 Credits]

Dr. Krishna K. Ladha advised finding a mechanism to check the quality of elective courses before they are approved, and the quality should be maintained in future also.

Prof. Umakant Varottil said that the changes are good as they give students flexibility at the PG level.

3-year NEP aligned BBA programme structure, has the following features:

- Total credits: 120 (Total credits for the program, adopted in cognizance of draft NHEQF framework and relevant UGC guidelines)
- Provision for the students to take higher credits and the scope for "Double Major", if required, provisioned for in the curriculum
- Created 2 exit points-
  - Exit 1: An Undergraduate certificate will be awarded when a student exits at the end of year 1 (Level 5). Should have completed 36 to 40 credits
  - Exit 2: At the end of the 2nd year, if a student exits, a diploma shall be awarded (Level 6). Requires 72-80 credits from levels 5 & 6, with 36-40 credits at level 6.
  - 13 core subjects with 41 credits, 15 Major and Minor subjects with 45 credits, 4 projects with 17 credits, 3 skill courses with 8 credits, 2 perspective courses with 4 credits and 5 credits from extra co-curricular activities.

3-year NEP aligned B.Com (Hons.) & B.A Eco (Hons.) programme structures have the following features:

- Total credits: 148 (Total credits for the program, adopted in cognizance of draft NHEQF framework and relevant UGC guidelines)
- Provision for the students to take higher credits and the scope for "Double Major", if required, provisioned for in the curriculum
- Created 2 exit points-
  - Exit 1: An Undergraduate certificate will be awarded when a student exits at the end of year 1 (Level 5). Should have completed 36 to 40 credits
  - Exit 2: At the end of the 2nd year, if a student exits, a diploma shall be awarded (Level 6). Requires 72-80 credits from levels 5 & 6, with 36-40 credits at level 6.
  - 11 core subjects with 66 credits, 11 Major and Minor subjects with 48 credits, 2 projects with 15 credits, 3 skill courses with 9 credits, 2 perspective courses with 5 credits and 5 credits from extra co-curricular activities.
- Major Specializations for B.Com (Hons.) – Block Chain & Fintech; Forensic Accounting and Corporate Fraud; Banking and Insurance; Derivative and Risk Management; International Accounting and Finance; Financial Markets
- Major Specializations for BA (Hons.) Economics – Economics; Public Policy; Sustainability Studies; International Studies; Econometrics.
- There are two exits at the Undergraduate level. After 1st year and after second year.

Dr. Vinnie Jauhari appreciated the exits at multiple levels in the programmes by empowering students with requisite skills to make them industry-ready at different levels of specialization. She also suggested consideration of an exit after six months, which could be a certificate course. In addition, technology-based intervention across areas should also be included, for, e.g., Digital marketing, Analytics, Supply Chain etc.

She also suggested including industry-relevant certifications to increase employability on a different level.

The two new specializations, viz., i) International Accounting and ii) Finance and Financial Markets, will help the students pursue the B. Com (Hons.) programme and CA and help them crack the CA exam.

Dr. Umakant Varottil appreciated mapping the subjects related to the B. Com (Hons.) programme and adding Public Policy; Sustainability Studies; International Studies; Econometrics to B.A (Hons.) Economics programme.

Dr. Vinnie Jauhari found the addition of these subjects would be helpful for the students. If these elements are twined into the subjects like Sustainable Studies, the investment in Green Technology, Carbon Credits, and Sustainable Energy Resources will create multiple job opportunities. Further, she suggested looking at it as a feeder program for master's and Ph.D programmes because, with specialized knowledge, there will be a lot of scope for doing research with consulting firms and advisories and UN advertisers largely. In addition, many NGOs are looking for people for these areas, which could be an excellent track for further and deeper research-oriented studies in the Masters' & Ph.D programmes. LinkedIn also does relevant consulting in these areas and can share with us all the job opportunities and profiles posted on this largest platform.

Dr. Krishna K. Ladha suggested maintaining the quality of the course curriculum; it should also be in line with the requirement across the concerned industries to improve the employability rate.

The council considered & approved the revised programme structure for MBA, BBA, B. Com (Hons.) & BA (Hons.) Economics programmes (aligned with NEP) of the School of Management.

AC.17/2022/01/17.B.05: Introduction of Entrepreneurship as a new specialization in MBA Programme

The details of the new specialization in the MBA Programme, i.e., Entrepreneurship, duly recommended by the BOS of School of Management, as placed in **annexure- 15**, were presented to the council by the Dean, School of Management for approval.

The key details are as follows:

- Academic break because of the pursuit of the Business Venture to be added in the university regulations of academic break-
  - Either the student might take a diploma and exit
  - Or back in the program in up to years and complete the program. In such cases, deferred placement will be provided.
- Elective Offering: Social Entrepreneurship; Corporate Entrepreneurship; Family Business Dynamics; Venture Funding; Business Model and Intellectual Property; Managing Technology & Innovation; SME Financing; Succession Planning in Family Business; Legal Aspects of Venturing

Dr. Umakant Varottil suggested finding a system to avoid the misuse of university regulations during the academic break.

Dr. Vinnie suggested putting the application for the academic break in front of the committee for ratification, and then VC can take the final decision to make the process transparent.

Dr. Jaskiran, Dean SOM, informed that the introduction of Entrepreneurship as a new specialization in the MBA Programme was already approved for the MBA batch starting in AY 2022-23 and onwards. She sought the approval to extend Entrepreneurship specialization to the current students of MBA admitted in AY 2021-22.

The council approved the curricula of the new specialization in the MBA Programme, i.e., Entrepreneurship of the School of Management. The council also approved the offering of this specialization for students of MBA 2021-22 batch also.

AC.17/2022/01/17.B.06: Revision in the list of electives in MBA, BBA & B.Com (Hons.) Programmes

The introduction of new electives of current MBA, BBA & B.Com (Hons.), duly recommended by the BOS of School of Management, and placed in **Annexure- 16, 17 & 18**, was presented to the council by the Dean, School of Management for approval.

The council considered & approved the revised electives in MBA, BBA & B.Com (Hons.) Programmes of the School of Management.

The chairperson also suggested a regularly pruning of the list of electives which become obsolete and not offered continuously for three years.

The relevant minutes of the meeting of the Board of Studies, School of Management & School of Economics and Commerce pertaining to above items, are given in **annexure- 19**

AC.17/2022/01/17.B.07: Revision in Programme Structure, Syllabi & Course Outcomes of the Second, Fourth and Sixth Semesters in BA LL.B. (Hons.) and BBA LL. B (Hons.) Programmes

The revised course outcomes, programme structure & syllabi of the second, fourth and sixth semesters of BA LL. B (Hons.) and BBA L.LB (Hons.) programmes, duly recommended by the Board of Studies of SOL, as placed in **Annexure- 20 & 21**, were presented to council for approval.

Dr. Umakant Varottil suggested inclusion of the course Mediation in the curricula. in future. In addition, a course on the Use of Technology in Law Practice can also be considered in the future.

Dr Pritam Baruah informed that the law school has established the Centre for Law Regulation and Technology. Courses were being developed with the help of SOET for introducing technologies such as AI and machine learning to law students. Furthermore, an MOU has also been signed with Max Planck Institute for Innovation and Competition, Munich. The areas of mutual cooperation are:
- *Data sharing and emerging economies.*
- *Diverse aspects of data sharing.*
- *Research projects.*
- *Faculty.*
- *Doctoral scholar exchange.*

The council considered & approved the revisions in the curricula, , programme structure & syllabi of the second, fourth and sixth semesters in BA LL.B. (Hons.) and BBA LL. B (Hons.) Programmes.

The relevant minutes of the 6th meeting of the Board of Studies, School of Law held on 14th December 2021 are placed at **annexure- 22**.

AC.17/2022/01/17.B.08 New Programme/Specialization: (Academic Year: 2022-23)- B.Sc (Computer Science) Programme

The proposal to start a new programme i.e., the B.Sc. (Computer Science), duly recommended by BOS, School of Engineering and Technology, as placed in **annexure- 23**, was presented to the council by Dr. Soharab Hossain Shaikh, Asstt Dean, SOET for approval. The salient features of B.Sc. (Computer Science) programme are:

- **Competency building** through core specializations namely, Data Science and Artificial Intelligence, Cyber Security, Big Data Analytics).
- **Skill enhancement** with interdisciplinary Minor specialisations namely, Financial Technology, Business Analytics & Digital Marketing
- **Futuristic curriculum** encourages learning courses related to core specializations and courses related to Ethics & Leadership, social & emotional learning through Co-curricular activities for the holistic development of an individual.
- **Industry Collaboration** and **Experiential Learning** - mandatory 4-months Practice School in the industry for practical and hands-on exposures.
- **Research focused curriculum** – working on real-world problems and societal issues in the form of Projects.
- **Flexible curriculum** - Flexible curriculum designed with provision for multiple exit options.
- **Innovative teaching pedagogies** – Fractional credit system, the curriculum incorporates flip-classrooms, blended learning, MOOCs-based learning. Practical/hands-on learning through Project.
- **Capacity Building and Entrepreneurship** for both gaining knowledge and creating jobs

USP's of the Programme

Criteria	B.Sc. Computer Science (Other Universities)	B.Sc. Computer Science at BMU
Curriculum & Learning	Curriculum focused on fundamentals and core courses	Curriculum focused on fundamentals, core; Practical experiential learning through hands-on Project; Industry collaboration through Practice School, Mandatory core Specialization and interdisciplinary Minor
Specialization	No specialization	Core competency development through Specializations
Minor	No such option	Minor in interdisciplinary subjects
Industry collaboration	No internship/practice-school and no industry induction	Program design is Industry oriented, Mandatory Practice School for 4-months with an industry
Flexibility in curriculum	Not apparent in the curriculum. However, every institution is putting effort to align their curriculum with recommendation by NEP 2020.	Multiple exit options with certificate/diploma/degree etc

Project (as one of the assessment components)	Offered as an Elective course	Practical and hands-on learning through a mandatory Project component
Holistic development of the student	Not so prominent	Holistic development of the student through Cocurricular, Perspective and Skill courses.

Proposed Credits distribution

Category		No of Courses	Total Credits
Core Discipline Specific Courses (DSC)		20	60
Ability Enhancement Courses (AEC)		2	4
Perspective/Skill		4	8
Major Specialization	Discipline Specific Elective (DSE)	4	15
	Project	1	6
Minor Specialization Interdisciplinary Skill Enhancement Courses (SEC)		4	15
Practice School		1	12
Total Credits			120

Dr. Vinnie Jauhari appreciated the choice of areas and specializations introduced in the B.Sc. (Computer Science) programme, and these are thoughtfully done. She also appreciated the flexibility in integrating management courses, skill development, and hands-on projects in this program. Further, she suggested that there are many mentorship opportunities available with GIT HUB, where multiple industry projects in multiple areas of specialization, and the student can collaborate with these organizations. She is ready to become a volunteer and come to campus & will share a lot of opportunities that the university can leverage and Industry certification to handhold on faculty to build up to educator community in these specializations. She would be happy to support from Microsoft perspective in all these areas.

The controller of examinations also suggested revising the credit of co-curricular activities as per university rules and regulations. She also suggested uniform distribution of credits in all the concerned courses (major/minor).

After that, Prof. Anirban & Dr Soharab explained to the council regarding key benefits, future aspects & other distinctions of the B.Sc. (Computer Science) programme to the council.

The council approved the proposal to start a new programme, i.e., B.Sc. (Computer Science) Programme from 2022-23.

AC.17/2022/01/17.B.09: Revision in Syllabus for B.Tech Computer Science Engineering, Electronics & Computer Engineering and Mechanical Engineering Programmes

The revisions suggested in the syllabus of 2nd year courses [2021-25], new elective Courses and the syllabus of elective courses for UG Students of B.Tech (Comp. Sci.)[2019-23, 2020-24], B.Tech (ME) [2020-24] and B.Tech (E. Com) [2020-24] programmes, duly recommended by the BOS of School of Engineering and Technology, as placed in **annexures- 24**, were presented to the council by Dr. Soharab Hossain Shaikh for approval.

The key details are as follows:

- For Robotics specialisation, the loading of the elective course on Automation, has been changed from (1-O-4) to (2-O-2); increase the number of hours for theory, or these courses be declared lab courses. The lecture hours will be at least equal to Lab hours.
- The content of the course on Strength of Materials-1 is more and has been balanced.
- Global Energy: The politics, Markets and Policy course may be mapped as per other branches, a Perspective Courses (01 credit).
- Below mentioned open electives are added to the existing basket

New Open Elective

S.N.	Name of Open Elective
1	Excel: Novice to Competent
2	Mathematical Modelling of Infectious Diseases
3	Environmental Monitoring by Raman Spectroscopy
4	Pandas for Energy Data Analysis
5	Energy Data Analysis and Energy Storage Systems
6	Data Science of Complex Systems
7	Data Analysis and Visualization
8	Molecular Data Analytics

- Following minor specializations will be available as minor to students of all the academic programmes:

Minor Specialization Programmes

Computational Mathematics	Energy Harvesting and Storage	Nanotechnology	Materials Science
Number Theory & Cryptography	Renewable and Non-Renewable Energy Sources	Synthesis and Fabrication of Nanomaterials	Computational Materials Science
Numerical Linear Algebra	Characterization Techniques for Energy Materials and Devices	Computational Materials Science	Energy Materials
Design and Analysis of Experiments	Solar Energy	Bio Nanomaterials	Engineering Materials
Financial Mathematics	Hydrogen Energy	Micro and Nano Systems	Materials Characterization
Time Series Analysis and Dynamic Modelling	Fuel cell, Li-ion battery, and Supercapacitors	Applications of Nanotechnology	Science And Engineering of Composite Materials
	Biofuels	Nanometrology	

Dr. Vinnie Jauhari appreciated that these specializations are very interesting and relevant to the industry. However, she also suggested getting a real insight into these areas for employability trends in India or globally; we need to get a project report done from one of the agencies, whether it could be LinkedIn or any other agency.

The council considered & approved the revised syllabus for B. Tech Computer Science Engineering, Electronics & Computer Engineering and Mechanical Engineering Programmes

AC.17/2022/01/17.B.10: Revision in the pre-Ph.D coursework of Ph.D Students, SoET

The revisions suggested in the pre-Ph.D coursework students and research scholars enrolled in SoET, duly recommended by the BOS of School of Engineering and Technology, , were presented to the council for approval. Following new courses have been proposed.

S.N.	Name of Subject	Credits
1	Theoretical Techniques for Quantum Chemical Computations	4
2	Semiconductor Photocatalysis for Water Remediation	2
3	X-Ray: Technology, Technique, Diffraction and Analysis	4
4	A Hands-on Introduction to Engineering Simulations	4
5	Neural Networks and Machine Learning	4
6	Numerical Solutions of Differential Equations	4
7	Advanced Power Electronics Circuits, Devices and Applications	4
8	Advanced Embedded Systems and IoT Application	4

The detailed syllabus of all the courses is placed at **annexure- 25**.

The council considered & approved the revised pre-Ph.D coursework of Ph.D Students, SoET

AC.17/2022/01/17.B.11: Shifting of PS-III from VI Sem to VIII Sem for 2019 Batch (AY: 2019-20)

In the 10th meeting of the Board of Studies of the School of Engineering and Technology, the members recommended the shifting of PS-III from VI Sem to VIII Sem for the 2019 Batch due to Covid19 as a special case. The idea was to assist the students to pursue PS in physical mode to get real-life experience of live projects in the industry.

The council considered & approved the same.

The relevant minutes of the 10th Board of Studies, School of Engineering and Technology held on February 17, 2022 are placed at **annexure- 26**.

D. ADDITIONAL AGENDA ITEMS WITH THE PERMISSION OF CHAIR

AC.17/2022/01/17.C.01: Additional agenda items with permission of the chair

The chairperson confirmed that the quorum was present throughout the meeting. As there was no other business, the meeting ended with a vote of thanks to the chair.

Date: May 05, 2022

Abhay Sharma
Member Secretary & Registrar

**BML MUNJAL
UNIVERSITY**™

Annexure-1

(Brief Profile of Prof. Umakant Varottil)

17th Meeting of Academic Council
BML Munjal University, Gurugram

UMAKANTH VAROTTIL

Associate Professor
Faculty of Law
National University of Singapore
469G Bukit Timah Road
Singapore 259776
Tel: +65-6516-3606

Email: v.umakanth@nus.edu.sg

PROFESSIONAL EXPERIENCE

Faculty of Law, National University of Singapore (NUS), Singapore

- **Assistant Professor**: 2010 – 2015
- **Associate Professor**: 2015 - present
- Courses taught:
    - Company Law
    - Mergers & Acquisitions (M&A)
    - Indian Business Law

Visiting Appointments

University of Auckland Law School

- Course:
    - Mergers & Acquisitions (M&A) (taught, July 2017 & July 2019)

University of Sydney Law School

- Course:
    - Mergers & Acquisitions in Asia (taught, June 2017, May 2019 & May 2021)

Faculty of Law, University of Oxford

- **Visiting Research Fellow:** January-February 2016
- Commercial Law Centre, Harris Manchester College

University of Trento, Italy

- **Visiting Professor:** April-May 2014
- Course (co-taught with Prof. Dan Puchniak):
    - Comparative Corporate Governance in Asia

Fordham Law School, New York City

- **Visiting International Professor of Law:** Spring 2009
- Course taught:
  - Doing Business in India

National Law School of India University, Bangalore

- Course:
  - Corporate Governance (taught, April 2014 & November 2019)
  - Corporate Transactions (co-taught, December 2014)

National University of Juridical Sciences, Kolkata, India

- Course:
  - Corporate Transactions (co-taught January 2014)
  - Mergers & Acquisitions (Summer School in Shillong, June 2012 & June 2013)
  - Corporate Governance (Summer School in Shillong, June 2012)
  - Corporate Governance (March 2017)

Gujarat National Law University, Gandhinagar, India

- Course:
  - Corporate Governance (July 2013)
  - Cross-Border Challenge in Corporate Law (August 2019)

National Law University Odisha, India

- Course:
  - Corporate Governance (July 2016)

Practice Experience:

Amarchand Mangaldas, Advocates & Solicitors, India

Positions

- Consultant (2009 – 2015)
- Partner (2000-2006)
- Senior Associate (1998-2000)
- Associate (1995-1998)

Individual Ranking

- Ranked as a leading corporate/mergers & acquisitions lawyer in India by the *Chambers Global Guide* (2006 – 2007)

OTHER APPOINTMENTS

- Research Member, European Corporate Governance Institute
- Member, Editorial Board, Oxford Business Law Blog
- Editor (Articles), Singapore Journal of Legal Studies
- Editor, Asian Journal of Comparative Law
- Production Editor, Indian Law Review
- Member, Executive Committee, Centre for Banking & Finance Law, National University of Singapore
- Member, Executive Committee, Centre for Asian Legal Studies, National University of Singapore
- Fellow, Centre for Law & Business, Faculty of Law, National University of Singapore
- Member, Strategic Advisory Board, Cyril Amarchand Mangaldas, India
- Member, Advisory Committee & Drafting Committee, NSE Centre for Excellence in Corporate Governance, National Stock Exchange of India, Mumbai
- External Advisory Member, GNLU Centre for Corporate & Competition Law, Gujarat National Law University, India
- Member, Board of Advisors, NLS Business Law Review
- Editor, Asian Journal of Legal Education
- Member, Advisory Board, RGNUL Finance and Mercantile Law Review
- Member, Advisory Board – International, Christ University Law Journal

ACADEMIC INTERESTS

- Company/Corporate Law
- Corporate Governance
- Corporate Social Responsibility
- Mergers, Acquisitions & Corporate Restructuring
- Corporate/Structured Finance
- Cross-Border Investments / Joint Ventures
- Corporate & Commercial Law in India

PUBLICATIONS

Books

- *Mergers & Acquisitions in Singapore: Law & Practice* (Singapore: LexisNexis, 2013) (with Wan Wai Yee)

- *Casebook on Corporate Governance* (Singapore: Sweet & Maxwell, 2009) (with Chew Heng Ching, Tan Chong Huat, Tan Lay Hong & Long Hsueh Ching)

Books Edited

- *The Reform Decade: Corporate and Commercial Law in India* (Eastern Book Company, India, 2020) (with Mihir Naniwadekar & V. Niranjan)

- *Globalisation of Corporate Social Responsibility and its Impact on Corporate Governance* (Springer International Publishing, 2018) (with Jean J. du Plessis & Jeroen Veldman)

- *Comparative Takeover Regulation: Global and Asian Perspectives* (Cambridge: Cambridge University Press, 2017) (with Wai Yee Wan)

Book Chapters

- "Minority Shareholders' Rights, Powers and Duties: The Market for Corporate Influence" in Afra Afsharipour & Martin Gelter, eds., *Comparative Corporate Governance* (Cheltenham: Edward Elgar, 2021), pp. 346-367

- "Corporate Law in Colonial India: Rise and Demise of the Managing Agency System" in Serge Dauchy, Heikki Pihlajamaki, Albrecht Cordes & Dave De ruysscher, *Colonial Adventures: Commercial Law and Practice in the Making* (Leiden: Brill Nijhoff, 2021)

- "Related Party Transactions in Commonwealth Asia: Complexity Revealed" in Luca Enriques & Tobias Troger, eds., *The Law and Finance of Related Party Transactions* (Cambridge: Cambridge University Press, 2019), pp. 327-360 (with Dan W. Puchniak)

- "Securities Markets" in Devesh Kapur & Madhav Khosla, eds., *Regulation in India: Design, Capacity, Performance* (Oxford: Hart Publishing, 2019), pp. 97-117

- "India" in Bruce Aronson & Joongi Kim, eds., *Corporate Governance in Asia: A Comparative Approach* (Cambridge: Cambridge University Press, 2019), pp. 182-210

- "The Efficacy of India's Legal System as a Tool for Investor Protection" in Pierre-Henri Conac & Martin Gelter, eds., *Global Securities Litigation and Enforcement* (Cambridge: Cambridge University Press, 2018), pp. 813-845

- "The Stakeholder Approach to Corporate Law: A Historical Perspective from India" in Harwell Wells, ed., *Research Handbook on the History of Corporate Law* (Cheltenham: Edward Elgar, 2018), pp. 381-400

- "Analysing the CSR Spending Requirements under Indian Company Law" in Jean J. du Plessis, Umakanth Varottil & Jeroen Veldman, eds., *Globalisation of Corporate Social Responsibility and its Impact on Corporate Governance* (Springer International Publishing, 2018), pp. 231-253

- "The Significance of Moving Beyond Corporate Social Responsibility (CSR)" in Jean J. du Plessis, Umakanth Varottil & Jeroen Veldman, eds., *Globalisation of Corporate Social Responsibility and its Impact on Corporate Governance* (Springer International Publishing, 2018), pp. 3-23 (with Jean J. du Plessis and Jeroen Veldman)

- "The Nature of the Market for Corporate Control in India" in Umakanth Varottil & Wai Yee Wan, eds., *Comparative Takeover Regulation: Global and Asian Perspectives* (Cambridge: Cambridge University Press, 2017), pp. 344-380

- "Concluding Observations and the Future of Comparative Takeover Regulation" in Umakanth Varottil & Wai Yee Wan, eds., *Comparative Takeover Regulation: Global and Asian Perspectives* (Cambridge: Cambridge University Press, 2017), pp. 474-481

- "Comparative Takeover Regulation: The Background to Connecting Asia and the West" in Umakanth Varottil & Wai Yee Wan, eds., *Comparative Takeover Regulation: Global and Asian Perspectives* (Cambridge: Cambridge University Press, 2017), pp. 3-34

- "The Stakeholder Approach Towards Directors' Duties Under Indian Company Law" in Mahendra Pal Singh, *The Indian Yearbook of Comparative Law 2016* (India: Oxford University Press, 2017), pp. 95-120 (with Mihir Naniwadekar)

- "Regulating Equity Crowdfunding in India: Walking a Tightrope" in P.M. Vasudev & Susan Watson, eds., *Global Capital Markets - A Survey of Legal and Regulatory Trends* (Cheltenham: Edward Elgar, 2017), pp. 172-198 (with Arjya Majumdar)

- "Board Independence in India: From Form to Function?" in Dan W. Puchniak, Harald Baum and Luke Nottage, eds., *Independent Directors in Asia: A Historical, Contextual and Comparative Approach* (Cambridge: Cambridge University Press, 2017), pp. 352-389 (with Vikramaditya Khanna)

- "The Impact of Globalization and Cross-border Mergers & Acquisitions on the Legal Profession in India" in David B. Wilkins, Vikramaditya S. Khanna & David M. Trubek, *The Indian Legal Profession in the Age of Globalization* (Cambridge: Cambridge University Press, 2017), pp. 170-216

- "Corporate Governance in India: The Transition from Code to Statute" in Jean du Plessis & Chee Keong Low, eds., *Corporate Governance Codes for the 21st Century: International Perspectives and Critical Analyses* (Switzerland: Springer International Publishing, 2017), pp. 97-114

- "Corporate Governance" in Linda Spedding, ed., *India: The Business Opportunity* (Lucknow: Eastern Book Company, 2016), pp. 289-342 (with Richa Naujoks)

- "Government Contracts" in Sujit Choudhary, Madhav Khosla & Pratap Bhanu Mehta, eds., *Oxford Handbook of the Indian Constitution* (Oxford: Oxford University Press, 2016), pp. 967-984

- "Mergers & Acquisitions" in Shaun Star (ed.), *Australia and India – A Comparative Overview of the Law and Legal Practice* (New Delhi: Universal Law Publishers (an imprint of LexisNexis), 2015), pp. 99-120 (with Emma Armson)

- "Shareholder Empowerment in Controlled Companies: The Case of Singapore" in Randall Thomas & Jennifer Hill (eds.), *The Research Handbook of Shareholder Power* (Cheltenham: Edward Elgar, 2015), pp. 572-591(with Luh Luh Lan)

- "The Rarity of Derivative Actions in India: Reasons and Consequences" in Dan W. Puchniak, Harald Baum & Michael Ewing-Chow (eds.), *The Derivative Action in Asia: A Comparative and Functional Approach* (Cambridge University Press, 2012), pp. 369-397 (with Vikramaditya Khanna)

- "Sovereign Debt Documentation and the Pari Passu Clause" in Robert W. Kolb (ed.), *Sovereign Debt: From Safety to Default* (John Wiley & Sons, 2011), pp. 227-234

- "A Dose of Sunlight Therapy: Using corporate and Securities Laws to Treat Climate Change" (2009) 1, *Indian Yearbook of International Law and Policy*, 112-131

Book Reviews

- Review of "Corporate Social Responsibility of Multinational Corporations in Developing Countries: Perspectives on Anti-Corruption" by Adefolake O. Adeyeye. [2013] *Singapore Journal of Legal Studies* 226-229

- Review of "The Globalization of Corporate Governance" by Alan Dignam & Michael Galanis. (2012) 2(1) *Asian Journal of International Law* 197-199

Articles

- "Unpacking the Scope of Oppression, Prejudice and Mismanagement Under the Companies Act, 2013, [2020] *Supreme Court Cases* J-1 – J-26

- "Venture Capital in China and India: Does Business Form Matter?", (2020) 53 *Vanderbilt Journal of Transnational Law* 949-987 (with Lin Lin)

- "Related Party Transactions in Commonwealth Asia: Complicating the Comparative Paradigm", (2020) 17 *Berkeley Business Law Journal* 1-43 (with Dan W. Puchniak)

- "Hostile Takeover Regimes in Asia: A Comparative Approach", (2018) 15 *Berkeley Business Law Journal* 267-305 (with Wai Yee Wan)

- "Against Aviation Orthodoxy: India's Foreign Investment Regime for the Airline Industry", (2018) 44 *Brooklyn Journal of International Law* 51-108 (with Jae Woon Lee)

- "The Proliferation of Corporate Governance Codes in the Backdrop of Divergent Ownership Structures", (2018) *Competition & Change*: https://doi.org/10.1177%2F1024529418813832

- "The Scheme of Arrangement as a Debt Restructuring Tool in India: Problems and Prospects", (2018) *European Company and Financial Law Review* 585-614

- "Due Diligence in Share Acquisitions: Navigating the Insider Trading Regime", (2017) (2) *Journal of Business Law* 237-259

- "The Evolution of Corporate Law in Post-Colonial India: From Transplant to Autochthony", (2016) 31 *American University International Law Review* 253-325

- "State-Owned Enterprises in Singapore: Historical Insights Into a Chosen Model for Reform" (2015) 28(2) *Columbia Journal of Asian Law*, 61-97 (with Tan Cheng Han & Dan W. Puchniak)

- "Regulating Squeeze Outs in India: A Comparative Perspective" (2015) 63(3) *American Journal of Comparative Law* 1009-1052 (with Vikramaditya Khanna)

- "Comparative Takeover Regulation and the Concept of 'Control'", [2015] *Singapore Journal of Legal Studies* 208-231

- "Corporate Governance in M&A Transactions" (2013) 24(2) *National Law School of India Review* 50-61

- "Microfinance and the Corporate Governance Conundrum" (2012) 9 *Berkeley Business Law Journal* 242-292

- "The Advent of Shareholder Activism in India" (2012) 1 (6) *Journal on Governance* 582-628

- "The Enforceability of Contractual Restrictions on the Transfer of Shares" (2012) 21(1) *Supreme Court Cases* J-1 – J-24 (with V. Niranjan)

- "Investment Agreements in India: Is There an 'Option'?" (2011) 4(4) *NUJS Law Review* 467-493

- "Corporate Criminal Liability and Securities Offerings: Rationalizing the Iridium-Motorola Case" (2011) 23(1) *National Law School of India Review* 109-132 (with Mihir Naniwadekar)

- "Independent Directors and their Constraints in China and India" (2011) 2 *Jindal Global Law Review* 127-155

- "Corporate Governance in India's Infrastructure Sector: Issues and Perspectives" (2011) 3 *IDFC Law Reporter* 93-100

- "Evolution and Effectiveness of Independent Directors in Indian Corporate Governance" (2010) 6 *Hastings Business Law Journal* 281-376

- "India's Corporate Governance Voluntary Guidelines 2009: Rhetoric or Reality?" (2010) 22 No.2 *National Law School of India Review* 1-28

- "Strategies for Host Country Regulation of Hedge Funds: Lessons from India's Approach" (2009) 11 No. 1 *Australian Journal of Asian Law* 113-134

- "A Cautionary Tale of the Transplant Effect on Indian Corporate Governance" (2009) 21(1) *National Law School of India Review* 1-49

- "Sovereign Debt Documentation: Unraveling the Pari Passu Mystery" (2008) 7 *DePaul Business & Commercial Law Journal* 119-143

- "Corporate Criminality and the Law" (1996) 38 *Journal of the Indian Law Institute* 218 (with T.K. Bhaskar)

- "Regulation of Hazardous Substances: Law and Policy" (1995) 37 *Journal of the Indian Law Institute* 508

Other Publications, Columns and Reports

- "IBC: The Tension Between Value Maximisation And Predictability", *BloombergQuint* (16 July 2021)

- "SEBI's backtrack on independent directors", *The Indian Express* (14 July 2021)

- "Shedding the Promoter Tag: To What End?", *BloombergQuint* (26 May 2021)

- "Securities Markets Code: A Desirable Design For India", *BloombergQuint* (22 April 2021)

- "Tata Vs Mistry: Supreme Court's Deference to Decision-Making in Tata Sons", *BloombergQuint* (28 March 2021)

- "Committee of Independent Directors in M&A: Virtue or Charade?", *BloombergQuint* (4 February 2021)

- "Disclosure of Forensic Audit: A Blunt Instrument", *BloombergQuint* (19 November 2020)

- "The Probity of Delisting in a Downturn", *BloombergQuint* (26 May 2020)

- "Shareholder Stewardship Efforts: A Mixed Bag", *BloombergQuint* (25 March 2020)

- "Promoter Reclassification: Who Calls the Shots?", *BloombergQuint* (18 February 2020)

- "The Great Divide: Chair and CEO Roles", *BloombergQuint* (21 January 2020)

- "NCLAT's Tata-Mistry Ruling Raises More Questions Than It Answers", *BloombergQuint* (20 December 2019)

- "The 'Corporate Purpose Debate': Whose Interests Should a Company Serve?", *BloombergQuint* (14 October 2019)

- "New CSR Rules: The Risks of Greater Rigidity", *BloombergQuint* (1 August 2019)

- "Blowing the Whistle on Insider Trading", *BloombergQuint* (24 June 2019)

- "Fintech Regulation: Innovation Sandbox or Cramped Pit?", *BloombergQuint* (27 April 2019)

- "Accreditation of Investors in Startups: Will it Work?", *BloombergQuint* (25 March 2019)

- "Dissecting the L&T-Mindtree Takeover Battle", *BloombergQuint* (20 March 2019)

- "Differential Voting Rights Shares: Call for a Guarded Revitalisation", *BloombergQuint* (6 February 2019)

- "Environmental and Social Reporting by Indian Companies" (2019) No. 24, *NSE Centre for Excellence in Corporate Governance: Quarterly Briefing*, 1-7

- "Board Failures: The Travails of Corporate Governance Without Enforcement", *BloombergQuint* (29 November 2018)

- "Governance of Financial Institutions: Call for a Paradigm Shift", *BloombergQuint* (8 October 2018)

- "The Changing Face of Shareholders: Outsourced Governance", *BloombergQuint* (14 September 2018)

- "Tata-Mistry Case: A Tribunal's Deference to 'Corporate Democracy'", *BloombergQuint* (24 July 2018)

- "Initial Experience in Implementing CSR Law in India", *Oxford Business Law Blog* (6 July 2018)

- "Homebuyers as Financial Creditors: An Inelegant Solution?", *BloombergQuint* (7 June 2018)

- "Related Party Transactions in Commonwealth Asia", *Oxford Business Law Blog* (11 May 2018) (with Dan W. Puchniak)

- "Hostile Takeover Regimes in Asia: A Comparative Approach", *Oxford Business Law Blog* (3 May 2018) (with Wai Yee Wan)

- "Out-of-Court Settlement in Insolvency: Process Versus Pragmatism", *BloombergQuint* (6 April 2018)

- "The Price Waterhouse Case: Determining Auditor Liability", *BloombergQuint* (18 January 2018)

- "The Stakeholder Responsibility of Corporate Boards" (2018) No. 20, *NSE Centre for Excellence in Corporate Governance: Quarterly Briefing*, 1-6 (with Mihir Naniwadekar)

- "SEBI Clarifies Scope of Embargo Against Share Issuances Following Delisting", *BloombergQuint* (12 December 2017)

- "The Next Phase of Corporate Governance Reforms", *BloombergQuint* (7 October 2017)

- "NCLAT Ruling On Mistry Case Against Tata Sons Lays Down Grounds For Waiver", *BloombergQuint* (25 September 2017)

- "Minority Shareholder Protection as a Numbers Game Opinion", *BloombergQuint* (18 March 2017)

- "Tata Group Episode: Toe The Promoter Line Or You Will Be Shown The Door?", *BloombergQuint* (14 November 2016)

- "Directors' Duties and Stakeholder Interests: Comparing India and the United Kingdom", *Oxford Business Law Blog* (28 August 2016)

- "Regulating Equity Crowdfunding in India", *Oxford Business Law Blog* (31 July 2016) (with Arjya Majumdar)

- "Battling the Scourge of Fake Corporate Disclosures", *The Economic Times* (1 August 2016) (with Malek Shipchandler)

- "Due Diligence in Acquisition Transactions and Insider Trading Concerns", *Oxford Business Law Blog* (1 May 2016)

- "Judicial Delays in India and Turning Tides – The Significance of the Commercial Courts Act to India's Dispute Resolution Mechanism", *Oxford Business Law Blog* (14 April 2016)

- "Takeover Regulation in India", *Oxford Business Law Blog* (17 March 2016)

- "The Long and Short of Insider Trading Regulation in India" (2016) No. 13, *NSE Centre for Excellence in Corporate Governance: Quarterly Briefing*, 1-6

- "Corporate Governance in State-Owned Enterprises" (2015) No. 9, *NSE Centre for Excellence in Corporate Governance: Quarterly Briefing*, 1-6

- "Directors' Duties and Liabilities in the New Era" (2014) No. 5, *NSE Centre for Excellence in Corporate Governance: Quarterly Briefing*, 1-6

- "Emergence of Shareholder Activism in India" (2013) No. 1, *NSE Centre for Excellence in Corporate Governance: Quarterly Briefing*, 1-6

- "SEBI's Consultative Paper on Review of Corporate Governance Norms in India: Comments and Suggestions" (Submitted to the Securities and Exchange Board of India, January 30, 2013)

- "No Way Out: The Reserve Bank of India must review its position on put options or risk driving foreign investors away" (2012) 6(1) *India Business Law Journal* 29-31

- "Developing the Market for Corporate Bonds in India" (2012) WP/6/2012 *NSE Working Papers: National Stock Exchange of India*, 1-35 (with Vikramaditya Khanna)

- "Making Impact Disclosure Mandatory", *The Hindu BusinessLine* (9 April 2011)

- "The Idea of a "Professional" Independent Director" (2010) No. 2, *The Directors' Bulletin*, 15-17

- Several articles on matters of corporate and commercial law published in leading Indian national newspapers covering economic and financial news, including the following:

  - Press Note 1: An Act Beyond the Contract (2007)

  - Critique on the Companies Amendment Bill (2003)

  - Revamping Company Law in India (2002)

  - Debt Restructuring by Indian Companies (2002)

  - Enforceability of Put and Call Options (2001)

Working Papers

- "The Divergent Designs of Mandatory Takeovers in Asia" (with Wai Yee Wan)

- "Shareholder Inspection Rights in India: Restricted Scope and Diminished Effect" (with Neha Joshi)

- "Restraint of Trade in India: Reason (Un)Restrained" (with Tan Zhong Xing)

- "Shareholder Stewardship in India: The Desiderata"

Blog

- *IndiaCorpLaw* (Indian Corporate Law): December 2007 - present

  - http://indiacorplaw.in

  - Containing a periodic review of topics of interest in corporate and commercial law that impact India

Seminars and Conference Papers

- "Shareholder Inspection Rights in India: Restricted Scope and Diminished Effect" (Presentation at the Shareholder Inspection Rights: A Comparative Perspective – Asia Conference hosted virtually, 6 June 2021) (with Neha Joshi)

- "Shareholder Stewardship in India: The Desiderata" (Presentation at the 17th Asian Law Institute Conference hosted virtually by the National Law University, Delhi, 7 – 9 November 2020)

- "Restraint of Trade in India: Reason (Un)Restrained" (Presentation at the Virtual Conference on 150 Years of the Indian Contract Act 1872, 22 August 2020) (with Tan Zhong Xing)

- "A Comparative Analysis of Shareholder Inspection Rights in India and the U.S." (Presentation at the 10th Emerging Markets Finance Conference, 12-14 December 2019, Mumbai, India) (with Randall Thomas & Neha Joshi)

- "Minority Shareholders' Rights and Remedies" (Presentation at the Research Handbook on Comparative Corporate Governance Workshop, 27-28 September, Fordham University Law School, New York, USA)

- "Shareholder Stewardship in India" (Presentation at the Global Shareholder Stewardship Conference, 24-25 September, King's College, London)

- "Venture Capital in China and India: Does Business Form Matter?" (Presentation at the Comparative Corporate Law & Governance: Asian and Global Perspectives, 25-26 July 2019, National University of Singapore) (with Lin Lin)

- "Environmental and Social Reporting in Singapore" (Presentation at the 2nd SNU APLI – NUS CALS Asian Forum for Comparative Legal Studies, 29 January 2019, National University of Singapore)

- "Environmental and Social Reporting in Australia and Singapore: Comparative Analysis" (Presentation at the CEBCLA Corporate Governance Conference 2019, 24-25 January 2019, Singapore) (paper with Gill North)

- "Capital Markets and the Regulatory State in India" (Presentation at the 15th Asian Law Institute Conference, 10-11 May 2018, Seoul National University, Korea)

- "Securities Regulation" (Presentation at the conference on the "Indian Administrative and Regulatory State"16-17 March 2018, New Delhi)

- "Related Party Transactions in Commonwealth Asia" (Presentation at the "Comparative Corporate Governance Conference", 13-14 January 2018, Faculty of Law, National University of Singapore (with Dan Puchniak)

- "Related Party Transactions in Commonwealth Asia" (Presentation at the conference on "Corporate Groups: Facilitation and Control", 11 January 2018, Harris Manchester College, University of Oxford, United Kingdom (with Dan Puchniak)

- "Due Diligence in Share Acquisitions: Navigating the Insider Trading Regime" (Presentation at the Law & Business Seminar Series, 14 June 2017, Sydney Law School, Sydney, Australia)

- "The Scheme of Arrangement as a Debt Restructuring Tool in India: Problems and Prospects" (Presentation at the Conference on The Scheme of Arrangement as a Debt

Restructuring Tool, 12 January 2017, Harris Manchester College, University of Oxford, United Kingdom)

- "Analysing the CSR Spending Requirements under Indian Company Law" (Presentation at the 2016 ICGL Forum on "Globalisation of Corporate Social Responsibility and its Impacts on Corporate Governance: The Chinese Approach and International Experiences", 14-15 December 2016, Renmin Law School, Beijing, China)

- "Regulating Crowdfunding in India: Walking a Tightrope" (Presentation at the Amity Workshop: Legal Issues in Finance in Europe and Asia, 15 November 2016, Faculty of Law, National University of Singapore)

- "Comparative Takeover Regulation: Global and Asian Perspectives" (Presentation at the 16th International Conference of the 21st Century Commercial Law Forum, 29-30 October 2016, Commercial Law Research Center of Tsinghua University, Beijing, China) (with Wai Yee Wan)

- "The Stakeholder Approach Towards Directors' Duties Under Indian Company Law" (Presentation at the International Conference on Liberalization and Globalization: Changing Legal Paradigm, 14-16 July 2016, National Law School of India University, Bangalore, India)

- "State-Owned Enterprises in India" (Presentation at the Workshop on Corporate Governance of State-owned Enterprises, 19-20 May 2016, Faculty of Law, National University of Singapore, Singapore)

- "Corporate Governance in India: The Transition from Code to Statute" (Presentation at the International Corporate Governance & Law (ICGL) Forum, 25-26 April 2016, Hong Kong)

- "Due Diligence in Share Acquisitions: Navigating the Insider Trading Regime" (Seminar at the National Institute of Public Finance and Policy, 7 March 2016, New Delhi, India)

- "Corporate Law in India: Evolution and Current Trends" (Lecture at NALSAR University of Law, 5 March 2016, Hyderabad, India)

- "The Nature of the Market for Corporate Control in India" (Commercial Law Centre Lecture, 17 February 2016, Faculty of Law, University of Oxford, United Kingdom)

- "Corporate Law in Colonial India: Rise and Demise of the Managing Agency System" (Presentation at the Conference on "Influence of Colonies on Commercial Legal Practice", 7-8 January 2016, Fiskars, Finland)

- "The Protection of Minority Investors and the Compensation of Their Losses: A Case Study of India" (Presentation at the 15th International Conference of the 21st Century Commercial Law Forum, 31 October – 1 November 2015, Commercial Law Research Center of Tsinghua University, Beijing, China)

- "Board Independence in India: From Form to Function?" (Presentation at the 18th Annual Law and Business Conference: The Future of International Corporate Governance, 3-5 September 2015, Vanderbilt Law School, Nashville, USA)

- "The Nature of the Market for Corporate Control in India" (Presentation at the Conference on Comparative Takeover Regulation, 23-24 July 2015, Singapore)

- "The Evolution of Corporate Law in Post-Colonial India: From Transplant to Autochthony" (Presentation at the 12th Asian Law Institute (ASLI) Conference, 21-22 May 2015, National Taiwan University, Taipei, Taiwan)

- "Further Reforms to Company Law in India" (Presentation at the Seminar organized by the Institute of South Asian Studies, National University of Singapore, 13 May 2015, Singapore)

- "Legal Services – 2020: A Snapshot" (Keynote Address at the First NLSIU Alumni Worldwide Conference on Legal Services, Legal Education and the State of the Profession: Emerging Challenges organized by the National Law School of India University, 25-26 April 2015, Bangalore, India)

- "Doing Business in India" (Workshop at the Asia Desk Forum organized by the Centre for Asia-Pacific Initiatives, University of Victoria, Canada, 15-18 April 2015, Victoria, Canada)

- "Board Independence in India: From Form to Function?" (Presentation at the Conference on Independent Directors in Asia organized by the Centre for Asian Legal Studies, National University of Singapore (NUS), 26-27 February 2015, Faculty of Law, NUS, Singapore)

- "State-Owned Enterprises in India" (Presentation at the 2nd Conference of the EU Asia Corporate Governance Dialogue Series organized by the European Corporate Governance Institute (ECGI) and the Centre for Law & Business, National University of Singapore (NUS), 24 February 2015, Faculty of Law, NUS, Singapore)

- Comments on "Deals: The Economic Structure of Business Transactions" by Michael Klausner (At the Law & Finance Colloquium organized by the Centre for Banking & Finance Law, NUS and ETH Zurich, 15 January 2015, Faculty of Law, National University of Singapore)

- "The Evolution of Corporate Law in Post-Colonial India: From Transplant to Autochthony" (Presentation at the Annual Meeting of the Association of American Law Schools, 3-5 January 2015, Marriott Wardman Park Hotel, Washington DC, United States)

- "Regulating Squeeze Outs in India: A Comparative Perspective" (Presentation at the American Society of Comparative Law Younger Comparativists Committee Workshop on Comparative Business and Financial Law, 7-8 November 2014, University of California, Davis, Davis, California, United States)

- "The Protection of Minority Investors and the Compensation of Their Losses: A Case Study of India" (Presentation at the XIXth International Congress of Comparative Law, 20-26 July 2014, University of Vienna, Vienna, Austria)

- "Government Contracts" (Presentation at the Workshop on the Oxford Handbook on the Indian Constitution, 17-20 July 2014, Taj Mahal Hotel, New Delhi, India)

- "Takeover Regulation and the Concept of 'Control' in India" (Presentation at the SMU-SAL Conference on Comparative Enforcement of Corporate and Securities Laws in Asia, 17-18 July 2014, Supreme Court Auditorium, Singapore)

- "Corporate Governance in India and China: Current Developments" (Presentation at the International Conference on Trade, Investment and Corporate Governance: Law and Policy in India and China, 25-26 April 2014, at New Delhi, India)

- "Rise of Corporate Governance and Shareholder Activism in India" (Presentation at the IBA Conference on The Changing Landscape of Corporate M&A in India", 21-22 March 2014, Mumbai, India)

- "Shareholder Empowerment in Controlled Companies: The Case of Singapore" (Paper presented at the Shareholder Power Conference at the Faculty of Law, National University of Singapore, 6-7 March 2014, Singapore)

- "Recent Developments in Mergers & Acquisitions in Singapore" (Presentation at Seminar organized by the LexisNexis, 24 February 2014, Singapore)

- "Analyzing India's New Company Law" (Continuing Legal Education Seminar, 23 October 2013 at the Faculty of Law, National University of Singapore)

- "Shareholder Empowerment in Controlled Companies: The Case of Singapore" (Paper presented at the 16th Annual Law & Business Conference at the Vanderbilt University Law School, 26-27 September 2013, Nashville, USA)

- "The Impact of Globalization and Cross-border Mergers & Acquisitions on the Legal Profession in India" (Paper presented at the 10th Asian Law Institute Conference, 23-24 May 2013, Bangalore)

- "Building an Effective Board" (Workshop at ON Haat 2013 organised by Omidyar Network, 19 March 2013, Bangalore)

- "Private Sector Concerns" (Roundtable on Infrastructure Development & Good Governance organized by the Jindal Global Law School and the Infrastructure Development Finance Corporation, 23 November 2012, New Delhi, India)

- "The Advent of Shareholder Activism in India" (Distinguished Public Lecture, 22 November 2012, at the Jindal Global Law School, Sonepat, India)

- "Comparative Takeover Regulation: Trends and Impact on Practice" (Continuing Legal Education Seminar, 22 August 2012, at the Faculty of Law, National University of Singapore)

- "Corporate Governance and Takeover Regulation" (Paper presented at the V Annual NLSIR Symposium on Mergers & Acquisitions in India: Recent Regulatory Changes, 5-6 May 2012, National Law School of India University, Bangalore, India)

- "The Impact of Globalization and Cross-border Mergers & Acquisitions on the Legal Profession in India" (Paper presented at the Academic Conference on The Indian Legal Profession in the Age of Globalization, 13-14 April 2012, Harvard Law School, Boston, USA)

- "Corporate Governance in M&A Transactions" (Paper presented at the International Bar Association Conference on The Indian Story in Global Mergers and Acquisitions, 9-10 March 2012, Mumbai, India)

- "Microfinance and the Corporate Governance Conundrum" (Paper presented at the Corporate Law Teachers Association Conference, 5-7 February 2012, Bond University, Gold Coast, Australia)

- "Crossborder Mergers & Acquisitions and the Legal Profession" (Paper presented at the Globalization, Lawyers and Emerging Economies: Academic Conference, 8 Oct 2011, New Delhi, India)

- "Microfinance and the Corporate Governance Conundrum" (Paper presented at the 8th Asian Law Institute Conference on Law in a Sustainable Asia, 26-27 May 2011, Kyushu University, Fukuoka, Japan)

- "Independent Directors and Their Constraints in China and India" (Paper presented at the Michigan-Jindal International Conference on Global and Comparative Corporate Governance, 3-4 Mar 2011, Jindal Global Law School, Sonipat, India)

- "Legal Framework for M&A in India: Current Trends" (Continuing Legal Education Seminar, 16 February 2011, at the Faculty of Law, National University of Singapore)

- "Derivative Actions in India" (Paper presented at the 3rd Biennial HKU-NUS-SMU Symposium, 15-16 Nov 2010, University of Hong Kong, Hong Kong SAR)

- "The Rarity of Derivative Actions in India: Reasons and Consequences" (Paper presented at the Derivative Actions in Asia's Miracle Economies, 23-24 Jul 2010, Faculty of Law, National University of Singapore, Singapore)

- "Recent Reforms to Corporate Governance in India: An Analysis" (Paper presented at the 3rd NLSIR Symposium on 'Corporate Law and Governance', 10-11 Apr 2010, National Law School of India University, Bangalore, India)

- "Beyond Satyam: Analysing Corporate Governance in India" (panel discussion organised by Jindal Global Law School, 4 Feb 2009, University Club, New York, United States)

- "Analysing India's Approach to Hedge Fund Regulation" (Paper presented at the 5th Asian Law Institute Conference, 22-23 May 2008, Faculty of Law, National University of Singapore, Singapore)

- Conducted an Orientation Programme on "New Frontiers of Corporate Governance" at the National Law School of India University, Bangalore (August 2006)

- "Legal Aspects of Real Estate in India" - Suminfra, Summit on Public Private Partnerships in Infrastructure, Bangalore (2004);

- "Limitation of Liability in IT Contracts" – Consilience – Conference on Technology Laws, Bangalore (2004);

- "Mergers, Acquisitions & Corporate Restructuring" - Annual Conference of the Institute of Company Secretaries of India, Bangalore (2004) and Hyderabad (2005);

- "Securitization" – National Roundtable on Regulation of Financial Sector Regulations, National Law School of India University, Bangalore (2004);

- "Mergers & Acquisitions in the Technology Sector", MAIT (2003);

- "Analysis of the Companies Amendment Bill, 2003" – Cochin Chamber of Commerce, Cochin (2003);

- "Regulation of Derivatives" – National Roundtable on Securities Regulation, National Law School of India University, Bangalore (2002).

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BML MUNJAL UNIVERSITY™

Annexure-2

(Brief Profile of Dr. Krishna K. Ladha)

17th Meeting of Academic Council
BML Munjal University, Gurugram

Krishna K. Ladha

Distinguished Fellow, India Development Foundation, Gurugram
Visiting Professor, Indian School of Public Policy, New Delhi
<kkladha@gmail.com>, Mobile 91-9746770011

Brief CV

Ph. D. in Economics (Carnegie-Mellon University), PGDM (IIM Calcutta), M.Sc. (Mathematics, Calcutta University), B.Sc. (St. Xavier's College, Calcutta).

Taught graduate-level Game Theory, Business and Government, Microeconomics, Economics of Public Policy, Social Choice Theory, Economics of Information and Uncertainty, and *Management of Societies*, at one or more of the following: Carnegie-Mellon University, Washington University in St. Louis, New York University, University of Chicago, University of Mississippi, Helsinki School of Business, U.S. Business School of Prague, Indian School of Public Policy, IIM Kozhikode, MDI Gurugram, IIM Calcutta and Goa Institute of Management (GIM). Conducted three long-duration FDPs for GIM faculty during 2016-18 on Advanced Game Theory, Business and Government, and Advanced Microeconomics.

Research interests: Economics, Politics, Law, Business, and Public Policy. In particular, Information Aggregation in Committees; Indian Judiciary; Democracy, Stability and Constitution Design; Social Choice theory; Governance; Political Philosophy; Management of Societies; and the Origin and Implementation of the Constitution of Ancient Athens.

Published in American Journal of Political Science, Journal of Economic Behavior and Organization, Journal of Risk and Uncertainty, Social Choice and Welfare, Public Choice, and book chapters.

Recipient of the Duncan Black Prize for the best paper published in the *Public Choice* journal in 1991 and H.B. Earhart Fellowship (nominated by Carnegie-Mellon University). Industry experience: six years at the Department of Atomic Energy, Mumbai.

Krishna K. Ladha < kkladha@gmail.com>
Distinguished Fellow, India Development Foundation, Gurugram
Visiting Professor, Indian School of Public Policy, New Delhi

Education

Ph.D., Economics, 1986, Graduate School of Industrial Administration, Carnegie-Mellon
University, Pittsburgh, PA 15213
Post-Graduate Diploma in Management, Indian Institute of Management Calcutta, India
M.Sc., Pure Mathematics, University of Calcutta, Calcutta, India
B.Sc., Physics, Chemistry, Mathematics, St. Xavier's College, Calcutta, India

Academic Positions

Distinguished Fellow, India Development Foundation, Gurugram 122009; Dec 2019 -
Visiting Professor, Indian School of Public Policy, New Delhi 110016; Dec 2019 -
Senior Professor, JK Lakshmipat University, Jaipur 302026; June 2019 – Dec 2019
Senior Professor, Goa Institute of Management, Sanquelim Campus, Goa; Feb 2016 – June 2019
Professor, Indian Institute of Management Kozhikode, Kozhikode, Kerala; Mar 2009- Jan 2016
Visiting Associate Professor, Department of Political Science, University of Maryland,
Baltimore County, MD 21250, 2007-08
Visiting Associate Professor, Croft Institute for International Studies and the Department of
Economics, University of Mississippi, Oxford, MS 38677, 2005-07
Visiting Scholar, Department of Politics, New York University, 2002-2005
Fellow, Center in Political Economy, Washington University in St. Louis, 1998-2002
Visiting Associate Professor of Managerial Economics, Olin School of Business, Washington
University in St. Louis, MO, 1998-99
Visiting Scholar, Harris Graduate School of Public Policy Studies, University of Chicago, 1997-98
Fellow, Center for the Study of American Business, Washington University in St. Louis, 1996-97
Assistant Professor of Managerial Economics, School of Business, Washington University in St.
Louis, 1986-96
Fellow, Center in Political Economy, Washington University in St. Louis, 1986-96

Grants

July 1992 - December 1993. Principal investigator, National Science Foundation, "Generalizations
of Condorcet's Jury Theorem," SES-9210800 ($25,000)
March 1997-January 1998. Co-investigator, National Science Foundation, "A Comparative
Analysis of Political Factions using Multinomial Probit Techniques," SBR-9617708 ($70,000)

Honors

The Duncan Black Prize for the best paper published in the Public Choice journal in 1991
Teaching award from Women's Panhellenic Association (1998)

William Larimer Mellon Fellowship (Sept. 1980 - Aug. 1983)
H.B. Earhart Fellowship (Sept. 1981 - Aug. 1982) recognizing the performance in the doctoral
    program in economics (Nominated by Carnegie-Mellon University)

Publications

"Constitutional Predicament of Judicial Appointments in India: A Proposal for Change." 2017. In
    (ed.) Robert Lensink, R., S. Sjogren, and C. Wihlborg, Paths for Sustainable Economic
    Development. L, S&W, Gothenburg, Sweden, 381-391.
"Strategic Opportunities for Quality in Higher Education in India." 2012. IIM Kozhikode Society
    and Management Review, New Delhi: Sage.
"The Political Economy of Dental Care." 2010. Kerala Dental Journal.

"Propagation of Individual Bias through Group Judgment: Deductive Errors in the Treatment of
    Asymmetrically Informative Signals." 2002. Journal of Risk and Uncertainty. (with
    William Bottom and Gary Miller)
"Hypothesis Testing and Collective Decision-Making." 1996. In Collective Decision-Making:
    Social Choice and Political Economy, ed. Norman Schofield. Boston: Kluwer. 385-392.
"Political Discourse, Factions, and the General Will: Correlated Voting and Condorcet's Jury
    Theorem." 1996. In Collective Decision-Making: Social Choice and Political Economy, ed.
    Norman Schofield, Boston: Kluwer. (with Gary Miller) 393-410.
"Information Pooling Through Majority Rule Voting: Condorcet's Jury Theorem and
    Correlated Votes." 1995. Journal of Economic Behavior and Organization. 26:353-372.
"Coalitions in Congressional Voting." 1994. Public Choice. 78:43-63.
"Condorcet's Jury Theorem in light of de Finetti's Theorem: Majority-Rule Voting with
    Correlated Votes." 1993. Social Choice and Welfare, Vol. 10, Pp. 69-85.
"Condorcet's Jury Theorem, Free Speech and Correlated Votes." 1992. American Journal of
    Political Science. Vol. 36, No. 3, Pp. 617-634.
"A Spatial Model of Legislative Choice with Perceptual Error." 1991. Public Choice. 68:151-174.
        (Awarded the Duncan Black Prize for the best paper in the Public Choice journal in 1991)
"If at First You Don't Succeed: Budgeting by a Sequence of Referenda." 1984. In Public
    Finance and the Quest for Efficiency. ed. H. Hanusch. Wayne State University Press.
    (with Thomas Romer and Howard Rosenthal)

Additional Publications

"History and Challenges." 2013. Readings in "Leading for Academic and Managerial
        Proficiency: A Program on Transforming Universities" (eds. Debabrata Chatterjee and
        Unnikrishnan K Nair), prepared for the Commonwealth of Learning.

"Creating World-class Universities." 2013. Readings in "Leading for Academic and Managerial Proficiency: A Program on Transforming Universities" (eds. Debabrata Chatterjee and Unnikrishnan K Nair), prepared for the Commonwealth of Learning.

"New Public Management." 2013. Readings in "Leading for Academic and Managerial Proficiency: A Program on Transforming Universities" (eds. Debabrata Chatterjee and Unnikrishnan K Nair), prepared for the Commonwealth of Learning.

TEDx talk

"India's Judiciary as a Key Political Actor" http://tedxtalks.ted.com/video/TEDxIIMKozhikode-KK-Ladha-India , July 2011

Committees at IIMK

Member of the PGP Academic Review Committee for Curriculum Reform
Co-Chair of the Grading Committee
Chair, Post-Doctoral Research Center, 2011-13

Articles: Work-in-Progress

- The Rise of India's Judiciary as a Key Policy Maker
- Aristotle's Politics on Corporate Governance: In Pursuit of the Common Good
- The Trouble with Innocent Until Proven Guilty
- Kleisthenes and the Ascent of Democracy
- Electoral Democracy versus Government by Bargaining: The Origin of Elections
- Grand Corruption, Laws and Liberty.

Conference Panels organized

Organized a *Mini-Conference on Law, Economics and Business* with Anand Teltumbde and Arindam Das-Gupta at Goa Institute of Management, August 2018

Co-sponsored, with Norman Schofield, a panel on the Condorcet jury theorem at the Second International Meeting of the Society for Social Choice and Welfare to be held at Rochester University, Rochester, New York, July 1994.

Organized a panel on the Condorcet jury theorem for the Conference on Political Economy and Social Choice held at Washington University in St. Louis, May 1994.

Mini-Conference on "Economics, Law, Politics and Management," at the Indian Institute of Management Kozhikode, Kerala 673570, Feb 2010

Referee

American Political Science Review, American Journal of Political Science, Journal of Politics, Social Choice & Welfare, Mathematical Social Sciences, Games and Economic Behavior, British Journal of Political Science, Economics and Philosophy, Theory and Decision

Conference Presentations

"Constitutional Predicament of Judicial Appointments in India," Midwest Political Science Association Meetings, Chicago, April 2018.

"The Trouble with Innocent Until Proven Guilty," presented at the 12th Annual Conference on Economic Growth and Development, Indian Statistical Institute, New Delhi, 2016.

"Deriving Unidimensional Preferences in Jury Setting." Presented at the Midwest Political Science Association Meetings, Chicago, April 2016.

"Justice in an Adversarial System: Pitfalls of Presumed Innocence and Plea Bargaining." Presented at the Midwest Political Science Association Meetings, Chicago, April 2015.

"Grand Corruption, Laws and Liberty." Presented at the 35 th Annual Conference of Rajasthan Economic Association organized by the Central University of Rajasthan, Jan 23-25, 2015 at Kishangarh, Rajasthan.

"Bargaining between the Rich and Poor: Political Polarization and Income Inequality." Presented at the Midwest Political Science Association Meetings, Chicago, April 2014.

"Credible Commitment to Quality Education in Developing Countries" Presented at the Midwest Political Science Association Meetings, Chicago, April 2014.

"Democracy and Corruption: Implications for Democratic Institutions" Midwest Political Science Association Meetings, April 2013.

"Why do we have elections?" at the "International Conference on Game Theory and Management Applications" Dec 2012 at Hyderabad organized by Institute of Public Enterprises and others

"Challenges Facing the Unorganized Sector," presented at the Strategic Management Forum India, IIM Indore, May 3-5, 2012.

"India's Judiciary as a Key Political Actor," Presented at the Midwest Political Science Association Meetings, Chicago, Mar - Apr 2011.

"Aristotle's Politics on Corporate Governance: In Pursuit of the Common Good." Presented at the Midwest Political Science Association Meetings, Chicago, Mar - Apr 2011.

"Justice by a Judge or a Jury in an Adversarial System with a Prosecutor versus a Defendant." Presented at the American Political Science Association Meetings, Boston, Aug 2008.

"Aristotle's *Politics:* On Constitutions, Justice, Laws and Stability," Presented at the Midwest Political Science Association Meetings, Chicago, April 2008.

"The Paradox of Unbiased Public Information: Ignorance may be Bliss." Presented at the Midwest Political Science Association Meetings, Chicago, April 2008. (With Gary Miller)

"Electoral Democracy versus Government by Bargaining: The Origin of Elections." Presented at the Department of Economics, the University of Mississippi, Feb 2007; due for Presentation at the Midwest Political Science Association Meetings, Chicago, April 2007

"Aristotle's Politics: A Theoretical Defense of Democracy." Presented at the Department of Philosophy and Religion, the University of Mississippi, Nov 2006; the Department of

Economics, the University of Mississippi, Dec 2006; the Midwest Political Science Association Meetings, Chicago, April 2006

"The Origin of Elections: An Economic Explanation." Presented at the American Political Science Association Meetings, Philadelphia, Sep 2006 and at The 17th International Conference on Game Theory, Stony Brook University, Stony Brook, NY, July 2006.

"Wars, Democracy, Elections and Freedom." Presented at the Public Choice Society Meetings at New Orleans, March 2005, and at the Midwest Political Science Association Meetings, April 2005.

"Kleisthenes and the Ascent of Democracy." Presented at the Department of Economics, the University of Mississippi, Feb 2006; the Croft Center for International Studies, University of Mississippi, April 2006; the Public Choice Society Meetings at Baltimore March 2004; the Midwest Political Science Association Meetings at Chicago, April 2004; the 15th International Conference on Game Theory, Stony Brook University, Stony Brook, NY, July 2004.

"On the stability, preservation and growth of democracy." Presented at the Public Choice Society Meetings at Nashville, March 2003, and at the Midwest Political Science Association Meetings at Chicago, April 2003.

"Socrates, Protagoras, Aristotle and Condorcet: Dispersed information and its aggregation in democracies." Presented at the Public Choice Society Meetings at Nashville, March 2003.

"Perfection of the Jury Rule by Rule-Reforming Voter with No Power to Amend the Constitution." Presented at the Center for Political Economy, Washington University, February 1998.

"Collective Hypothesis Testing by Bayesian Actors under Majority-Rule Voting." Presented at the Political Economy Conference on Belief and Preference Aggregation at Washington University in St. Louis, May 1997, at the Harris Graduate School of Public Policy Studies at the University of Chicago, November 1997, and at the Annual Meeting of the Public Choice Society, New Orleans, March 1998.

"Information Aggregation by Majority Rule: Theory and Experiments," with Gary Miller and Joe Oppenheimer. Presented at the Economic Science Association Meeting, Tucson, AZ, 1995; at the Annual Meeting of the Public Choice Society, Houston, TX, 1996; and at the Third International Meeting of the Society for Social Choice and Welfare, Maastricht, The Netherlands, 1996.

"Hypothesis Testing and the Jury Theorem." Presented at the Annual Meeting of the Public Choice Society, Houston, TX, 1996; and at the Third International Meeting of the Society for Social Choice and Welfare, Maastricht, The Netherlands, 1996.

"Political Discourse, Factions, and the General Will: Correlated Voting and Condorcet's Jury Theorem." (with Gary Miller) Delivered at the Annual Meeting of the Public Choice Society, New Orleans, 1993.

"Condorcet's Jury Theorem When Individual Votes are Correlated." Presented at the Annual Meeting of the Public Choice Society, New Orleans, 1991 and at the Midwest Political Science Association, Chicago, 1991.

"Coalitions in Congressional Voting." Presented at the Annual Meeting of the Public Choice
   Meeting, Tucson, March 1987.

Discussant at Conferences

The various Annual Meetings of the American Political Science Association, the Public Choice
Society, the Midwest Political Science Association, the American Economic Association, the
Economic Science Association, Various conferences at IIMK, Conferences of the Strategic
Management Forum, India

Invited Activities

Invited talk, "Quality, Credible Commitment and the Liability Law," at IIHMR University,
   Jaipur, October 2018.

Invited talk, "Constitutional Predicament of Judicial Appointments in India," India Development
   Foundation, 2017.

Invited talks, Game Theory, Birla Institute of Management and Technology, Noida; Noida
   International University, Noida; Vivekananda Institute of Professional Studies Delhi,
   2014.

Global Economic Situation: Europe's and India's Perception Seminar on India-Europe Partnership
   in a Globalized Economy at Xavier Institute of Management & Entrepreneurship,
   Bangalore, January 2011.

Invited talk for IIMK-TEDx on "The Rise of Indian Judiciary as a Key Political Actor," July 2011.

Invited talk, "India's Judiciary as a Key Political Actor," at Copenhagen Business School,
   Copenhagen, Denmark, May 2011.

Invited talk, "Aristotle's Politics on Corporate Governance: In Pursuit of the Common Good," the
   Centre for Finance, School of Business, Economics and Law, University of Gothenburg,
   Gothenburg, Sweden, May 2011.

Invited talk, "Implementing Competition in Education: Economic Wish vs. Political Reality" at SIBM
   Bangalore Conference on "Reforms & Internationalization of Higher Education and Future of
   Management Education in India," Aug 2010

Invited talk, Centre for Development Studies, Trivandrum, Implementing Competition: Economic
   Wish vs. Political Reality, Aug 2010

Invited talk, "Elements of Creating a World Class Institution," The EDGE Higher Education Summit,
   March 2010

Invited talk, Market and Government failures, and Independent Institutions, National Seminar on
   Innovations In Finance, Department of Commerce and Management Studies, University Of
   Calicut, Feb 2010

Invited talk, The Political Economy of Dental Care, Keynote Address delivered at at the 42nd Kerala
   State Dental Conference, Nov 2009

Invited talk, "Aristotle's Politics: A Theoretical Defense of Democracy," at Washington University in St. Louis, November, 2006.

Invited talk, "Kleisthenes and the Ascent of Democracy," at the Management Development Institute, Gurgaon, near New Delhi, January 2006.

Invited talk, "Wars, Democracy, Elections and Freedom," at Washington University in St. Louis, 2005.

Invited talk, "Kleisthenes and the Ascent of Democracy," at CERGE-EI of Charles University in Prague and the Academy of Sciences of the Czech Republic, 2003, the Institute for Advanced Studies, Vienna, Austria, 2003, and Washington University in St. Louis, 2004.

Invited talk, "On the stability, preservation and growth of democracy," at the University of Maryland at College Park, University of Michigan at Ann Arbor, and Washington University in St. Louis, 2003, University of Graz, Austria, 2003.

Invited talk, "Socrates, Protagoras, Aristotle and Condorcet: Dispersed information and its aggregation in democracies," at Washington University in St. Louis, 2003.

Invited talk, the Shambaugh Conference on Experimental Tests of Formal Theory in Political Science, University of Iowa, Iowa City, May 1995. "Information Aggregation by Majority Rule: Theory and Experiments," with Gary Miller and Joe Oppenheimer.

Invited talk, The Department of Government, Harvard University, Boston, April 1993. "Generalizations of Condorcet's Jury Theorem."

Invited paper, International Studies Association, Acapulco, Mexico, April 1993. "Political Discourse, Factions, and the General Will: Correlated Voting and Condorcet's Jury Theorem" (with Gary Miller)

Invited paper, the Conference on Political Economy, the National Bureau of Economic Research, December 1990. "The Pivotal Role of the Judiciary in the Deregulation Battle between the Executive and Legislature."

Invited discussant, The Seventh International Symposium in Economic Theory and Econometrics, Washington University in St. Louis, 1991.

Invited participant, Conference on Political Economy, Carnegie-Mellon University, 1990.

Invited participant, Conference on Political Economy, Stanford Business School, 1990.

Teaching

Indian School of Public Policy, New Delhi (2019 -)
 Game Theory
 Business & Government

Goa Institute of Management' Goa, India (Feb 2016 - 2019)
 Courses for GIM Faculty (Faculty Development Programs)
  Advanced Game Theory (2016), Business and Government (2016-17)
  Advanced Microeconomics (2017-18)
 Post-Graduate Program
  Game Theory, Business and Government

Indian Institute of Management Kozhikode, Kerala, India (Mar 2009 - Jan 2016)
  Fellow Program in Management (FPM)
    Advanced Game Theory
  Post-Graduate Program
    Game Theory, Business and Government, Microeconomics
    Management of Societies: Evolution of Institutions and Legal Systems
    Healthcare & Education: Economics, Politics and Management
Indian Institute of Management Calcutta, West Bengal, India (July - August 2007, August 2008)
  Executive MBA Program
    Public Policy and Business Strategy

Management Development Institute, Gurgaon, India (Dec 06 – Jan 07)
  School of Public Policy and Governance
    Governments and Institutions: Evolution and Challenges

University of Mississippi, Oxford, MS (2005-07)
  Undergraduate Croft/Honors Courses
    Econ 320 Current Global Economic Issues, Inst 316 Structures of Government
    Inst 316 Game Theory, Econ 202 Principles of Microeconomics
    Math 267 Calculus for Business

Washington University in St. Louis (1986-2002)
  Undergraduate- and M.B.A.-level Microeconomics,
  Undergraduate- and M.B.A.-level Business and Public Policy,
  M.B.A.-level Political Economy of Regulation, Undergraduate- and M.B.A. level Statistics,
  Ph. D.-level Economics of Information and Uncertainty, and Seminar in Political Economy

Helsinki School of Economics and Business Administration, Finland (1997-98)
  Business, Government and International Trade

U.S. Business School of Praha, Prague, The Czech Republic (2002-4)
  Microeconomics, Political Economy & International Relations

Carnegie-Mellon University, Pittsburgh, PA
  Intermediate Microeconomics

Industry Positions

Head, Planning and Analysis Group (1976-79), Member, Planning and Analysis Group (1973-76), Department of Atomic Energy, Government of India, Bombay.

The PAG, instituted by Dr. Vikram Sarabhai, was an internal management consulting group of the Department of Atomic Energy.

- Carried out policy studies including cost-benefit analyses of infrastructure projects, and pricing studies for major public projects of the Atomic Energy Commission.
- Served as a Management Advisor to the Boards of Directors of three Public Sector Enterprises (PSEs), evaluated investment proposals, and developed plans for reorganization.
- Wrote speeches for the Chairman of the Atomic Energy Commission, Dr. Homi N Sethna.
- Prepared a long-range plan for the Bhabha Atomic Research Center to promote commercial and medical applications of the irradiation technology and radioactive isotopes, with a view to privatize non-nuclear side of the business.

BML MUNJAL UNIVERSITY ™

Annexure-3

(Brief Profile of Dr. Vinnie Jauhari)

17th Meeting of Academic Council
BML Munjal University, Gurugram

VINNIE JAUHARI, Ph.D.
C4/1A, Second Floor
DLF Phase 1
Gurugram- INDIA
Email: vinnie.jauhari@hotmail.com
Mobile: +91 9810032324

Summary of Experience and Competencies

A leader and an educationist with positive contributions to the realm of education and tech community through my work in education. I have worked on government policy matters and worked with various influential stakeholders in India and international organizations. I bring in lot of diverse experience and insights from working with government and private sector leaders. Passionate about making an impact, my work over the years has yielded significant community impact on millions of students and teachers at Microsoft as well in my earlier roles at the Management Institute and HP Labs. I have led and inspired teams across areas such as futuristic technologies such as AI, Cloud Technologies, Services Management, Entrepreneurship, student and faculty innovations across K12 and Higher Education. I have worked on various policy papers and published at a global level with 13 books and over 100 research papers. Have fostered global relationships with international universities on Services, Technology and Innovation. Worked with cross cultural teams and widely travelled and lectured and orchestrated research communities across Services across the world.

Have rich experience of **managing large scale education projects in a programmatic manner** involving work with **Education Boards at Federal and state level** leading to strong learning outcomes for educators and students. Have worked in multi -cultural environment and have contributed to policy initiatives being part of **Education Committees** at CII and FICCI , ASES , DIDAC, UNESCO-MGIEP, and a very good understanding of education landscape in India. Have worked with various policy leaders across states and lead policy level discussions on Transformation in Education and have a very clear understanding on transforming education systems for impact. We have managed **Education Transformation Framework Workshops** for hundred's of Education leaders over the last few years. Have impacted nearly a million teachers over the last six years at Microsoft through various programmatic interventions.

Have contributed to learning outcomes based approach for educators and school leaders leading to **large scale transformation of schools and chain of schools** in government and private sector both. Have contributed to building capacity for more than a million teachers over last six years on Teaching with Technology through various programs with State governments and creating communities of learning successfully through **Showcase School Programs , Microsoft Innovative Expert Educator Program**. The work also involves getting curriculum developed using expertise on Artificial Intelligence in K12 and Higher Ed contributing to set up of AI Labs in leading institutions in India.

Have worked on **leveraging Technology for online learning and monitoring the impact in a systematic manner and also creating recognition paths** for educators. Am very familiar with pedagogical innovation approaches through Tech and have rich experience on developing a strategy for engagement for a diverse group of education stakeholders and getting the strategies executed through education partners and across various industry teams.

Having authored 13 books in the realm of Innovation, Services Management and editor of several international journals, and more than 100 Research papers published in national international journals – have a very good understanding of quality aspects in Higher Education experience coupled being a Director of Business School and a Professor of Strategic Management. This coupled with corporate experience at Microsoft and HP Labs brings in a wealth of experience to drive 21st century skills in learners, adopt a competency based approach towards employability and skilling as well.
Have a great experience to manage large scale policy , research and education events with international researchers and communities at Microsoft, HP Labs and at IIMT- Oxford Brookes University UK.

Have the ability of implementing large scale financial projects following protocols which **adhere to the highest level of compliance standards and have a transparent approach**. Had restructured the spend approach at Microsoft in Education and won several awards and recognition for being fully compliant and for integrity in managing large projects successfully. Have received numerous awards every year of my work both in academics and at HP Labs and Microsoft.

ACADEMIC BACKGROUND

2001: **Post-Doctoral Fellow (United Nations University/** Institute of Advanced Studies. Tokyo
1997: **PhD.** (Corporate Entrepreneurship) **Indian Institute of Technology, Delhi** (UGC Fellowship)
1991: MBA (Gold Medalist) M.L. Sukhadia University. Udaipur
1989: M.Sc. (Hons.) (Electronics) (Panjab University. Chandigarh)
1988: B.Sc. (Hons.) (Physics) (Panjab University. Chandigarh) (5th in University)

PROFESSIONAL EXPERIENCE

May 2014 onwards - Director Education Advocacy (Learning Specialist) and currently(Education Industry Expert), Microsoft Corporation India Pvt. Ltd.

Responsible for thought leadership activities and education evangelism with K-12, Higher Education, Government and Policy bodies. I am part of the Global Corp led program on Microsoft in Education. Responsible for driving Digital Transformation in large State Education Departments and also the large enterprise education government and corporate accounts in a programmatic manner. This involved building right competencies for teachers, making students future ready through industry certifications, Minecraft and AI – Cloud applications exposure and empowering the education leaders on better governance through ed tech solutions and applications.

- Have led **evangelism programs for Central and State governments** across several states in India under the Shiksha Program focusing on Teaching with Technology. Over the last decade. more than 9 lac teachers have been trained under the Shiksha program. For the year 2019-20. more than 100,000 teachers have under gone Professional Development Program through ftf and online interventions.
- Fostered strategic partnerships with several state governments. other stakeholders and led state wise projects with strong impact on learning and teaching
- **Contributed to development of AI curriculum and module Handbooks** for Grade 8th -10th and also fostering strategic partnership with CBSE adopting 500 schools to build their capacity on AI.
- **Contributed to AI Country Digital Plan and enabled adoption AI Digital Labs in Higher Education institutions.**
- **Have enabled Remote Learning access to more than 3 lac users in March- May 2020 through Teams as a Collaborative platform from diverse stakeholders such as Army Public Schools, Govt Schools, Special ability schools, CBSE, IB , Delhi and MP State Govt Schools.**
- Have also managed structured Corp programs in India for K-12 segment such as **Showcase School Program and Expert Educator Program for schools in India** creating light house institutions embracing 21st century learning skills. Create local and global recognition opportunities for them
- There has been a focus on driving campaigns around **Build to Code and Maker Spaces** for promoting STEM and contributing to teaching learning innovations. Have enabled **Minecraft** training and capacity building in India. Worked with Niti Aayog on Atal Tinkering Labs initiative by adopting 25 schools and driving cloud adoption for problem solving.
- **Building teaching communities** and also the first breakthrough on the Kaizala App which combines elements of productivity with social aspects in one of the emerging states in India.

- **Curriculum Development for ICT in K-12** where Delhi Govt. has embraced the same for 1000 schools and also in several other states. Hosted Entrepreneurship curriculum.
- **Higher Education engagement with Faculty on Teaching with Technology** through Saksham Programs for Private and Public Universities.

- **Curriculum on Azure cloud and Workshops in IOT and Azure**
- **Driving Skilling initiatives through strategic partnership with Rajasthan Govt- 4500 students and 400 teachers across 33 districts certified on MOS certification**
- Established connect with key decision making bodies and influencers in the realm of K12 and Higher Education . Currently on Education Committees of CII Higher Education Committee, FICCI. Working closely with international bodies such as UNESCO -MGIEP, World Bank, NASSCOM
- Manage recognition opportunities for teachers and School leaders at national and international forums.

Achievements

Have driven huge visibility for Microsoft in Education work through programmatic approach and managing several programs with impact. Created an entire ecosystem of schools, partners and key influential bodies. Driven contribution to developing educator communities enabling outstanding contributions and teachers receiving Presidents Award for work championed through them. Worked with major government bodies driving a business and mindshare impact. Created an ecosystem of Microsoft Showcase Schools- light house institutions for Digital Transformation, created communities of learning which impacts almost 1,00,000 educators directly and about 5 million students annually. Ability to work with diverse stakeholders at a leadership and strategic level to embrace innovation and leading with thought leadership.

AWARDS AND RECOGNITION AT MICROSOFT INDIA

- **2014-15 Public Sector Heroes Award** for Team Compliance Transformation cash award

- **Greg Butler Award in the World Wide Evangelism Team** for transformation as well as making outstanding contribution to education evangelism **for 2014-2015**

- **Member of Champion PS team for FY 14-15** for exceptional work in line with MS values and Public Sector priorities

- **Quarterly PS Hero for FY 15 Q4** for exceptional work

- **Award in the world wide team for FY 16-17** for being the Greenest Subsidiary and achievement of scorecards across geographies

- **Award for being a Brand Enabler in PS India team** for the year FY 16-17

- **Award for Compliance in FY 18-19**

- **Award for " Making a Difference" in July 2019 at** The MS Company Kick off in Gurgaon.

- **Award for Growth Mindset in July 2020 for significant contribution to Microsoft**

Sept 2009- May 2014- Director, Institute for International Management and Technology (Collaboration with Oxford Brookes University, UK) (now called Vedatya Campus at Sohna , Haryana)(Hospitality and Management Schools at UG and PG Level)

Responsible for academic and research leadership for IIMT both for **undergraduate and postgraduate programs in management and hospitality.** Have been involved with strategic explorations on new research and international partnerships with leading universities and industry partners. Have fostered strategic partnerships with industry such as Inter-Continental Hotels for IIMT's new campus. Responsible for overall strategic growth of IIMT through thought leadership, academic

excellence, outstanding student experience, committed faculty and credible state of the art research. Manage the international journals published from IIMT, international conferences and ensure employability and entrepreneurship. IIMT moved to a new state of art campus (2,30,000 sq feet of built up area over 16 acres) in 2014. BBC covered the campus development and was interviewed by BBC along with the CEO of IHG South West Asia.

Key Achievements:

- **100% employability for students and also research accomplishments for faculty across programs**
- Strategic linkages with industry Intercontinental Group, world's largest hotel chain. Initiated IHG Academy at IIMT and created ground for branding and strategic investments from IHG at IIMT
- Rolled off PG programs validated by Oxford Brookes University
- Employability for all the students generating global internships and placements for all the students across undergraduate and post graduate programs. International internships for undergraduate students-UK, Dubai, Malaysia, Singapore, Germany
- Developed a research oriented culture in the Institute with research plans for all faculty members. This created a visible presence for IIMT in leading national and international forums
- Created international publication opportunities for the faculty
- Built up a credible team of PhDs to deliver on the programs
- Implemented Certificate for Teaching in Higher Education with support from Oxford Brookes University and British Council funding for faculty at IIMT
- Piloted executive education programs – Revenue Management Programs for General Managers of in India in partnership with Oxford Brookes University
- **Built up on the international partnership on International Conference on Services Management which is held annually in partnership with Oxford Brookes University. New partners- Virginia Tech University and Macao Institute of Tourism Studies have joined the partnership started by IIMT.**
- **Founding Editor of Journal of Services Research and Journal of Technology Management for Growing Economies. The journals feature in EBSCO and PROQUEST databases.**

Other Key Activities Initiated at IIMT

- Brought in programmatic approach towards relationship building with schools across India- started Innovation Challenge Program for Senior Secondary students across India and raised external funding for the same. This spans across 1000 schools across India
- **Edited special issues of international journals as theme editor for Emerald international publications**
- Generated employability for all students across all programs
- Championed a strong industry interface through involvement of different stakeholders. Created numerous forums for developing linkages of the industry with IIMT. The institute is a academic partner with IHG and also a strategic tie up with Westin for faculty sabbaticals. Initiated Round Tables with HR Directors, Educators and other key leaders in the industry.
- Invested in faculty development through internal programs and also encouraged faculty to drive the faculty development programs.
- Invited as a key speaker in various national and international forums through these three years
- Have been involved in teaching as well- Strategic Management, Services Management, Entrepreneurship and Critical Thinking Modules at Post Graduate level.

4

Jan 2007 - Sept. 2009 Region Lead - India, HP Labs Open Innovation Office, Hewlett- Packard Company.

The role involved setting up Open Innovation Office in India . The strategy for growth of OIO in India was conceived and implemented. The key objective was to foster strategic research partnerships with universities and research institutions for HP Labs India. The other initiatives had an element of thought leadership, sales and HR outcomes for HP.

Open Innovation Office was a part of HP Labs worldwide. This position reported to worldwide head for strategic research initiatives. The role entailed the following:

- To lead and manage global strategic research collaborations with Universities for HP Labs India
- Develop programs for HP Labs India targeted at eminent researchers, Students-PhD, Post Doc, Faculty
- Involved in the global Innovation Research Program and manage the same for India,
- Generate external funding for Open Innovation Office initiatives both from International organisations, commercial partners, government and other agencies.
- Worked with government specially NIC to influence the investment on Centre of Excellence for D Space in India . Also set up linkages with research community in Bristol to pilot test and support research investments in D Space. Workshops and networks were created with all major public sector users of D Space. This ultimately precipitated in NIC making investments in this technology.
- Worked with DST and Research Council representatives in India to facilitate a community on Human Computer Interaction. Efforts were put for an external funding which would lead to collaborative research work in India and UK and also support PhD fellowships as well.
- Have also worked on the initiative –Indo US Collaboration on Engineering Education in efforts towards promoting excellence in Engineering Education.
- Relationship building with key academic and industry thought leaders to develop a research mindshare
- Contribute to development of research communities in different areas- D Space, Open Cirrus- Cloud Computing, Gelato(Linux on Itanium Applications), Interactive Technologies(British and Indian Universities network of researchers)
- Attracting PhDs, Post Docs, Professors to HP Labs India for research sabbaticals
- Internships for American, Canadian and Indian students for HP Labs India
- Lead and develop programs for building brand for HP Labs.
- Media relationships for Open Innovation Office India

KEY ACCOMPLISHMENTS AT HP

1. Received Director's **Innovator Award** for the performance for the year 2008 for innovative approach to work and contributions to Open Innovation Office work in India.
2. Was the runners up for **EMPOWER CHALLENGE GRANT for the year 2009 targeted at women employees at HP India.** This involved a cash grant of Rs 2,50,000 to **start a new technology journal for growing economies.**
3. Set up **global research relationships for HP Labs** India in premium universities in India, **Canada, US, New Zealand, UK.**
4. Contributed to developing important global research linkages for researchers
5. Contributing to developing communities and networks with government and funding agencies on Human Computer Interface, D Space, Cloud Computing as well.
6. Contributed to **external funding** for almost all programs for HP Labs India
7. Conceptualised and contributed to brand building by initiating many new programs **which** were successful and highly publicized in media
   a. **Mastering the Art and Science of Teaching Engineering and Research**

- Worked on international research projects
- Hosted International conferences
- Authored 11 books (8 published and 3 in the press), and written about seventy five papers for international conferences, journals and books)
- Fostered strong industry linkages and created global networks with leading international academ... by having them on board of our editorial team, initiating joint projects with them, inviting them to IIMT

- *On the editorial board of International Journal of Contemporary Hospitality Management*

- **Reviewer for Technovation**
- Organised international conferences setting new benchmarks Building relationships with stakeholders such as students and industry associations
- Creating a distinct identity for the Institute in India and globally.
- *Generated global paid internships for Business School students for a year with eminent hospitality chain- Radisson Hotels at London.*
- Having Fulbright staff visit IIMT
- Fostered alliance with Pennsylvania State University and Oxford Brookes University for joint conference on Services Management

March 2000 – March 2002 Associate Dean- Academics and Associate Professor

Took up the position of Associate Professor and Associate Dean at IIMT. Was responsible for providing an academic leadership to IIMT and also was responsible for launching of Journal of Services Research. During this period, the faculty in the institute published 35 papers in various national and international journals. It also took up several industry projects as well.

November 2000 – August 2001 (on leave from IIMT, Gurgaon to pursue Post Doctoral Research at UNU/IAS, Tokyo) Post Doctoral Fellow at United Nations University/ Institute of Advanced Studies, Tokyo.

b. **HP Innovate – Technology Challenge for Engineering Students in India(200 institutions)** to channelise their potential for innovation.
c. **Distinguished Researcher Program from Palo Alto**
d. **Annual Technology Symposium for HP Labs on Futuristic Technologies- 2009**
e. Conceptualised new International Journal of Sustainable Technologies for Emerging Economies
f. Partnered with Business Units and Philanthropy and helped in influencing of grants worth USD 3,40, 000 in a year for Universities in a year.
g. Published 6 books in the year 2008-2009 from Oxford Press, UK, Springer in Germany, Francis and Taylor- New York among others. These was a culmination of efforts of last six years at IIMT as well as in current assignment as well

March 2000–Jan 2007 *Professor and Head, School of Management & Entrepreneurship, IIMT* **Institute for International Management and Technology (collaboration with Oxford Brookes University).**

Accomplishments

- **Founding editor of Journal of Services Research and Journal of Technology Management for Growing Economies from 2000 to 2016**
- **Worked on international research projects**
- **Hosted International conferences**
- Authored 11 books (8 published and 3 in the press) and written about seventy five papers for international conferences, journals and books)
- **Fostered strong industry linkages and created global networks with leading international academics** by having them on board of our editorial team, initiating joint projects with them. inviting them to IIMT for spending Fulbright tenures and initiating joint events.
- Created international research opportunities for the faculty of IIMT by building relationships with key international researchers and offering opportunities for publishing their papers in top tier journals.
- On the editorial board of **International Journal of Contemporary Hospitality Management**
- **Reviewer for Technovation**
- Organised international conferences setting new benchmarks Building relationships with stakeholders such as students and industry associations
- Creating a distinct identity for the Institute in India and globally.
- Generated global paid internships for Business School students for a year with eminent hospitality chain- Radisson Hotels at London.
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November 2000 – August 2001 (on leave from IIMT, Gurgaon to pursue Post Doctoral Research at UNU/IAS, Tokyo) Post Doctoral Fellow at United Nations University/ Institute of Advanced Studies, Tokyo.

I worked on the science, technology and society project. My area of work explored the relationship of poverty with technology and evaluated various success cases in Indian scenario which could be replicated elsewhere. The fellowship entailed scholarly interactions with academicians who were at Tokyo and visitors from various universities by way of participation in the workshops, seminars and conferences. There was an affiliation with Tokyo Institute of Technology, Tokyo and there was a close interaction with the faculty there. The outcome is a working paper at IAS/UNU and numerous presentations at various academic forums.

April 1997–March 2000:   **Institute of Integrated Learning in Management (IILM)**

- Worked as **Assistant Professor** in the area of **marketing and strategic management** at Institute of Integrated Learning in Management (IILM), Lodhi Road, New Delhi. Also handled administrative responsibility of the **Coordinator of the Undergraduate Business Programme.** IILM offers MBA course and undergraduate degree in management in collaboration with **Bradford University, U.K.** Have taught at both undergraduate and post-graduate levels (MBA). Published about 20papers in national and international journals and hosted international workshops.

- Some of the subjects taught by me at IILM were

  - Strategic Management, Entrepreneurial Development, Marketing Research, Services Marketing, Product Management and Foundations of Marketing.

  - Have also supervised more than 100 projects in marketing for students of Bradford University, U.K..

  - Have been recognised for the contribution towards research and innovation in teaching methodology. Had organised workshops and massive group projects.

JULY 1993–MARCH 1997:   DEPARTMENT OF MANAGEMENT STUDIES, IIT, DELHI

Joined as a Research Scholar full time to pursue PhD in the Department of Management Studies, Indian Institute of Technology, Delhi under Professor Vinayshil Gautam. Was a recipient of UGC fellowship for pursuing PhD at IIT Delhi.

NOV 1992-JULY 1993 :   IMPACT CONSULTANTS

Handled recruitments and head hunting assignments for well known firms such as Pepsi, Reckitt and Coleman, Hughes Software Systems, Unitech etc. Was interacting with HR Heads at numerous firms and handled recruitment assignments for top management both for Indian and overseas assignments.

DEC 1991- JUNE 1992:   **MODI BUSINESS MACHINES LTD.**

Involved in direct sales handling the area of South Delhi. Was responsible for planning and accomplishing the desired targets for sales.

BOOKS PUBLISHED

1. Jauhari, V. and Misra, K. (2001) **Business Strategy**, Excel , New Delhi

2. Jauhari, V. and Misra, K. (2004) **Services Management: An Insight into the Hospitality Sector, Institute for International Management & Technology,** Gurgaon

3. Jauhari, V. and Venkatesh, U. (2005) **Readings in Services Management,** IIMT, Gurgaon

4. Jauhari, Vinnie (2008) **Global Cases in Hospitality Management** , New York: Francis and Taylor Press

5. Bhushan, S. and Jauhari, V.(2008)**From Chaos to Serenity,** Samskriti New Delhi

6. Jauhari & Charla Griffy Brown(2009), **Women, Technology and Entrepreneurship: Global Case Studies** RR Publishers, Delhi.

7. Jauhari, V. and K. Dutta(2009) **Services: Marketing ,Operations and Management** Oxford University Press, Delhi(**Sixth edition published in 2012**)

8. Marina van Geenhuizen, Chihiro Watanabe, Vinnie Jauhari, Enno Masurel, (2009)**Technological Innovation Across Nations: Co-evolutionary Developments** . **Springer Germany.**

9. Jauhari V. and Parul Wasan(2014) **Humanised Science and Technology.** Concept: New Delhi ..

10. Jauhari, V. and Bhushan, S.(2014) **Innovation Management.** Oxford University Press: Delhi

11. Jauhari, V.(2014) **Managing Sustainability in the Hospitality and Tourism Industry.** Apple Academic Press(Part of Francis and Taylor) New Jersey USA.

12. Jauhari, V.(2017) (Revised Edition) **Services Marketing Text and Cases.** Oxford University Press, New Delhi.

13. Jauhari, V.(2017) **Hospitality Marketing and Consumer Behavior,** Apple Academic Press, New Jersey, USA

LIST OF REFEREED PAPERS

1. Gautam, V. & Verma, Vinnie. Corporate Entrepreneurship- Changing Perspectives. **Journal of Entrepreneurship.** Vol. 6. No. 2, July - Dec. 1997, pp.233-247. Sage

2. Neeraj, Sushil & Verma, Vinnie. SAP Analysis for Organisation Direction. **Indian Management.** Vol.36, No.7, July 1997, PP.46-55.

3. Gautam, V. & Verma, Vinnie. Analysing the M&A Boom. **Indian Management.** October, 1995, Volume 34, Number 9. (This issue was released in 1997) pp.14-23.

4. Gautam, V. & Verma, Vinnie. Franchising En Route to Entrepreneurship. **Indian Journal of Training and Development,** July-Sept 1997. Vol. XXVII. No. 3, pp.84-98.

5. Gautam, V. & Verma, Vinnie. Merger Mania, **Indian Management.** Vol.36, No. 5, May 1997. pp 76-82.

6. Jauhari, Vinnie V. Pharmaceutical Industry - Some perspectives and Issues in the Coming Decade, **Chemical Industry Digest,** January, 1999 Vol. 12. pp 85-89.

7. Verma, Vinnie. State of Marketing Research in India - Some Perspectives, **Indian Management.** Vol. 38, No.4, pp 89-96. March/ April 1999.

8. Verma, Vinnie. The Innovative Technology Promoter. **Indian Management,** Vol. 38. No. 6. **June 1999,** pp 14-17.

9. Verma, Vinnie. Indian Pharmaceutical Industry- Some Insights. **Chemical Industry Digest.** Vol. 12. Sept. – Oct. 1999, pp 65-71.

10. Verma, Vinnie. Strategic Alliances: An Indian Perspective. **Management and Change.** Volume 3. No.2 June-Dec 1999, pp 151-173

11. Jauhari, Vinnie V. & Misra, Kamlesh. Technology Development & Business Strategies in the New Millennium, **Chemical Industry Digest (Millennium Special issue).** Jan. 2000. Vol. 13. pp139-146.

12. Verma, Vinnie & Misra, Kamlesh. Organizational restructuring for the Next Millennium. **Paradigm.** Vol. 3 No.2, July- Dec. 1999. pp 1- 11.

13. Jauhari, Vinnie & Misra, Kamlesh. Family Run Business in India: Balancing Old Wisdom with Global Realities. **Vision,** Vol. 4 No. 1, Jan – June 2000. pp10-16.

14. Jauhari, Vinnie & Misra, Kamlesh. Organisational Restructuring in the Era of Information Technology, **Management & Change,** Vol. 4, No.1, Jan. – June 2000., pp. 145-161.

15. Jauhari, Vinnie. Employee and Customer Management Processes for Profitability – The Case of Hewlett Packard India, **Journal of Services Research,** Volume 1, Number 1, April-September, 2001. pp 149-159.

16. Jauhari, Vinnie 2004. Growth Opportunities in an Emerging Sector: The Case of Nirulas **Journal of Services Research**, Volume 3, No. 2, Oct 2003- March, pp. 125-148.

17. Goyal, P. & Jauhari, Vinnie (2005). An exploration in development of Effective Crisis Tracking Mechanism in Organizations using a Systems Approach. **Business Journal**, (Connecticut) Vol.20, No.1-2, Fall – Spring 2005 issue

18. Goyal, P. Sharma, K. & Jauhari, V. (2004). The State bank of India: A Progressive Study into Transformation of a Socialistic Welfare Organization into a Proactive Market Entity, **Journal of Services Research**. Volume 4 No.2.

19. Competency Mapping in Indian Hotel Industry **International Journal of Contemporary Hospitality Management**, Vol. 18, No. 2-3, 2006, pp. 123-134. Emerald UK.

20. Comparison of Internship Experiences in Food Service Firms in India and UK **Journal of Foodservice Business Research**, 2006, Vol.9, 2/3, pg. 187-206

21. Jauhari Vinnie(2005)Information Technology, Corporate Business Firms and Sustainable Development: Lessons from Cases of Success from India, **Journal of Services Research, Vol. 5, No. 2**, Oct 2005-March 2006.

22. Jauhari Vinnie (2006) India's Readiness for Knowledge Based Economy: The Case of Software Industry in India. Outsourcing. **Parallax**, Boston, 2006 Vol 3, No.1 .

23. Jauhari Vinnie and Kamal Manaktola (2007)Exploring Consumer Attitude and Behaviour Towards Green Practices in the Lodging Industry in India, **International Journal of Contemporary Hospitality Management**, Vol. 19, No. 5, 2007, pg. 364-377. (13th most downloaded paper in 2010 from Emerald UK)

24. Jauhari, Vinnie (2007)Impact of Technology Acquisition on Export Orientation of Indian Firms in the Electronics Sector, **International Journal of Innovation Management**(Singapore) Imperial College Press. Vol. 11. No. 3 ,September 2007

25. Employees' Perceptions of Organizational Trust and Service Climate: a Structural Chathoth,P. Brenda Mak., Vinnie Jauhari and Kamal Manaktola(2007) **Journal of Hospitality & Tourism Research** 31:3: 338-357. **Received Paper for the Year AWARD 2010**

26. Himani Kaul, Shivangi Gupta and Vinnie Jauhari (2008)An Insight into Service Processes in Public and Private hospitals in India' **Journal of Services Research, Feb. 2008 Special Issue.**

27. Jauhari, Vinnie Vinnie Jauhari(2009)Hospitality , Tourism and Economic Growth in India,

28. **Special Issue of World-wide Hospitality and Tourism Themes**, 2009, Vol 1, No.1, Emerald UK.

29. Jauhari, Vinnie **Vinnie Jauhari** (2009)Managing Workforce Issues for Hospitality Industry in India, **Special Issue of World-wide Hospitality and Tourism Themes**, 2009, Vol. 1, No. 1., Emerald UK.

30. Jauhari, Vinnie (2009) Hospitality and Tourism Industry in India: Conclusions and Solutions, **Special Issue of World-wide Hospitality and Tourism Themes**, 2009, Vol. 1, No.1, Emerald UK.

31. Jauhari, Vinnie and Gunjan M Sanjeev (2010)Managing Customer Experience for Spiritual and Cultural Tourism : An overview , **Theme Issue of World-wide Hospitality and Tourism Themes – How can the visitor experience be enhanced for spiritual and cultural tourism in India?** Vol. 2, No. 5 Emerald UK.

32. Jauhari, Vinnie (2010) How can the consumer experience be enhanced for spiritual and cultural tourism in India? **Theme Issue of World-wide Hospitality and Tourism Themes – How can the visitor experience be enhanced for spiritual and cultural tourism in India?** Vol. 2, No. 5, Emerald UK.

33. Jauhari, Vinnie and Michel Benard(2010) University Industry Collaboration: An Open Innovation Approach at Hewlett-Packard, **Journal of Technology Management for Growing Economies**, Vol 1 No 1.

34. Chathoth Prakash K, Mak Brenda, Sim, Janet, Jauhari Vinnie and Kamal Manaktola (2011) Assessing dimensions of organizational trust across cultures: a comparative analysis of US and Indian full service hotels . **International Journal of Hospitality Management,Elsevier, UK June**

35. Chathoth Prakash, Mak Brenda, Vinnie Jauhari and Kamal Manaktola(2011)The Perceived Service Climate Construct and its Impact on Employee Satisfaction, **International Journal of Business and Systems Research, Vol, 10, No. 10, 2011**

36. Jauhari, Vinnie and Rishi, Meghna(2012) Challenges faced by the Hospitality Industry in India: An Introduction, **Theme Issue of World-wide Hospitality and Tourism Themes –What are the Challenges Faced by the Hospitality Industry in India?** Volume 4, No.2, Emerald, UK.

37. Jauhari, Vinnie (2012) Strategic Growth Challenges for the Indian Hotel Industry, **Theme Issue of World-wide Hospitality and Tourism Themes –What are the Challenges Faced by the Hospitality Industry in India?** Volume 4, No.2. Emerald, UK.

38. Jauhari, Vinnie(2012) Summing up Key Challenges Faced by the Hospitality Industry in India, **Theme Issue of World-wide Hospitality and Tourism Themes –What are the Challenges Faced by the Hospitality Industry in India?** Volume 4, No.2. Emerald, UK.

39. Sanjeev, Gunjan and Jauhari, Vinnie(2012) The Emerging Strategic and Financial Issues in the Indian Hospitality Industry: An Overview, **Theme Issue of World-wide Hospitality and Tourism Themes – What are the emerging strategic and financial issues in the Indian hospitality industry?** Vol.4, No.5, Emerald UK.
40. Jauhari, Vinnie and Sanjeev, Gunjan (2012) Responding to the Emerging Strategic and Financial Issues in the Indian Hospitality Industry: An Overview, **Theme Issue of World-wide Hospitality and Tourism Themes –What are the emerging strategic and financial issues in the Indian hospitality industry?** Vol.4, No.5, Emerald UK
41. Jauhari, Vinnie (2012) Innovation through Emergence of Technology Communities: Some Management Lessons, **Journal of Technology Management for Growing Economies**, Vol. 3, No. 2 , October.
42. Bharwani Sonia and Vinnie Jauhari(2013) "An Exploratory Study of Competencies required to Co-Create Memorable Customer Experiences in the Hospitality" **International Journal of Contemporary Hospitality Management**, Emerald UK(in press)

Editorship of International Journals

- Founding and continuing **Editor of Journal of Services Research** since 2001.

- Founding and continuing **Editor of Journal of Technology Management for Growing Economies** since 2010.

- Guest Editor: Special Issue of International Journal of Contemporary Hospitality Management(UK) 2007 Vol.19, No.5, Emerald UK, Theme: The Hospitality Industry in India

- **Theme Editor of Special Issue of World-Wide Hospitality and Tourism Themes, 2009, Vol. 1. Theme** : *What contribution will hospitality and tourism make in securing sustainable economic growth in India?* , Emerald , UK

- Theme Editor of Theme Issue of World-Wide Hospitality and Tourism Themes, 2010, Vol 1, No.5, Theme:*How can visitor experience be enhanced for spiritual and cultural tourism in India?* Emerald UK

- **Theme Editor of Theme Issue of World Wide Hospitality and Tourism Themes, 2012,Vol.4 No.2.** Theme: *"What are the challenges faced by the Hospitality Industry in India?"* , Emerald , UK

- **Theme Editor of Theme Issue of World Wide Hospitality and Tourism Themes, 2012, Vol. 4, No.5** Theme: What are the emerging strategic and financial issues in the Indian hospitality industry?

- **Theme Editor of Theme Issue of World Wide Hospitality and Tourism Themes, 2013, Vol.5, No3,** How can effective university industry partnerships be developed? Theme Co Editor: Rhodri Thomas, Leeds Metropolitan University.

REVIEWER FOR JOURNALS

- Journal of Quality Assurance in Hospitality and Tourism(USA)
- Journal of Hospitality and Tourism Research(USA)(Sage USA)
- International Journal of Hospitality Management(Elsevier)
- International Journal of Contemporary Hospitality Management (Emerald UK)
- Journal of Services Research
- Journal of Technology Management for Growing Economies
- Emerald Emerging Markets Case Studies, UK

ORGANISATION OF WORKSHOPS AND SEMINARS AND CONFERENCES

Hosted range of events in India for global and local audience at Microsoft between 2014-2020. Participated in more than 100 National international conferences and delivered key notes across the World- Tokyo, Washington, UK, Dubai, India. The details can be made available.

Delivered Ted talks as well a few times and have orchestrated large scale research conferences in India and globally with international leaders and communities.

Championed several larges scale events at Microsoft:

1. Educator Exchange- Education Transformation Framework- Nov 5-6, 2020 with more than 700+ education leaders and policy makers and influencers
2. E2 event in 2014-2019 Annually with over 350+ educators and School leaders
3. ASES and DIDAC- Chaired various policy sessions every year since 2014
4. UNESCO_MGIEP TECH Conference-Chaired sessions and got workshops hosted between 2017-2019
5. Session Chair or speaker and sponsor of CII and FICCI annual conferences from 2014-2109
6. Global E2 participation at Dubai, Redmond, US, Toronto, Paris, between 2014-2019
7. Asia Education Readiness Summit on Education, September 2019 Bali
8. Chaired and addressed and key notes at leading customer facing events every year through Microsoft platforms

LIST OF PAPERS PUBLISHED IN REFEREED INTERNATIONAL CONFERENCE PROCEEDINGS

1. Gautam, V. & Verma, Vinnie. Intrapreneurial Culture in a Large Scale Complex Socio –Technical System – Some Observations in the **National Seminar on Intrapreneurship and Entrepreneurship**, 25-26 Nov.1993, Chandigarh, (Published in the Conference Proceedings).

2. Saha, A. & Verma, Vinnie. **Factors Inhibiting the Technological Dynamism of Indian Manufacturing** Firms, **International Conference on Management of Technology** organised at IIT, Delhi, December 21-24, 1997, pp.985-1010. (Published in the proceedings of the conference)

3. Verma, Vinnie. Presented a paper on Strategies for Doing Business in India in a workshop on **Doing Business in India for Finnish delegation under the European Union's Keko Project**, IILM, Lodhi Road, New Delhi, Dec. 4, 1998. (Published in the Proceedings)

4. Verma, Vinnie & Misra, Kamlesh. Organizational Restructuring for The Next Millennium at National **Convention on Developing Organisational Excellence** organised by Jaipur Management Association at Jaipur, July 31, 1999, pp 25-36 (Published in proceedings)

5. Verma, Vinnie & Misra, Kamlesh. Family Businesses in India – From Old Systems to Global Realities, **Ibero American Academy of Management Conference in Spain**, Dec 9-11, 1999.

6. Verma, Vinnie. Organisational Restructuring in the Era of Information Technology, **Second International Conference on Business and Management** NIM, Ahmedabad, Jan 3-6, 2000.

7. Jauhari, Vinnie. Corporate Entrepreneurship: A Framework for Competitiveness, **Tenth International Conference on Management of Technology, Lausanne, Switzerland, March 11-14, 2001.**

8. Jauhari, Vinnie. Customer Relationship Management: Emerging Paradigm at an **International Conference on Customer Relationship Management: The Emerging Concepts, Tools and Applications, Institute for Customer Relationship Management, Atlanta and Management Development Institute, Gurgaon**, Nov. 24-25, 2000 (Printed in the proceedings).

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10. Jauhari, Vinnie. Restructuring in India – **Mergers and Acquisitions as A Response (1997-2000)**, The First Global Conference on Flexible Systems Management, New Delhi, December 17 –20, 2000, Thompson, Singapore, pp. 263-273.

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19. Jauhari, Vinnie & Misra, Kamlesh. **Institutional Systems and Technology Development in India.** Workshop on Elucidation of the Role of Institutional Systems in Characterizing Technology Development Trajectories: A Global Comparative Analysis of Manufacturing Technology and Information Technology in the Enhancement of Business Practice, **IIASA, Laxenburg, Austria,** Sept. 22-23, 2002.

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33. Jauhari Vinnie 2005 Software industry in India and Israel: Preparedness for Knowledge Economy, Workshop on Elucidation of the Role of Institutional Systems in Characterizing Technology Development Trajectories: A Global Comparative Analysis of Manufacturing Technology and Information Technology in the Enhancement of Business Practice, IIASA, Laxenburg, Austria, May 1-2, 2005.

34. Jauhari V. International Conference on Outsourcing: Contents and its Discontents. Laxpra Foundation, NEEBA and Rajasthan College of Agriculture and Technology, Udaipur, August 6, 2005.

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38. Innovation and Institutional Systems : An Insight into the Dynamics of Software Industry in India and Japan, SIMOT Workshop on Co- evolutionary Dynamism between Innovation and Institutional Systems, 27 -28 March, 2007 Tokyo, Japan.

39. Fostering Industry Academic Partnerships, Mysore Forum of the Indo US Collaboration for Engineering Education. Infosys Leadership Campus, Mysore, India, June 3-5, 2007.

40. Plenary session on Innovation Ecosystems : The Software Industry in India, Japan, China and Israel, The Second International Conference on Services Management, Radisson Delhi, June 1-2, 2007.

41. An insight into Service Processes in Public and Private Hospitals in India, The Second International Conference on Services Management, Radisson Delhi, June 1-2, 2007(published in proceedings as well)

42. Leadership as a process of self realization. Ethical dimensions to leadership, The Second International Conference on Services Management, Radisson Delhi, June 1-2, 2007(published in proceedings as well)

43. Academic Industry Partnerships, IICT event hosted by NASSCOM and ABP Group, Guwahati, August 30-31, 2007.

44. Biotech Industry: An Insight into Dynamics in India and Future Challenges, **Hybrid Management of Technology in the 21st Century - The Co-evolutionary Development of Manufacturing and Information Technology Fusing Indigenous Strength and Assimilating Global Best Practice, IIASA Vienna , Sept 8-9, 2007**

45 **Presentation on IP Issues in University Industry Partenerships at ASEE Global Colloquim at Istanbul, Turkey, Sept 30- Oct 4, 2007.**

46 Conference Co –Chair **for International Conference on Services Quality,** Hosted by Pennsylvania State University, School of Hospitality, State College, May 9-10, 2008

47 Jauhari Vinnie (2009) University Industry Collaboratiobn : An Open Innovation Approach at Hewlett-Packard, Dec 14, IIASA, Laxenburg,Vienna Austria

48 Technology in Education, Key note Speech in the **Counsellors Summer Camp, ICTRC,** YMCA, New Delhi, June 1, 2010

49 Technology in Education : The New Paradigm Edumatics-2010, **Education Informatics,** Chitkara Institute of Engineering and Technology, Panjab Canpus Chandigarh., May 22, 2010

50 Open Innovation Approach at HP Labs : An Insight into Investments and Opportunities.**Seminar on Organising for Economic Growth : Emerging Issues in Management of Finance Enterprises and Resources,** Indian Institute of Technology, May 13-14, 2010

51 Learning Experience in Higher Education, **Summit for School Principals,** India Habitat Center Delhi, ICTRC, July 29, 2010

52 Emerging Trends in Indian Education, **Seminar for School Principals, Hotel Piccadily, Chandigarh,** Sept.18, 2010.

53 Participated in a panel discussion on Building Stronger Links between Education and Industry, **The Inaugural India International Hotel, Travel & Tourism Research,** Banarsidas Chandiwala Institute of Hotel Management& Catering Technology, New Delhi, Jan.19-22, 2011.

54 Managing for Growth: Emerging Perspectives in Organising Resources, **Managing for growth: emerging perspectives in organizing finance, resources and enterprise' A Al Sager Round Table, IIT Delhi, Feb 11-12, 2011.**

55 University Industry Partnership, **National Conference on Excellence in Higher Education,** IIT Delhi, 1-3 April, 2011.

56 **Rethinking the MBA, 3rd Edu Convex, Towards New Learning Perspectives in Education,** India Habitat Center, New Delhi, Feb. 4-5, 2011

57 Bharwani, Sonia and Jauhari, Vinnie(2011) From Fungible to Memorable: An Exploratory Study of Competencies required to Create Consumer Experiences in the Hospitality Industry, Technology, Internationalisation and Consumer Experiences, **Proceedings of the 5th International Conference on Services Management,** IIMT, Penn State University and Oxford Brookes University, Delhi, May 19-21, 2011

58 **Live Telecast of Dr Jauhari's session on Doordarshan Gyan Darshan on 18th Jan 2012,** under the session "Trends in Hospitality Industry in India and Implications for successful career in Hospitality Industry, Dr Jauhari conducted two sessions on : Theory Building and Identifying Research Problems: A systematic Approach(TV LIVE TELECAST)

59 Delivered a talk for Management Educators on the topic "Drivers for Excellence in Higher Education" at the **Workshop on Institutional Building : creating and Institute of Excellence", organised by Department of Management Studies at IIT Delhi,** from 12th-15th Jan 2012

60 Key Note address on " Managing for Growth: Emerging Perspectives" at the **Symposium on Managing for Growth: Emerging Perspectives in Organizing Resources**, organized by IIT Delhi, on 10th-11th Feb, 2012

61 Key Note Address on Assessments and Stress Management at the **National Convention of School Counsellors**, organised by ICTRC, at the India International Centre, New Delhi, on Feb 23rd 2012

62 Guest of Honor and Presentation on Global trends in tourism and Developing Research Agenda for Tourism at the **Symposium on "Tourism Planning and Development in India: Setting Agenda for Tourism Research," organised by the Department of Tourism and Hotel Management, Kurukshetra University**, Kurukshetra, on Feb 28th- 29th, 2011.

63 Delivered a Faculty Development Program on **"Learning to do Academic Research in Hospitality and Tourism Management"**, at the Institute of Hotel and Tourism Management, MDU, Rohtak. on 3rd April 2012

64 Jauhari, Vinnie(2012) **Services Orientation in School Counselling, Counsellors' Summer Training Camp 2012**, June 1-5, 2012, Institute of Counsellor Training Research and ConsultancyNew Delhi.

65 Delivered a session on , " The New Leader, **Second National Conference on Excellence in Higher Education, IIT Delhi**, June 28-30, 2012

66 Jauhari, Vinnie (2012) Innovation Through Emergence of Technology Communities: Some Management Lessons, Presented a paper at the **12th Global Conference on Flexible Systems Management, Theme: Systemic Flexibility and Business Agility, Global Institute of Flexible Systems Management, University of Vienna, Austrian Computer Society, International Federation for Systems Research, Vienna**, July 30- August 1, 2012.

67 Jauhari, Vinnie (2012)Assessments and Managing Student Stress, **National Summit of School Principals : Maximising Educational Leadership Competencies, India International Center** , Delhi, July 25, 2012

68 Jauhari, Vinnie (2012)Cyber Bullying and Innovation in Education, **Regional Summit of School Principals,Theme: Maximising Educational Leadership Competencies,** St George's College, Mussoorie, August 9, 2012.

69 Jauhari, Vinnie(2012) Diversity and Innovation in 'Schools, **Regional Summit of School Principals,'Theme: Maximising Educational Leadership Competencies** , Anand Niketan, Satellite Campus, Ahmedabad, August 23, 2012.

70 Jauhari, Vinnie(2012) Discipline and Innovation in Schools, **Regional Summit of School Principals : Maximising Educational Leadership Competencies, City Montessori School, Kanpur** Branch, Lucknow, August 30, 2012.

71 Jauhari, Vinnie(2012) Cyber Bullying and Managing Innovation in Higher Education, **Regional Summit of School Principals : Maximising Educational Leadership Competencies,** at Maharani Gayatri Devi Girls School Jaipur. Sept 6, 2012.

72 Careers in Services- Business and Hospitality at the **National Symposium on Career** hosted by DPS Sector 45 Gurgaon and ICTRC, Oct 30, 2012

73 Jauhari, Vinnie(2012) Open Innovation: Challenges and Opportunities, **Xerox Distinguished Lecture Series-2012, Xerox Research Center in India**, Whitefield, Bangalore, October 12, 2012

74 Jauhari, Vinnie(2012)Luxury Management, **CMH-IEMI, Paris**, Dec.20, 2012

75 Jauhari, Vinnie(2012) India: A Cultural Perspective, **CMH-IEMI, Paris**, Dec.19, 2012

76 Urbanisation and Managing Energy, **Managing for growth: emerging perspectives in organizing finance, resources and enterprise' A Al Sager Round Table, IIT Delhi**, Jan 18-19, 2013.

CHAPTERS IN BOOKS

1. Misra, Kamlesh & Jauhari, Vinnie. The Need for New Fiscal System State of Municipal Finances in India Suresh Misra & Rajvir S. Singh (ed) **The Need for A New Fiscal System in Humanising Development: Trends in Public Administration.** New Delhi: Sustainable Development Foundation. 2001., pp. 184-196.

2. Jauhari, Vinnie (2005). Hotel Industry in India. Reading in Lovelock, Christopher 2005 **Services Marketing** (Indian Edition) Pearson, New Delhi.

3. Jauhari, Vinnie (2005). **The Dynamics of Budget Hotels in India.** Will be published as a case study in John Wiley, Delhi.

4. Jauhari, Vinnie (2005). **The Case of Barista - The Upbeat Café Chain** in India Will be Published as a Case Study by John Wiley, Delhi.

5. Jauhari, Vinnie (2005). **Managing the Taj Brand – Competing with Global Competition,** will be published as a case study by John Wiley, Delhi.

6. Jauhari, Vinnie (2005). Outsourcing: The Case of Indian BPO segment, accepted for Lovelock, C. 2005 **Services Marketing (Indian edition)** Pearson, New Delhi.

7. **Software industry in India and Israel: Preparedness for Knowledge Economy.** Book being published by Laxpra Foundation, Udaipur.

8. The Case of Body Shop. **Women, Technology and Entrepreneurship (to be published in Women Technology and Entrepreneurship).**

9. **The Case of Biocon- Emergence of a Biotechnology Major In India**(to be published in **Women Technology and Entrepreneurship**

10. Women Entrepreneurship in Asia (Sent to a Journal from Thailand).

11. Impact of Technology on Export Intensity in Electronics Firms in India. **Technological Innovation Across Nations: Co-evolutionary Developments published by Springer.**

12 Institutional Context for Usage of IT in the Automobile Sector : The Case of the Market Leader in Passenger Car Segment in India **Technological Innovation Across Nations: Co-evolutionary Developments (Springer)**

BML MUNJAL UNIVERSITY ™

Annexure-4

(Re-constitution of Academic Council)

17th Meeting of Academic Council
BML Munjal University, Gurugram

Academic Council
(Revised)

BML Munjal University, Gurugram

Campus: 67th Milestone, NH-8, Sidhrawali, Gurugram, Haryana-122413
Toll Free No:. 1800-103-6888 | info@bmu.edu.in | www.bmu.edu.in

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BML MUNJAL UNIVERSITY ™

Academic Council

In-continuation of previous notification BMU/RO/2021/572; dated September 13, 2021, the Academic Council of BML Munjal University, Gurugram is further re-constituted with the following members w.e.f. April 15, 2022. The details are as follows:

S.No	Name of Members	Designation	Membership
1	Dr. Manoj K. Arora	Professor & Vice Chancellor	Chairperson
2	Dr. Jaskiran Arora	Professor & Dean School of Management	Member
3	Dr. Pritam Baruah	Professor & Dean School of Law	Member
4	Dr. Anirban Chakraborti	Professor & Dean School of Engineering and Technology	Member
5	Dr. Soharab Hossain Shaikh	Associate Professor & Assistant Dean, Academics (Operations) School of Engineering and Technology	Member
6	Dr. Kiran Khatter	Associate Professor School of Engineering and Technology	Member
7	Dr. Sangita Dutta Gupta	Associate Professor School of Management	Member
8	Dr. Deepak Pandit	Chair Professor Innovation & Entrepreneurship	Member
9	Dr. Arpit Bhardwaj	Associate Professor School of Engineering and Technology	Member
10	Prof. Umakant Varottil	Associate Professor Faculty of Law, National University of Singapore	Member
11	Dr. Krishna K. Ladha	Distinguished Fellow, India Development Foundation, Gurugram & Visiting Professor, Indian School of Public Policy, New Delhi	Member
12	Dr. Vinnie Jauhari	Director, Education Advocacy (Learning Specialist) Microsoft Corporation India Pvt. Ltd.	Member

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Campus: 67th Milestone, NH-8, Sidhrawali, Gurugram, Haryana-122413
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BML MUNJAL UNIVERSITY ™

13	Col. Mohit Bawa	Dean Student Welfare and Administration	Special Invitee
14	Ms. Suneet Soni	Controller of Examinations	Special Invitee
15	Mr. Abhay Sharma	Registrar	Member Secretary

Power, Functions, Tenure & Quorum of aforesaid Academic Council: As mentioned in Chapter VII-C; First Statute of BML Munjal University, Gurugram

Registrar
BML Munjal University, Gurugram

BML MUNJAL UNIVERSITY ™

Annexure-5

(MoM: 16th Meeting of Academic Council)

17th Meeting of Academic Council
BML Munjal University, Gurugram

BML MUNJAL UNIVERSITY

Minutes of Meeting

16th Academic Council

Saturday, August 28, 2021

MINUTES OF THE 16ᵗʰ MEETING OF THE ACADEMIC COUNCIL

The 16ᵗʰ meeting of the Academic Council was held virtually on August 28, 2021. Following were present:

Sr. No.	Name	Designation
1.	Dr. Manoj K. Arora	Vice-Chancellor & Chairperson
2.	Dr. Neela Natraj	Member
3.	Dr. Vinay K. Nangia	Member
4.	Dr. Pritam Baruah	Member
5.	Dr. Anirban Chakraborti	Member
6.	Dr. Jaskiran Arora	Member
7.	Dr. Kiran Khatter	Member
8.	Dr. Nandita Choudhury	Member
9.	Dr. Kamal Kant Jain	Member
10.	Ms. Suneet Soni	Special Invitee
11.	Col. Mohit Bawa	Special Invitee
12.	Sh. Abhay Sharma	Member Secretary

Dr. Manoj K. Arora, Vice-Chancellor & Chairperson of the Academic Council, started the meeting by paying condolences to families who have lost their immediate family members during the pandemic.

The chairperson welcomed Dr. Anirban Chakraborti as the new Dean, School of Engineering and Technology & Dean-Research, Dr. Pritam Baruah as the new Dean, School of Law, and Dr Jaskiran Arora as the new Dean School of Management. He expressed his confidence that the schools would grow further under the new leadership.

He also thanked outgoing Deans of the School of Management, Law and Engineering, Dr. Vishal Talwar, Dr. N. S. Nigam and Dr. Maneek Kumar, respectively for their contribution to BMU and Schools' overall growth.

The chairperson shared university updates with the members since the last Academic Council meeting, viz,

a) Dr. Deepak Pundit has joined as Chair Professor of Innovation and Entrepreneurship sponsored by Mr George Goh, Chairman, The Border Mission in Singapore, in the School of Management.
b) Mr. Gurbirender Singh has joined as Director, Development & Alumni Relations.
c) Ms. Hansa Sachdeva has joined as Director, Admissions, Financial Aid & Communication,
d) The overall campus placements have been significantly better than the last few years, both in quality and quantity.
e) One of the student alumni start-ups has reached an estimated revenue of about Rs. Fifty (50) lacs, and currently, more than ten (10) start-ups are incubating in the university.
f) The Atal Innovation Center from Niti Aayog has started many activities on the campus to build a Culture of Innovation.
g) BMU has been incorporated in Delhi Science and Technology Cluster, named Delhi Research Implementation and Innovation (DRIIV), coordinated by IIT Delhi, which will give the students and faculty multiple opportunities to collaborate with top research organizations in the NCR and work on industry-driven, burning and socially relevant.
h) Faculty members have published in high-quality journals of review and published some ratings.
i) The students continue to perform better in many national and international level curricular and co-curricular events.
j) The vision 2025 document of BMU has been created, which consists of the three strategic goals, i.e., Transformative Learning, Entrepreneurial Learning and Aspirational Faculty. Each goal has been

divided into operational goals with year-on-year targets. We monitor the progress of each operational goal from the faculty; the targets are reviewed every quarter.

k) We have expanded our high computing facilities by including high-end machine learning and deep learning application servers.

He further requested Dr. Anirban Chakraborti, Dr. Pritam Baruah and Dr. Jaskiran Arora to briefly introduced themselves.

After that, the chairperson requested the member secretary to present the agenda items for discussion.

LEAVE OF ABSENCE

Leave of absence was granted to Dr. K. R. Sarma & Mr. Purushottam C. Kaushik, as they could not attend the meeting due to some other commitments.
……..
Once quorum was established, the meeting commenced. The agenda items were taken up for the consideration and approval of the Academic Council.
……..

A. STATUTORY AGENDA

AC.16/2021/02/16. A.01: To confirm the minutes of the 15th meeting of Academic Council held on March 27, 2021

A copy of the minutes was circulated to the members of the Academic Council. As no comments were received, the minutes were confirmed.

The minutes of 15th meeting of Academic Council meeting is placed at annexure- 1.

B. AGENDA ITEMS FOR RATIFICATION

AC.16/2021/02/16. B.01: Reconstitution of various committees

The revised constitutions of the various boards & committees, duly approved by the vice-chancellor as the chairperson of the council, as placed at **annexure- 2,** were presented to the council for ratification.

1. Academic Council
2. Admission & Scholarship Committee
3. Grievance Redressal Committee for Faculty, Staff & Students
4. Appellate Committee, Grievance Redressal Committee for Faculty, Staff & Students
5. Disciplinary Action Committee (DAC)
6. Appellate Committee, Disciplinary Action Committee (DAC)
7. Committee Against Sexual Harassment (CASH)
8. Distress Fund Committee
9. Degree Equivalence & Credit Transfer Committee of Degrees/Qualification
10. Examination Committee
11. Internal Quality Assurance Cell
12. Unfair Means Committee
13. Library Committee

14.   University Research Progress Committee
15.   Research Advisory Board
16.   Board of Studies-School of Engineering & Technology
17.   Board of Studies- School of Law
18.   Board of Studies- School of Management
19.   Board of Studies- School of Economics & Commerce
20.   IPR Committee

<u>The council considered the same and ratified.</u>

AC.16/2021/02/16. C.01: AY 2020-21 Results: B. Tech, MBA, BBA, B. Com (Hons), BA (Hons.) Economics, BA LLB (Hons.) & BBA LLB (Hons.) and Minutes of the Examination Committee

The university wide results of all academic programmes for the academic year: 2020-21 duly approved by the vice-chancellor as the chairperson of the council, as placed at **annexure- 3,** were presented to the council by the controller of examinations (COE) for ratification. A summary of the results is given below:

Programme	Total Students	Qualified	Not Qualified
MBA 2019-21	46	46	-
BBA 2018-21 BBA 2017-20	25+1= 26	26	-
B. Com (Hons.) 2018-21 B. Com (Hons.) 2017-20	8+1=9	9	-
B. Tech CSE	104	101	3
B. Tech CSC	61	61	-
B. Tech ME	77	77	-
B. Tech ECE	61	61	-
B. Tech Civil	9	9	-

The minutes of the meeting of the examination committee held on August 23, 2021, are placed at **annexure- 4** for approval

<u>The council considered the university results and ratified, and also approved the minutes of the Examination Committee meeting held on Aug 23, 2021</u>

AC.16/2021/02/16. C.02: Medals Winners, 2021

The details of medals winners, 2021, duly approved by the vice-chancellor as the chairperson of the council, presented for ratification. The details are as follows:

Dr. Brijmohan Lall Munjal`s Medal, 2021

School of Engineering and Technology-   P Narasimha Chandra
Registration No: 1700406C205
B. Tech (Mechanical Engineering)
CGPA-9.9

School of Management-

K Sree Manojna
Registration No: 1800115A202
Bachelor of Business Administration
CGPA-9.27

Academic Excellence Medals, 2021

Sr. No	Enrollment No	Name	Program Name	CGPA	DAC	UFM
1	1700264C203	Rahul Chauhan	Bachelor of Technology (Computer Science and Engineering)	9.62	No	No
2	1700154C202	Piyush	Bachelor of Technology (Computer Science)	9.73	No	No
3	1700406C205	P Narasimha Chandra	Bachelor of Technology (Mechanical Engineering)	9.9	No	No
4	1700362C204	Swarnim Neema	Bachelor of Technology (Electronics and Communication Engineering)	9.19	No	No
5	1700355C201	Sawan	Bachelor of Technology (Civil Engineering)	8.27	No	No
6	190A3010017	Akshintala Manohar Ayyappa	Master of Business Administration	8.96	No	No
7	1800092B201	Ananya Aggarwal	Bachelor of Commerce (Honours)	9.76	No	No
8	1800115A202	K Sree Manojna	Bachelor of Business Administration	9.27	No	No

The council considered the same and ratified.

AC.16/2021/02/16. C.03: Degree format for Ph. D programme

The degree format for the Ph. D programme, duly approved by the vice-chancellor as the chairperson of the council, as placed at **annexure- 5**, was presented for ratification.

The council considered the same and ratified.

AC.16/2021/02/16. C.04: Revised MBA programme structure

The revisions suggested in the current MBA programme structure duly recommended by the BOS of School of Management, as placed at **annexure- 6**, were presented to the council by Dean, School of Management, for approval.

Prof. Nangia suggested the following:

- To review the content of the course on Business Research
- To add interdisciplinary courses

Prof. Neela suggested the following:

- Involve faculty from other schools and explore the possibility of co-teaching.
- Recruit Professors of Practice to teach courses such as Business Research, Statistics, Python etc.

The Dean School of Management welcomed the suggestions.

The council, after deliberations, approved the Revised MBA programme structure of the School of Management subject to incorporation of suggestions as appropriate.

AC.16/2021/02/16. C.05: Revised credits for a course: B. Com (Hons.) and BA (Hons.) Economics programmes

The revised credits for a course: B. Com (Hons.) and BA (Hons.) Economics programmes, as placed at **annexure- 7,** was presented to the council by Prof. Jaskiran Arora, Dean, School of Management, for approval.

Prof. Nangia suggested the following:

- The courses namely Company Law and Regulatory Law should be taught separately

The council after deliberations approved the revised credits for a course: B. Com (Hons.) and BA (Hons.) Economics programmes of School of Management subject to incorporations of the suggestions as appropriate.

AC.16/2021/02/16. C.06: PEOs and POs: BA LL. B (Hons.) and BBA LL. B (Hons.) programmes

The PEOs and POs of BA LLB (Hons.) and BBA LLB (Hons.) programmes, duly recommended by BOS, SOL, as placed at **annexure- 8** were presented to council for ratification

The council, after deliberations, ratified the PEOs and POs: BA LLB (Hons.) and BBA LLB (Hons.) programmes of the School of Law.

AC.16/2021/02/16. C.07: Course Outcomes: First, Third, and Fifth semesters of BA LL. B (Hons.) and BBA LL. B (Hons.) programmes
&
AC.16/2021/02/16. C.08: Revised syllabi of BA LL. B (Hons.) and BBA LL. B Hons.) programmes

The course outcomes & revised syllabi of first, third, and fifth semesters of BA LLB (Hons.) and BBA LLB (Hons.) programmes, duly recommended by BOS, SOL, as placed at **annexure- 9,** were presented to council for ratification.

The council, after deliberations, ratified the course outcomes of first, third, and fifth semesters of BA LLB (Hons.) and BBA LLB (Hons.) programmes of School of Law.

The minutes of the 03rd & 04th Board of Studies, School of Law is placed at **annexure- 10 & 11.**

AC.16/2021/02/16. C.09: Syllabus of the Pre-Ph. D Course: Legal Research and Writing

The revised syllabus of the pre-Ph. D course: Legal research and Writing, duly recommended by Board of Studies, School of Law, as placed at **annexure- 12,** was presented to council for ratification.

The council considered and approved the same.

AC.16/2021/02/16. C.10: Reorientation of the B. Tech courses in line with the National Education Policy

A revision in the existing programme structure of all the B. Tech programmes, in view of the recommendations of the National Education Policy, duly recommended by Board of Studies, School of Engineering and Technology, as placed at **annexure- 13**, was presented to the council for ratification. The basic philosophy of the curricula revised in 2019-20 remains the same.

Some of the additional key points are as follows:
- Use of available technologies and resources more efficiently through different learning schemes, such as Blended, Flip, Experiential, Skill-based, Classroom, etc.
- Interdisciplinary learning with emphasis on sustainability, AI and machine learning, and automation, etc.
- Multiple entries, multiple exits, whenever implemented.
- Option for additional inter-disciplinary minor programs
- Provision for Honor's degree (or super specialisations) by earning additional 12 credits
- Scope for teaching and learning through various modes, such as Classroom teaching, MOOCs, Industry engagement, Certification and Training
- The percentage of department Core & Interdisciplinary Courses- 51%: Interdisciplinary courses & 49 %: Departmental Core courses
- The percentage of Experiential Learning- 46% Experiential Courses; 46% Theory Courses & 8% Projects

Prof. Nangia suggested that a subcommittee should be constituted and take a broader review of the course structure in line with UGC guidelines.

Prof. Anirban welcomed all the suggestions of Prof. Nangia. A subcommittee of faculty members, including Prof. Nangia, will be constituted to suggest on the credit structures in various years to accommodate for multiple entry and exit systems in the future.

The minutes of the meeting of BOS, SOET are placed at **annexure- 14**.

The council considered and approved the same.

AC.16/2021/02/16. C.11: New Programmes/Specializations: Academic Year: 2022-23
a) Program Education Outcomes, Program Outcomes & Course Structure of LLB (Hons.) programme
b) MBA with specialization in Family Managed Businesses and Entrepreneurship

The program education outcomes, program outcomes & course structure of the LLB (Hons.) programme as placed at **annexure- 15**, were presented to the council for ratification.

The reasons for starting the programme were the following:
1. **University Vision and Contribution to Professional Education**: Offering this course is based on the understanding that increasing the number of programmes offered by the university will live up to its promise of bringing quality education to diverse sections of the student population.
2. **Constituency:** The three-year LLB programme is a chosen mode for graduates with three-year undergraduate degrees to enter the legal profession.
3. **Context:** With the idea of a liberal arts education gaining momentum, an increasing number of students are likely to opt for a liberal arts degree and then enter professional education. The three-year LLB is one of the few undergraduate degrees that provide entry to a sought-after profession within three years.

4. **Flexibility:** With the advent of the NEP, more students will likely opt-in and out of several undergraduate degrees. In addition, the three-year degree will provide an avenue for those who want to choose a professional degree later in their education path.
5. **Rigorous curriculum:** BMU is establishing its presence as an institution that provides high quality and rigorous curriculums. The LLB (Hons) degree has been chosen consciously over an LLB degree. Our students will have to do eight honors papers that will demand higher standards, build better professional competence, and focus on specialized areas.
6. **Distinctiveness:** LLB (Hons) programme will offer honors and elective papers focusing on law and technology, international trade, commerce and intellectual property, and constitutional law.
7. **Student quality and diversity:** LLB students are more mature as they have already completed an undergraduate degree and have work experience. Bringing such students to the campus will provide the student body with gravity and diversity. We are confident that it will be reflected across various curricular and extra-curricular activities.
8. **Further action:** In pursuance of the programme, the current hiring at the School of Law has been done, keeping the capacity to offer the LLB (Hons) programme. One Associate Professor specializing in Law, Technology, and Innovation, including Competition Law, is joining in October 2021. Another recently appointed Assistant Professors has a research and teaching focus on Constitutional Law. In addition, we are at the advanced stages of appointing a visiting professor with extensive industry and policy experience in International Trade.

<u>The Board of studies had recommended the following regarding the programme structure, that has now been included:</u>

- To ensure that Mediation found a place in the curriculum.
- The course on Moot Courts and Internships can be offered as one course that runs across semesters rather than in one semester. This would give the law school bandwidth to include more papers.

The minutes of the 05th Board of Studies, School of Law is placed at **annexure- 16**

The proposal to launch a specialization in Family Managed Businesses and Entrepreneurship **(FMBE)** was presented to the council by Prof. Jaskiran.

The key points are as follows:

- Given the focus and impetus that BMU lays in promoting entrepreneurship and offering programs in the same domain, SOM BOS discussed the positioning of various entrepreneurship programs in India.
- BMU needs to carefully segment the market to decide which segment would find Masters in Entrepreneurship attractive in BMU. Specialization in Entrepreneurship aligns with the current program structure and takes care of all the flip sides of offering full-fledged programme.

However, advice was received from Prof. Nangia that MBA with a specialization in FMBE has two very different contours, and it will not be fair to club them together in one specialization. Since the approach to managing Family Businesses is very different from setting up start-ups, it was decided that MBA with specialization in Entrepreneurship should be the specialization to have. Therefore, it was decided to add the additional specialization in the MBA program (MBA with specialization in Entrepreneurship) from the next academic year onwards.

<u>The council considered and approved the same.</u>

AC.16/2021/02/16. C.12: University Calendar: AY 2021-22

The university calendar for academic year 2021-22, as placed at **annexure- 17,** was presented to the council for approval.

The council considered and approved the same.

D. ADDITIONAL AGENDA ITEMS WITH THE PERMISSION OF CHAIR

AC.16/2021/02/16. D.01: Additional agenda items with permission of the chair

Announcement of 06th Convocation: The chairperson announced that the 6th BMU Convocation will be virtually held on Saturday, September 11, 2021, as per the academic calendar, and invited all the members to join the convocation.

The chairperson confirmed that the quorum was present throughout the meeting. As there was no other business, the meeting ended with a vote of thanks to the chair.

Date: August 28, 2021

Abhay Sharma
Member Secretary & Registrar

BML MUNJAL UNIVERSITY ™

Annexure-6

University Calendar
(Academic Year: 2022-23)

17th Meeting of Academic Council
BML Munjal University, Gurugram

DESCRIPTION	PG 2022: SOM	PG 2021: SOM	UG 2019: SOET	UG 2020: SOET	UG 2020: SOM	UG 2020: SOEC	UG 2021:SOET, SOM & SOEC	UG 2019, 2020 & 2021: SOL
Academic Registration								
Start Date	04-Jul-22	04-Jul-22	25-Jul-22	25-Jul-22	25-Jul-22	25-Jul-22	25-Jul-22	25-Jul-22
End Date	09-Jul-22	09-Jul-22	29-Jul-22	29-Jul-22	29-Jul-22	29-Jul-22	29-Jul-22	29-Jul-22
Induction/Orientation Program								
Start Date	04-Jul-22							
End Date	09-Jul-22							
Commencement of classes								
	Module-1	Module-5						
Start Date	10-Jul-22	04-Jul-22	25-Jul-22	25-Jul-22	25-Jul-22	25-Jul-22	25-Jul-22	25-Jul-22
End Date	03-Sep-22	03-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22
	Module-2	Module-6						
Start Date	12-Sep-22	12-Sep-22	26-Sep-22	26-Sep-22	26-Sep-22	26-Sep-22	26-Sep-22	26-Sep-22
End Date	12-Nov-22	12-Nov-22	25-Nov-22	25-Nov-22	25-Nov-22	25-Nov-22	25-Nov-22	25-Nov-22
Course/Program Registration								
Addition/Deletion of courses for ODD semester	Module-1	Module-5	29-Jul-22	29-Jul-22	29-Jul-22	29-Jul-22	29-Jul-22	29-Jul-22
		09-Jul-22						
	Module-2	Module-6						
		17-Sep-22						
Pre-course registration for EVEN semester/module 2, 3, 6 & 7	For Module-2	For Module-6	PS-III	01-Dec-22	01-Dec-22	01-Dec-22	01-Dec-22	01-Dec-22
	27-Aug-22	27-Aug-22						
	For Module-3	For Module-7						
	05-Nov-22	05-Nov-22						
Display of pre-course registration list	Module-2	Module-6	PS-III	05-Dec-22	05-Dec-22	05-Dec-22	05-Dec-22	05-Dec-22
	06-Sep-22	06-Sep-22						
	Module-3	Module-7						
	15-Nov-22	15-Nov-22						
Feedback Forms								
Filing of course and teacher feedback forms	Module-1	Module-5	12-Sep-22	12-Sep-22	12-Sep-22	12-Sep-22	12-Sep-22	12-Sep-22
	03-Sep-22	03-Sep-22						
	Module-2	Module-6	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22
	12-Nov-22	12-Nov-22						

Attendance Compilation and Validation								
Attendance Compilation and Validation	Module-1	Module-5						
	05-Sep-22	05-Sep-22	17-Sep-22	17-Sep-22	17-Sep-22	17-Sep-22	17-Sep-22	17-Sep-22
	Module-2	Module-6						
	14-Nov-22	14-Nov-22	28-Nov-22	28-Nov-22	28-Nov-22	28-Nov-22	28-Nov-22	28-Nov-22
Revision/Reading Week								
Revision/Reading Week			28 Nov-22 to 02-Dec-22	28 Nov-22 to 02-Dec-22	28 Nov-22 to 02-Dec-22	28 Nov-22 to 02-Dec-22	28 Nov-22 to 02-Dec-22	28 Nov-22 to 02-Dec-22
Last day of classes								
Last day of classes	Module-1	Module-5						
	03-Sep-22	03-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22
	Module-2	Module-6						
	12-Nov-22	12-Nov-22	25-Nov-22	25-Nov-22	25-Nov-22	25-Nov-22	25-Nov-22	25-Nov-22
Time table finalization								
Time table finalization	Module-1	Module-5						
	18-Jun-22	11-Jun-22	15-Jul-22	15-Jul-22	15-Jul-22	15-Jul-22	15-Jul-22	15-Jul-22
	Module-2	Module-6						
	01-Sep-22	01-Sep-22	09-Sep-22	09-Sep-22	09-Sep-22	09-Sep-22	09-Sep-22	09-Sep-22
Examination								
	Module-1	Module-5						
Term Examination	05-Sep-22	05-Sep-22	19-Sep-22	19-Sep-22	19-Sep-22	19-Sep-22	19-Sep-22	19-Sep-22
Term Examination	10-Sep-22	10-Sep-22	24-Sep-22	24-Sep-22	24-Sep-22	24-Sep-22	24-Sep-22	24-Sep-22
	Module-2	Module-6						
Term Examination	14-Nov-22	14-Nov-22	05-Dec-22	05-Dec-22	05-Dec-22	05-Dec-22	05-Dec-22	05-Dec-22
Term Examination	19-Sep-22	19-Sep-22	17-Dec-22	17-Dec-22	17-Dec-22	17-Dec-22	17-Dec-22	17-Dec-22
Recourse Examination (Odd Semester)								
Recourse Examination (Odd Semester)	19-Dec-22	19-Dec-22	23-Jan-23	23-Jan-23	23-Jan-23	23-Jan-23	23-Jan-23	23-Jan-23
Showing of Term Examinations Answer Sheets								
	Module-1	Module-5						
From	06-Sep-22	06-Sep-22	20-Sep-22	20-Sep-22	20-Sep-22	20-Sep-22	20-Sep-22	20-Sep-22
To	15-Sep-22	15-Sep-22	28-Sep-22	28-Sep-22	28-Sep-22	28-Sep-22	28-Sep-22	28-Sep-22
	Module-2	Module-6						
From	15-Nov-22	15-Nov-22	06-Dec-22	06-Dec-22	06-Dec-22	06-Dec-22	06-Dec-22	06-Dec-22
To	24-Nov-22	24-Nov-22	22-Dec-22	22-Dec-22	22-Dec-22	22-Dec-22	22-Dec-22	22-Dec-22

Moderation of Grades								
Moderation of Grades	Module-1	Module-5						
	23-Sep-22	23-Sep-22	06-Oct-22	06-Oct-22	06-Oct-22	06-Oct-22	06-Oct-22	06-Oct-22
	Module-2	Module-6						
	02-Dec-22	02-Dec-22	29-Dec-22	29-Dec-22	29-Dec-22	29-Dec-22	29-Dec-22	29-Dec-22
Publication of Result								
UG Programmes	Module-1	Module-5						
	30-Sep-22	30-Sep-22	13-Oct-22	13-Oct-22	13-Oct-22	13-Oct-22	13-Oct-22	13-Oct-22
	Module-2	Module-6						
	09-Dec-22	09-Dec-22	05-Jan-23	05-Jan-23	05-Jan-23	05-Jan-23	05-Jan-23	05-Jan-23
Practice Schools/Internship								
Practice Schools/Internship		11-Apr-2022 to 04-Jun-2022			16-May-2022 to 9-Jul-2022	16-May-2022 to 1-Oct-2022		
Break/Vacation								
Diwali Break	24-Oct-2022 to 29-Oct-2022	24-Oct-2022 to 29-Oct-2023	24-Oct-2022 to 29-Oct-2024	24-Oct-2022 to 29-Oct-2025	24-Oct-2022 to 29-Oct-2026	24-Oct-2022 to 29-Oct-2027	24-Oct-2022 to 29-Oct-2028	24-Oct-2022 to 29-Oct-2029
Winter Break	26-Dec-2022 to 06-Jan-2023	26-Dec-2022 to 06-Jan-2023	23-Dec-2022 to 06-Jan-2023	23-Dec-2022 to 06-Jan-2023	23-Dec-2022 to 06-Jan-2023	23-Dec-2022 to 06-Jan-2023	23-Dec-2022 to 06-Jan-2023	23-Dec-2022 to 06-Jan-2023

University Calendar for Academic Year: 2022-23-EVEN Semester

DESCRIPTION	PG 2022: SOM	PG 2021: SOM	UG 2019: SOET	UG 2020: SOET	UG 2020: SOM & SOEC	UG 2021: SOET	UG 2021: SOM	UG 2021: SOEC	UG 2019, 2020 & 2021: SOL
Academic Registration for EVEN Semester									
	Module-3	Module-7	PS-III	PS-III					
Start Date	21-Nov-22	21-Nov-22	09-Jan-23	09-Jan-23	09-Jan-23	09-Jan-23	09-Jan-23	09-Jan-23	09-Jan-23
End Date	25-Nov-22	25-Nov-22			13-Jan-23	13-Jan-23	13-Jan-23	13-Jan-23	13-Jan-23
Commencement of Classes									
	Module-3	Module-7							
Start Date	21-Nov-22	21-Nov-22			09-Jan-23	09-Jan-23	09-Jan-23	09-Jan-23	09-Jan-23
End Date	28-Jan-23	28-Jan-23			03-Mar-23	03-Mar-23	03-Mar-23	03-Mar-23	03-Mar-23
	Module-4	Module-8							
Start Date	06-Feb-23	06-Feb-23			13-Mar-23	13-Mar-23	13-Mar-23	13-Mar-23	13-Mar-23
End Date	01-Apr-23	25-Mar-23			28-Apr-23	28-Apr-23	28-Apr-23	28-Apr-23	28-Apr-23
Course/Program Registration									
Addition/Deletion of courses for EVEN semester	Module-3	Module-7			13-Jan-23	13-Jan-23	13-Jan-23	13-Jan-23	13-Jan-23
	26-Nov-22	26-Nov-22							
	Module-4	Module-8							
	11-Feb-23	11-Feb-23							
Pre-course registration for ODD semester/module 4, 5 & 8	For Module-4	For Module-8			30-Jun-23	30-Jun-23	30-Jun-23	30-Jun-23	30-Jun-23
	21-Jan-23	21-Jan-23							
	For Module-5								
	01-Jun-23								
Display of pre-course registration list	Module-3	Module-8			04-Jul-23	04-Jul-23	04-Jul-23	04-Jul-23	04-Jul-23
	31-Jan-23	31-Jan-23							
	Module-4								
	11-Jun-23								
Feedback Forms									
Filing of course and teacher feedback forms	Module-3	Module-7			27-Feb-23	27-Feb-23	27-Feb-23	27-Feb-23	27-Feb-23
	28-Jan-23	28-Jan-23							
	Module-4	Module-8			21-Apr-23	21-Apr-23	21-Apr-23	21-Apr-23	21-Apr-23
	01-Apr-23	25-Mar-23							
Attendance Compilation and Validation									
PG & UG Programmes (During the semester)	Module-3	Module-7							
	28-Jan-23	28-Jan-23			03-Mar-23	03-Mar-23	03-Mar-23	03-Mar-23	03-Mar-23
PG & UG Programmes (End of Semester)	Module-4	Module-8							
	01-Apr-23	25-Mar-23			29-Apr-23	29-Apr-23	29-Apr-23	29-Apr-23	29-Apr-23
Revision/Reading Week									
Revision/Reading Week					01-May-23 to 05-May-23	01-May-23 to 05-May-23	01-May-23 to 05-May-23	01-May-23 to 05-May-23	01-May-23 to 05-May-23
Last day of classes									

	Module-3	Module-7							
Last day of classes	28-Jan-23	28-Jan-23	14-May-23	14-May-23	03-Mar-23	03-Mar-23	03-Mar-23	03-Mar-23	03-Mar-23
	Module-4	Module-8							
	01-Apr-23	25-Mar-23			28-Apr-23	28-Apr-23	28-Apr-23	28-Apr-23	28-Apr-23
Time table finalization for ODD semester AY (2023-24)									
Time table finalization for ODD semester AY (2022-23)	15-Jun-23	15-Jun-23			15-Jul-23	15-Jul-23	15-Jul-23	15-Jul-23	15-Jul-23
Examinations									
	Module-3	Module-7							
Term Examination	30-Jan-23	30-Jan-23			06-Mar-23	06-Mar-23	06-Mar-23	06-Mar-23	06-Mar-23
Term Examination	04-Feb-23	04-Feb-23			11-Mar-23	11-Mar-23	11-Mar-23	11-Mar-23	11-Mar-23
	Module-4	Module-8							
Term Examination	03-Apr-23	27-Mar-23			08-May-23	08-May-23	08-May-23	08-May-23	08-May-23
Term Examination	08-Apr-23	01-Apr-23			20-May-23	20-May-23	20-May-23	20-May-23	20-May-23
Recourse Examination (EVEN Semester)									
Recourse Examination (EVEN Semester)	04-Jul-23	04-Jul-23			25-Jul-23	25-Jul-23	25-Jul-23	25-Jul-23	25-Jul-23
Showing of Term and End term Examination answer sheets									
	Module-3	Module-7							
Start Date	31-Jan-23	31-Jan-23			07-Mar-23	07-Mar-23	07-Mar-23	07-Mar-23	07-Mar-23
End Date	09-Feb-23	09-Feb-23			15-Mar-23	15-Mar-23	15-Mar-23	15-Mar-23	15-Mar-23
	Module-4	Module-8							
Start Date	04-Apr-23	28-Mar-23			09-May-23	09-May-23	09-May-23	09-May-23	09-May-23
End Date	13-Apr-23	06-Apr-23			24-May-23	24-May-23	24-May-23	24-May-23	24-May-23
Moderation of Grades									
Moderation of Grades	Module-3	Module-7							
	17-Feb-23	17-Feb-23			23-Mar-23	23-Mar-23	23-Mar-23	23-Mar-23	23-Mar-23
	Module-4	Module-8							
	21-Apr-23	14-Apr-23			01-Jun-23	01-Jun-23	01-Jun-23	01-Jun-23	01-Jun-23
Publications of Results									
Publications of Results	Module-3	Module-7							
	24-Feb-23	24-Feb-23			30-Mar-23	30-Mar-23	30-Mar-23	30-Mar-23	30-Mar-23
	Module-4	Module-8							
	28-Apr-23	21-Apr-23			08-Jun-23	08-Jun-23	08-Jun-23	08-Jun-23	08-Jun-23
Practice Schools/Internship									
Summer Internship:PG & UG -SOM	10-Apr-2023 to 03-Jun-2023				PS-II (29-May-2023 to 29-Jul-2023)	PS-II (22-May-2023 to 15-Jul-2023)	PS-II (22-May-2023 to 7-Oct-2023)		
Summer Break									
Summer Break									

BML MUNJAL UNIVERSITY ™

Annexure-7

(MoM: 4th Meeting of Examination Committee)
held on March 11, 2022

17th Meeting of Academic Council
BML Munjal University, Gurugram

BML MUNJAL
UNIVERSITY
FROM HERE TO THE WORLD

MINUTES OF THE MEETING OF EXAMINATION COMMITTEE HELD IN THE BOARD ROOM (FIRST FLOOR) OF GATEWAY BUILDING WING A

MARCH 11, 2022 (FRIDAY)

(Meeting Reference No.: BMU/COE/EC/04)

A meeting of the Examination Committee of BML Munjal University was held in the Board Room on the First Floor of Gateway Building Wing A on March 11, 2022 (Friday) at 3:00 pm to discuss the following agenda items:

Item No.	Agenda
EC/04/01	To confirm the Minutes of the Third Meeting of Examination Committee
EC/04/02	Review the Results of Odd Semester 2021-22
EC/04/03	Review & Approval of recommendations of Sub-Committee appointed to work on strengthening the process of Moderation of Question Papers
EC/04/04	Review & Approval of recommendations of Sub-Committee appointed to suggest norms for Audit Courses
EC/04/05	Action Plan on the feedback received after Audit of Question Papers by External Subject Experts – to be presented by Deans of respective Schools
EC/03/06	Any other item with the permission of the Chair

The following were present in the Meeting:

1. Dr. Manoj Arora   Chairperson
2. Dr. Anirban Chakraborti   Member
3. Dr. Jaskiran Arora   Member
4. Dr. Nandita Choudhary   Member
5. Dr. Yarramaneni Sridharbabu   Member
6. Mr. Abhay Sharma   Member
7. Dr. Harish Puppala   Spl. Invitee
8. Ms. Suneet Soni   Member Secretary

Dr. Pritam Baruah nominated Dr. Kavita Chawla to represent him in the meeting from School of Law. Dr. Jaskiran Arora and Dr. Anusree Paul were granted leave of absence

Dr. Manoj Arora, Vice Chancellor BMU, took the chair of the meeting. The Chairman confirmed that the quorum was present and welcomed all the members. Thereafter, he permitted the proceeding of the meeting to commence. The items on agenda were taken up for the consideration and approval of the Examination Committee.

Item No EC/04/01: To confirm the Minutes of the Third Meeting of Examination

The minutes of the Second Meeting of the Examination Committee were confirmed. The action taken report on the items was shared with the members

Item No EC/04/02: Review the Results of Odd Semester 2021-22

The results of all the Academic Programmes after the Examinations of Odd Semester: Academic Session 2021-22 were presented to the members. The members requested for the data to be emailed to them so that they could analyze the same in detail

Item No EC/04/03: Review & Approval of recommendations of Sub-Committee appointed to work on strengthening the process of Moderation of Question Papers

The COE presented the recommendations of the Sub- Committee that was appointed to work on strengthening the process of Moderation of Question Papers. The committee had emphasized on the implementation of Outcome Based Education Framework and had made changes in the guidelines for setting of question papers and the templates/proforma/checklist to be used by the paper-setters and moderators. It had also recommended that external experts may be invited for moderation if in-house expertise was not available. Members approved the same (Annexure AI) and recommended that stringent measures should be taken to ensure the confidentiality of the question papers. They suggested that the files with the question paper should be password protected when they are handed over by the school in the office of COE.

Item No EC/04/04: Review & Approval of recommendations of Sub-Committee appointed to suggest norms for Audit Courses

The recommendations of the sub-committee that was appointed to suggest the norms for Audit courses were presented by the COE to the members for approval. The members after debating

on the recommendations of the sub-committee consented to approve the recommendation of the sub-committee (Annexure – B). To summarize, it was agreed that the minimum attendance requirement for a satisfactory grade in an audit course will be 65% in school of Law and 60% in other schools of the University.

Since the University follows relative grading and there is no minimum passing marks defined for relative grading hence, the passing marks will be same as credit course. The student who fulfills the minimum passing criteria and attendance will be awarded S Grade (Satisfactory) whereas, a student who fails to meet either of the criteria with respect to attendance or the passing marks will be awarded X Grade (Unsatisfactory).

A student with an Unsatisfactory Grade will have an option of not appearing for either recourse or repeat examination. However, a student with an Unsatisfactory Grade, who wants to improve his grade to satisfactory, may opt for the following:

- If the Unsatisfactory Grade is due to poor performance and the student fulfilled the minimum attendance requirement, the student may take Recourse examination, held immediately after the end-term examinations. A student will be required to pay fee per course as prescribed by the University.

- If the Unsatisfactory Grade is due to low attendance, then the student may re-register for the course and repeat it with the next batch of students. A student will be required to pay fee as prescribed by the University

Item No EC/043/05: Action Plan on the feedback received after Audit of Question Papers by External Subject Experts – to be presented by Deans of respective Schools

The Deans of respective schools presented the action points that they have taken for the feedback that was received from external experts who had audited some of the question papers. The action points presented by the Deans are at Annexure - C

Item No EC/03/06: Any other item with the permission of the Chair

COE reported that an application from a student, Devansh Vikram of B.Tech. (Computer Science & Engineering), Enrollment No 1600204C203 was received for an extension in the maximum period to complete his Programme of study. Devansh is a student of 2016 batch, and he should have completed his Programme of study to be eligible for award of degree by June 2022. However, he has 15 backlogs as on date. Student stated that he was being treated for health and depression related issues, hence, could not clear his backlogs within the stipulated time-period. His case was recommended for extension by Dean SOET and approved by VC in

accordance with the UGC Guidelines on "Determination of a Uniform Span Period within which a student may be allowed to Qualify for a Degree" whereby, in exceptional circumstance a further extension of one more year may be granted. During the extended period the student shall be considered as a private candidate. The members took note of the above facts and recommended that the paragraph allowing extension of additional year to complete degree under exceptional cases may be added in the existing regulations of the University.

The meeting ended with a vote of thanks to the Chair.

Ms. Suneet Soni
(Member Secretary)

Prof. Manoj Arora
(Chairman)

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MINUTES OF THE MEETING OF SUB - COMMITTEE CONSTITUTED TO REVIEW THE MODERATION PROCESS & AUDIT OF QUESTION PAPERS HELD ONLINE ON FEBRUARY 26, 2021 (FRIDAY) AT 12:00 NOON AND MARCH 02, 2021 (TUESDAY) AT 2:15 PM

A Sub- Committee was constituted under the Chairmanship of Dr. Maneek Kumar, Dean SOET & Director IQAC as per the recommendations of the Examination Committee to review the Moderation Process and Audit of Question papers. The following members were co-opted by the chairman in this committee:

Dr. Jaskiran Arora, Associate Dean SOM

Dr. Maheshwar Dwivedi, Associate Professor, SOET

Dr. Devanjali Relan, Assistant Professor SOET

Dr. Aditya Pratap Singh Rathore, Assistant Professor SOL

Ms. Suneet Soni, Controller of Examinations

Dr. Harish Puppala, Assistant Professor SOET

The meeting of the Sub - Committee was held online on February 26, 2021 (Friday) at 12:00 Noon and on March 02, 2021 (Tuesday) at 2:15 pm and all the members were present.

The Controller of Examination briefed the members on the existing Moderation Process that is stated in the Examination Regulations of the University.

The members agreed that the Moderation Process ensures that the question paper is consistent and is within the framework of the syllabus. It also ensures that weightage within a module is appropriate and conforms to the blueprint and other guidelines issued by the Board of Studies, thereby ensuring fairness, accuracy, and consistency in marking. The members recommended following points to be considered to bring in more rigour in the existing process:

- The Moderation Committee of each school be chaired by the respective Deans and the Associate Dean/Assistant Dean should be the Member Secretary. Members of the committee should be senior faculty members from various specializations/domain. In addition, one member should be co-opted from another school of the University.

- It must be ensured that none of the paper setters or members of the moderation board have a ward studying in the same Programme/batch

- The Checklist/Proforma for Moderators that is already in use was reviewed and more points were added in view of the implementation of OBE framework. The moderator would be expected to review whether the questions are properly mapped with course outcomes and appropriate level from Blooms Taxonomy. The revised proforma is enclosed as Annexure I

- The existing Guidelines and Template for setting of question papers were also reviewed. Changes in the template were made to include the Course Outcome and Bloom Level mapping with questions. The revised Guidelines for Setting of Question Papers is enclosed as Annexure IIA & IIB and the template for preparing the question paper is enclosed as Annexure III.

- It was strongly recommended that the faculty must provide answer key along with the question paper. This should also include step-wise marking.

- A checklist to be provided to the faculty to ensure that the question paper has been set as per the guidelines. The proforma for the checklist is enclosed as Annexure IV

- It was also suggested that a Table of specification that states the distribution of marks for each module/unit taught should be prepared by the faculty and the same attached with the checklist while submitting the question paper for moderation. An example of how the table of specification is to be prepared is given as Annexure V

For Audit of question papers, the following points were recommended by the members of the committee:

- The respective Deans of the schools should ask the faculty members of their schools to contact faculty in premier/institutions of repute and take their consent for auditing the question papers. The Dean can shortlist the names and forward them to the Controller of Examinations.

- The Controller of Examinations will formally send the question papers to the faculty members from the list provided by the respective Deans.

- A proforma was prepared for the Auditors in which they would provide their feedback (Annexure VI).
- It was recommended that an honorarium of Rs. 2000/- per question paper should be paid to the Auditor.

The above recommendations are submitted to the Examination Committee for approval.

Ms. Suneet Soni

(Convenor)

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MODERATION OF QUESTION PAPER

(CHECKLIST)

Name of the Programme(s):

Course Code:

Course Title:

Question Paper Set -   **Semester/Module:**

No.	Item	Yes	No/Partially	(Please specify the problem and make your comments)
Presentation of the question paper				
1.	Is the time allowed for the examination same as that stated in the module outline?			
2.	Have all the questions been checked for errors relating to grammar and spellings?			
3.	Is the presentation and layout of the examination paper in accordance with approved template?			
4.	Have the guidelines for setting of question paper been followed?			
5.	Is numbering of pages and questions correct?			
6.	Are clear and adequate instructions provided to the candidates on the first page?			
7.	Are the additional materials listed for use (charts, tables and equations etc.) included in the question paper and referred to in the relevant questions?			
8.	Are the figures, tables, equations clear and correct?			
9.	Is the break -up of marks for each part of the question provided?			

Quality of the question paper

No.	Item	Yes	No	(Please specify the problem and make your comments)
10	Are the question statements clear and unambiguous?			
11.	Are there sufficient questions for all levels of difficulty as per the guidelines?			
12.	Have the questions been mapped to the Bloom's taxonomy levels and mentioned against each question?			
13.	Have the questions been mapped to the Course Outcomes and mentioned against each question?			
14.	Do the questions reflect the Course Outcomes adequately?			
15	Does the question paper cover the syllabus adequately?			
16	Is the marking scheme sufficiently detailed to allow efficient and consistent marking?			

	Model Solutions			
No.	Item	Yes	No	(Please specify the problem and make your comments)
15.	Model solutions submitted			
16.	Are the answers accurate including calculations?			
17.	Are the salient points described (or listed) for the answers to descriptive questions?			
18.	Are the solutions structured with breakdown of marks?			

Declaration

I/ We will not discuss or inform anything related to this moderation to anyone else.

S. No.	Name of Moderator	Designation	University/Organisation	Signature

Signature

(Chairperson Moderation Board)

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GUIDELINES FOR SETTING OF END SEMSTER QUESTION PAPERS
(SOM, SOEC & SOL)

The question paper prepared by the faculty members must include questions from each category, viz. memory-based questions with different degrees of difficulty, questions that test the level of understanding of the main concepts and their ability to apply and synthesize the knowledge gained in the course. It should contain questions that test the students on the learning outcomes as objectively as possible and must cover all modules of a course.

Key process steps in preparing a question paper with appropriate degree of challenge for the students are as follows:

- Choosing and categorizing the questions in accordance with Bloom's taxonomy (*please see figure 1*)
- Assigning the correct level of difficulty to the questions
- Encouraging students to think and answer the questions in a manner that truly reflects their level of attainment of outcomes in a course
- Evaluate student's responses to assess their competency level

Faculty members are also advised to prepare a model/sample question paper with suggested answers for each course before the start of a course and provide the same to the students. Whenever changes to the syllabus are made for any course, the Model Question Paper must be reviewed and changed accordingly.

The following guidelines may be followed for setting the question papers for the end-term examinations:

A question paper for theory examinations of a course unit of any programme will be of 2- or 3- hours' duration with maximum marks 60 and may have three sections: Section-A, Section-B and Section-C.

Section-A: 24 Marks

In this section, a student is required to answer 4 out of 5 given questions. Each question will be of 6 marks. These questions may include short numerical problems or theory questions to assess students' understanding of concepts and frameworks.

If needed, in this section, a question might be designed to have maximum two parts (a) and (b) with weightage of 3 marks each to enable testing of concepts and frameworks from wider area.

Section-B: 20 Marks

In this section, a student is required to answer any 2 out of 3 given questions. Each question will have a weightage of 10 marks and may include long theory questions or numerical problems requiring students to apply the concepts to a given situation or in a given context.

If a faculty feels that a question in this section needs to have sub-parts, there may be maximum two parts provided that part (a) involves understanding of a concept through a numerical or a theory question and part (b) is application of the concept used in part (a).

Section-C: 16 Marks

This section will be compulsory without any choice and will have a weightage of 16 marks. This may be a case study, a hypothetical problem or a situation seeking possible solution(s), students' response to a situation based on general awareness of the broad discipline(s) of study etc. The objective is not only to judge the skills of students to apply the concept to a particular situation or context but also to assess his/her analytical ability and how a student makes realistic assumptions and can ascribe meaning to data (given in the question paper or to be assumed). The students will also be tested on integrative skills by making them apply more than one concept (including from other disciplines) together in a given situation or the context.

There will be minimum two parts (a), and (b) and can have maximum up to three parts (a), (b) and (c) with distribution equivalent to 16 marks according to the efforts and time expected to be devoted to them. The parts, however, should be with reference to the same case, situation, context, or broad issue being covered.

Important Notes:
- Use the same font type and size as shown in the QP template
- The three sections together will have questions to ensure that the entire syllabus is covered. The moderation board will be ensuring this while moderating the question papers.
- The paper setter must map each question/part of a question with the Blooms taxonomy level and the course outcome and must mention the same in the question paper before submitting it for moderation.
- The instructions to students should be very clear and should be given at the beginning of the question paper or if needed, these could even be at the beginning of each section. If required, the word limit for answers may also be prescribed.
- *The instructions regarding use of calculator, graph sheet, ready reckoned tables and other material required to answer the questions should also be clearly mentioned in the question paper wherever needed.*

Bloom's Taxonomy Model with Level Difficulty and Complexity

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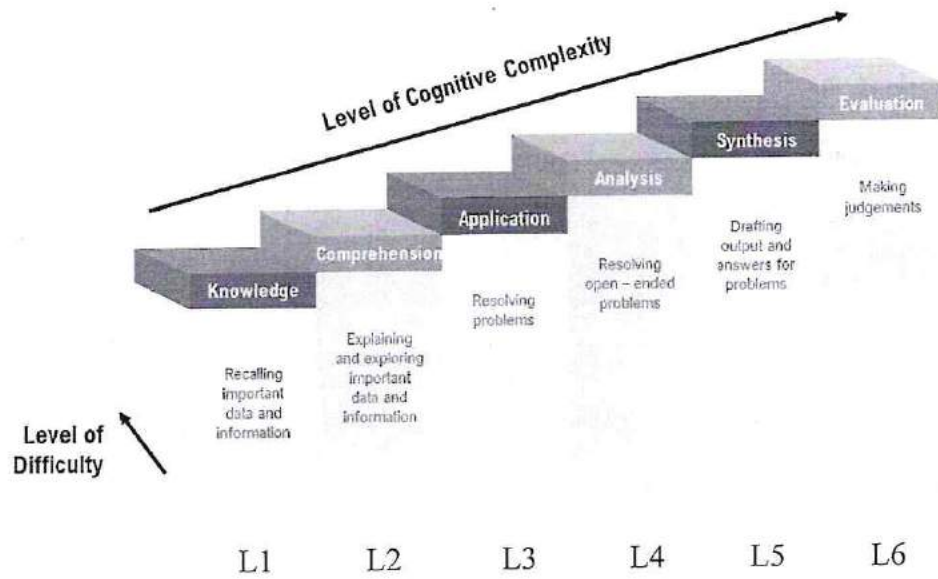

Figure 1: Bloom's Taxonomy Model

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GUIDELINES FOR SETTING OF END SEMSTER QUESTION PAPERS
(SOET)

The question paper prepared by the faculty members must include questions from each category, viz. memory-based questions with different degrees of difficulty, questions that test the level of understanding of the main concepts and their ability to apply and synthesize the knowledge gained in the course. It should contain questions that test the students on the learning outcomes as objectively as possible and must cover all modules of a course.

Key process steps in preparing a question paper with appropriate degree of challenge for the students are as follows:

- Choosing and categorizing the questions in accordance with Bloom's taxonomy (*See figure 1 below*)
- Assigning the correct level of difficulty to the questions
- Encouraging students to think and answer the questions in a manner that truly reflects their level of attainment of outcomes in a course
- Evaluate student's responses to assess their competency level

Faculty members are also advised to prepare a model/sample question paper with suggested answers for each course before the start of a course and provide the same to the students. Whenever changes to the syllabus are made for any course, the Model Question Paper must be reviewed and changed accordingly.

The following guidelines will be applicable for setting the question papers for the end-term examinations at the University:

A question paper for theory examinations of a course unit of any programme will be of 2 or 3 hours' duration with maximum marks 60 and will have two sections: Section-A and Section-B. *The duration of practical examinations will be as required.*

Section-A: **20 Marks (students are advised to devote approximately one-third of the allotted time on this section)**

In this section, a student is required to answer all the questions. These questions may include short answer or short numerical problems to test the understanding of concepts and frameworks. No choice is allowed in this section. Please do not give multiple choice type of Questions

Section-B: **40 Marks (students are advised to devote approximately two-third of the allotted time on this section)**

In this section, a student is required to answer 4 questions of 10 marks each. The questions in this section can be long theory questions or numerical problems requiring students to apply the concepts to a given situation or in a given context. It can also be a case study, a hypothetical problem or a situation seeking possible solution(s), students' response to a situation based on general awareness of the broad

discipline(s) of study etc. The objective is not only to judge the skills of students to apply the concept to a particular situation or context but also to assess his/her analytical ability and how a student makes realistic assumptions and can ascribe meaning to data (given in the question paper or to be assumed). The students will also be tested on integrative skills by making them apply more than one concept (including from other disciplines) together in a given situation or the context.

If a faculty feels that a question in this section needs to have sub-parts, there may be maximum three parts provided that part (a) involves understanding of a concept through a numerical or a theory question and part (b) & part (c) is application of the concept used in part (a).

Choice may be allowed within the question covering the same topic but not allowed to give choice between the topics.

Important Notes:

- Use the same font type and size as shown in the QP template
- The two sections together will have questions to ensure that the entire syllabus is covered. The moderation board will be ensuring this while moderating the question papers.
- The paper setter must map each question/part of a question with the Blooms taxonomy level and the course outcome and must mention the same in the question paper before submitting it for moderation.
- The instructions to students should be very clear and should be given at the beginning of the question paper or if needed, these could even be at the beginning of each section. If required, the word limit for answers may also be prescribed.
- *The instructions regarding use of calculator, graph sheet, ready reckoned tables and other material required to answer the questions should also be clearly mentioned in the question paper wherever needed.*

Bloom's Taxonomy Model with Level Difficulty and Complexity
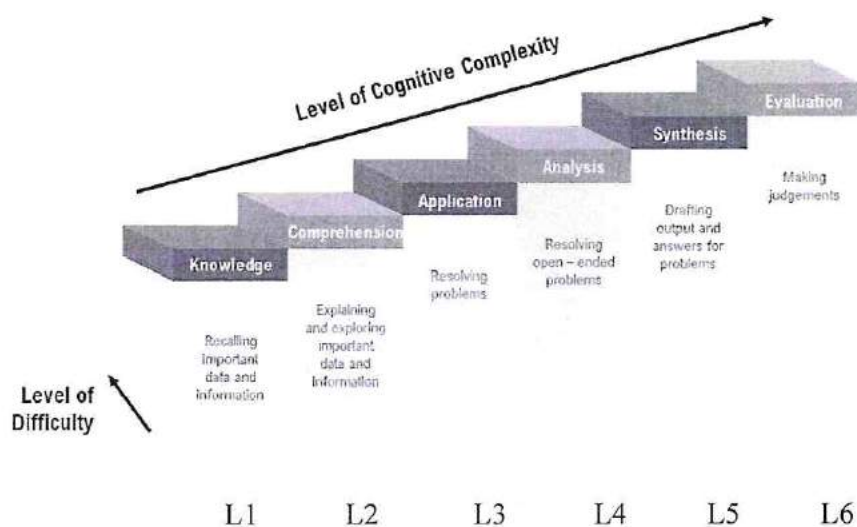This slide is 100% editable. Adapt it to your needs and capture your audience's attention.

Figure 1: Bloom's Taxonomy Model

Name:		
Enrolment No:		BML MUNJAL UNIVERSITY FROM HERE TO THE WORLD
Date:		

End Term Examinations – March 2019

<Course: AMT1005 - Elementary Statistical Methods >

Programme: MBA

<Module: IV> (EVEN:2018-19)

Time: 03 hrs.

Max. Marks:60

Instructions:

> Attempt any **Four Questions** from **Section A** (each carrying 6 marks); any **Two Questions** from **Section B** (each carrying 10 marks). **Section C** is **Compulsory** (carrying 16 marks).
> Start each answer on a fresh page and number your answers clearly. Answer all parts of the same Question together and in sequence.
> Use of scientific calculator is not permitted.
> You may ask for logarithmic tables if required.

	Section A (Attempt any Four Questions)	Marks	CO & BL
1.	The data below pertain to ten customers who frequently consume fresh juices. Use the data to: a) Prepare a frequency distribution of respondents' ages and b) Cross-tabulate the respondents' genders with juice preference	[06]	CO2 & L1
2.	The heights of 100 trees selected randomly from a farm having 5000 trees are measured (in inches). The following Minitab output displays the data summary:	[06]	CO1 & L1

Question 1 table:

Individual	Gender	Age	Drink Preference	Weekly Unit Purchase
Shanti	F	19	Mixed Juice	2
Kavita	F	17	Coconut Water	5
Sneha	F	18	Mixed Juice	7
Amrita	F	16	Nimbu-pani	4
Ali	M	20	Mixed Juice	2
Prem	M	20	Nimbu-pani	4
Sam	M	19	Nimbu-pani	1
Angad	M	18	Coconut Water	8
Prafulla	M	17	Coconut Water	3
Qasim	M	19	Nimbu-pani	3

Question 2 Minitab output:

Variable	n	Mean	StDev	SE Mean
Height	100	59.22	10.11	1.01

Use the data to test the null hypothes is that the mean height of all the trees on the farm is atleast 5 feet (60 inches) versus the alternative that the mean height is less than 5 feet. The critical z value at 5 % level is -1.645. Will you reject the null hypothesis at 5 % level?

3.	Write a note to distinguish between measures of central tendency and measures of dispersion.	[06]	CO1 & L2
4.	a) Suppose we want to take a random sample of three accounts from all 30 saving bank accounts opened at an extension counter of a local bank over the past one month. How many different random samples of three accounts are possible? b) There are five persons and three chairs. In how many ways can the five chairs be occupied?	[3+3]	CO3 & L1
5.	a) Suppose an experiment has six equally likely outcomes: E1, E2, E3, E4, E5 and E6. Assign probabilities to each outcome and show that the basic requirements for assigning probabilities are satisfied. Which method did you use? b) An experiment with three outcomes has been repeated 60 tomes. E1 occurred 24 times, E2 occurred 17 times and E3 occurred 19 times. Assign probabilities to outcomes. Which method did you use?	[3+3]	CO2 & L2

SECTION B (Attempt any Two Questions)	Marks	CO & BL

6	a) The average monthly sales of a firm is normally distributed with mean and standard deviation of μ=Rs 40,000 and σ= Rs. 5,000 respectively. Firms having sales more than Rs.50,000 are classified as "big". Using the part of the standard normal distribution below find the probability that a randomly chosen firm is "big".	[8+2]	CO3 & L3

Z	0.20	1	2
Area between 0 & Z	0.0793	0.3413	0.4772

	Note: The second row of the table above gives the areas of Standard Normal Distribution between the central point Z=0 and the corresponding Z value in the first row. b) Describe any five important properties or characteristics of the normal distribution.		
7.	a) What are the eight steps used in econometric methodology b) Illustrate these steps with an example of an Econometric model of the Keynesian consumption function.	[5+5]	CO2 & L3
8	a) Explain and illustrate the addition law of probability using Venn diagrams. b) A survey of magazine subscribers about travel motives during the past 12 months showed that 57.8% travelled for pleasure, 61 % traveled to connect with family and 30% traveled with both the motives. Find the probability that a subscriber traveled neither for pleasure nor to connect with family.	[4+6]	CO1, CO2 & L3

SECTION C is Compulsory	Marks	CO & BL

9	a) Distinguish between the following:
	   i. Cross- Section and time series type of data
	   ii. Theoretical econometrics and applied econometrics
	   iii. Linearity in the Variables and Linearity in the parameters of an econometric model
	
	b) The Gussian or classical linear regression model (CLRM), which is the cornerstone of most econometric theory, makes ten assumptions. State any four of them.
		[8+8]	CO1, CO2, CO3 & L3

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CHECKLIST FOR PAPER SETTER

Name of the Programme(s):

Course Code: **Course Title:**

Question Paper Set: **Semester/Module:**

S. No.	Item	Yes
1.	Is the time allowed for the examination same as that stated in the module outline?	
2.	Have all the questions been checked for errors relating to grammar and spellings?	
3.	Is the presentation and layout of the examination paper in accordance with approved template?	
4.	Have the guidelines for setting of question paper been followed?	
5.	Is numbering of pages and questions correct?	
6.	Have the marks been provided for all the questions and break up given in case of sub parts	
7.	Are clear and adequate instructions provided to the candidates on the first page?	
8.	Are the additional materials listed for use (charts, tables and equations etc.) included in the question paper and referred to in the relevant questions?	
9.	Are the figures, tables, equations clear and correct?	
10.	Have the questions been mapped to the Course Outcomes and mentioned against each question?	
11	Have the questions been mapped to the Bloom's taxonomy levels and mentioned against each question?	
12	Does the question paper cover the syllabus adequately?	
13	Model solutions submitted	

Name & Signature of Paper Setter

PREPARING TABLE OF SPECIFICATION

A Table of specification should be prepared by the faculty and the same attached with the checklist while submitting the question paper for moderation. An example of how the table of specification is to be prepared is given below:

Example:

A. List topics to be tested and the amount of time spent in teaching each topic

Topic:	A	B	C	D	E	TOTAL
Times (in hours):	14	16	12	14	24	80

B. Allocate marks for each topic as a percentage

Topic	Time	Marks allocation for the topic
A	14	$\frac{14}{80} X100 = 17.5$
B	16	20.0
C	12	15.0
D	14	17.5
E	24	30.3
Total	80	100.0

C. Modify marks allocation in view of the relevance of the topic to learning other topics/subjects and how important each topic is to students' later jobs

Topic	Marks allocation as per Calculation %	Marks allocation (Modified) %
A	17.5 %	17 %
B	20.0 %	18 %
C	15.0 %	16 %
D	17.5 %	17 %
E	30.0 %	32 %

D. Determine the levels of ability necessary for each topic

E. Allocate marks for different abilities in each topic

Abilities \ Topic	Knowledge	Comprehension	Application	Higher Order Critical Thinking	Total
A	6	6	2	3	17
B	8	6	2	2	18
C	4	6	2	4	16
D	6	4	4	3	17
E	6	8	10	8	32
Total	30	30	20	20	100

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PROFORMA FOR FEEDBACK ON QUALITY OF QUESTION PAPER

Course Title:

Course Code:

Programme:

Pointers for Feedback	Remarks/Feedback
Is the question paper valid in terms of coverage of course content and coverage of instructional objectives?	
Does the question paper have appropriate difficulty level to complete the needs of different kind of students?	
Is the Question paper consistent with time and contents? Does it provide sufficient time to the students to think, formulate, review, and revise their response if necessary	
Have the questions paper been appropriately formatted in terms of form, language, and scope? Also, whether the questions framed are clear, concise, and easily understandable?	
The Questions in the paper are guiding and not leading	
Does the questions paper fulfill the criterion of balanced paper?	
Your comments on the overall weaknesses and strengths of the Paper	

Name & Signature of Auditor

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MINUTES OF THE MEETING OF SUB - COMMITTEE (CONSTITUTED TO REVIEW THE NORMS FOR AUDIT COURSES) HELD ONLINE ON

FEBRUARY 22, 2021 (MONDAY)

A Sub- Committee was constituted under the Chairmanship of Dr. NS Nigam, Dean SOL as per the recommendations of the Examination Committee to review the Attendance and Grading norms for the Audit Courses of offered by BML Munjal University. The following members were co-opted by the chairman in this committee:

Dr. Jaskiran Arora, Associate Dean SOM

Dr. KK Jain, Assistant Dean SOET

Ms. Suneet Soni, Controller of Examinations

Dr. Harish Puppala, Assistant Professor SOET

The meeting of the Sub - Committee was held online on February 22, 2021 (Monday) at 2:00 pm and all the members were present.

The Controller of Examination briefed the members on the existing policy on Audit Courses that is part of the Examination Regulations of the University. As per the current regulations, a student is required to have minimum of 75% Attendance and at least 40% score to get a Satisfactory Grade.

The members discussed in details the objective of offering the Audit Courses and how maximum number of students can be encouraged to take these courses. It was felt that the norms for these courses cannot be the same as core/compulsory courses. Hence the following points were recommended by the committee:

1. Audit Courses should not be offered as mandatory/compulsory courses. Student should be given an opportunity to choose courses as per his own interest and aptitude.
2. Minimum attendance requirement for a Satisfactory Grade should be 65% in school of Law and 60% in other schools of the University.
3. Since the University follows relative grading and there is no minimum passing marks defined for relative grading hence, the passing marks should be same as credit course.
4. The student who fulfills the minimum passing criteria and attendance as given above will be Awarded S Grade (Satisfactory). Whereas a student who fails to meet either of

criteria with respect to attendance or the passing marks will be awarded X Grade (Unsatisfactory).

A student with an Unsatisfactory Grade will have an option of not appearing for either recourse or repeat examination. However, a student with an Unsatisfactory Grade, who wants to improve his grade to satisfactory, may opt for the following:

- If the Unsatisfactory Grade is due to poor performance and the student fulfilled the minimum attendance requirement, the student may take Recourse examination, held immediately after the end-term examinations. A student will be required to pay fee per course as prescribed by the University.

- If the Unsatisfactory Grade is due to low attendance, then the student may re-register for the course and repeat it with the next batch of students. A student will be required to pay fee as prescribed by the University.

The above recommendations are submitted to the Examination Committee for approval.

Dr. NS Nigam
(Chairman)

ACTION PLAN ON THE FEEDBACK RECEIVED AFTER AUDIT OF QUESTION PAPERS BY EXTERNAL SUBJECT EXPERTS

Analysis and Action Plan for question paper – SOET

Points to improve quality of QP

- Strong Moderation Process
- Sr. Faculty to mentor and closely monitor

OBE framework will be better implemented

Analysis and Action Plan for question paper – SOL

Overall feedback positive

- All question papers received positive feedback except constitutional law.

Issue	Explanation	Action
Constitutional law end term too descriptive and not application-based	Mid-term was very difficult, and student scored low. So, end term was proportionately aligned.	• Discussed issue with instructor. • Agreed with the comments. • Showed me later question papers that were all application-based with hypothetical questions comprising a substantial part of the paper.
Family law paper was had more weightage on Hindu Law	Hindu law has more topics for which there are no parallel topics under the Muslim law.	• Agree with instructor's explanation • Course design will be relooked to teach Muslim law earlier to ensure that it is also covered comprehensively.
Other papers had few and specific content-based suggestion on the paper circulated		General reinforcement of the principle that papers must be application-based and must focus on topics that were not assessed in earlier assignments.

Analysis and Action Plan for question paper – SOM

- Most of the papers were in adherence to the expected standards in terms of course content coverage, level of difficulty and other related details.

- However, the suggestions were received to –

- Assess the ability to apply the knowledge.

- It was highlighted that the emphasis is mostly on point 1, a little in 2, but none on 3 & 4

    1. Learning to Know (Knowledge)

    2. Learning to do (Application of the Knowledge)

    3. Learning to be (Become a humane, caring and contributing individual)

    4. Learning to live with others (Equitable co-existence in society)

- Copy pasting the questions from the internet should be a bog no-no

- The use MCQs to be dissuaded

- Advised to map the attainments of the learning outcomes to the questions in the exam paper

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Annexure-8

MoM: 9th Meeting of University Research & Progress Committee held on January 12, 2022

17th Meeting of Academic Council
BML Munjal University, Gurugram

Minutes of 9th University Research and Progress Committee
Meeting held virtually on 12th January 2022, Time: 14:30 – 16:00 hrs

Ref No: BMU/ 9th URPC/ PhD/ MoM/ 2022/1

24th March 2022

Members Present:

1. Dr. Manoj K Arora, (Chairman) - Vice-Chancellor
2. Dr. Anirban Chakraborti (Member) - Dean (SoET)
3. Dr. Jaskiran Arora, (Member)- Dean (SoM)
4. Dr. Pritam Barua, (Member)- Dean (SoL)
5. Dr. Maheswar Dwivedy, (Member)- Faculty from SOET nominated by Chairman URPC
6. Dr. Sanmitra Barman, (Member)- Faculty from SOET nominated by Chairman URPC
7. Dr. Soharab Hossain Shaikh, (Member) - Faculty from SOET nominated by Chairman URPC
8. Ms. Suneet Soni, (Member)- Controller of Examinations
9. Dr. Abhimanyu Singh Rana, (Member)- Faculty in-charge – Dean-research office, SOET
10. Dr. Vikas Kathuria, (Member)- Faculty in-charge – Dean-research office, SOL
11. Dr. Sangita D' Gupta, (Member)- Faculty in-charge – Dean-research office, SOM
12. Dr. A.K. Prasada Rao (Member Secretary) - Associate Dean Doctoral Programmes

Members absent:

13. Mr. Abhay Sharma (Member)- Registrar
14. Special invitee- None

Agenda:

1) Opening remarks: Member secretary, Chair-URPC, Deans of the Schools

2) Approving the minutes of the previous URPC meeting

3) Reporting of the PhD admissions summer session (July – Dec 2021)

4) Reporting of the withdrawals of the PhD students during July – Dec 2021)

5) Reporting of the RPEC minutes of the PhD students of the schools

6) Approval of the PhD supervisor allocations for PhD students of all schools.

7) Presentation and approval of the Protocol report of Mr. Gautham Agarwal, PhD student, School of Management

8) Any other item with the permission of the Chair.

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AGENDA ITEM.1: Opening remarks:

At the outset, the member secretary, Prof. A. K. Prasada Rao, welcomed the Chairman and members to the 9th URPC meeting. He invited the Chairman to address the URPC.

The Chairman-URPC appreciated the performance independent performance of the office of the Doctoral programs under the office of the Vice-Chancellor till recently. PhD programs have been very well streamlined with well-defined work processes and policies. And he also stated that, hereafter the office of the doctoral office shall function under the leadership of the Dean-Research.

Dean (SoET) highlighted the progress of school and the strides SoET has made in the advancement of the PhD program. Some of the highlights are:

1.   PhD research scholars have published more than 10 research papers in peer-reviewed journals and conferences last year. Many publications of Ph.D. research scholars of SoET are under review in SCI journals.
2.   Going forward, the school is actively trying to extend its international collaborations with the international universities.

Dean-SOM discussed the current status of the Ph.D. program at SOM. She stressed creating the same criterion for selecting full-time and part-time candidates to overcome the withdrawal cases. She is happy with performance of the PhD students for their publications. She mentioned that there is a need to improve the quality and quantum of Ph.D. applications.

Dean-SOL stated that he is satisfied with the performance of Ph.D students in SOL, and highly appreciated their inter-disciplinary approach, as they are taking courses from other schools to enhance their knowledge.

AGENDA ITEM.2: Approving the minutes of the previous URPC meeting

The minutes of the previous URPC meeting were reviewed and approved by the URPC.

AGENDA ITEM.3: Reporting of the PhD admissions summer session 2021

School	Appl. Rcd.	F.T	P.T	Indus.	Select	Offer	Admitted	Remarks
SOET	44	44	0	0	10	10	4FT	
SOM	16	15	1	--	4	4	2(1PT+1FT)	
SOL	2	2	--	--	0	--	0	

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Details of Ph.D admissions, Summer 2021 - SOET

Name	P.T/F.T	Remarks
Jeffin George	F.T	ECE
Dibyendu Banerjee	F.T	Applied Sciences
Sai Ganga	F.T	Applied Sciences
Vipin Kumar	F.T	Mechanical Engg.

Details of Ph.D admissions, Summer 2021 - SOM

Name	P.T/F.T	Remarks
Chandrima Roy	P.T	
Ashutosh Yadav	F.T	

Details of Ph.D admissions, Summer 2021 - SOM

Name	P.T/F.T/Ind	Remarks
Soumya Bhowmick	Ind	
Ambesh Mishra	P.T	
Aniket Kumar	PT	Paid Fee. Registration Pending.
Yashasvi Arya	FT	Paid Fee. Registration Pending.
Shveta Bansal	FT	

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AGENDA ITEM.4: Reporting of the withdrawals of the PhD students during July – Dec 2021

Withdrawals of PhD students- Reporting item							
S.No.	**Reg No.**	**Date of Reg.**	**PT/FT**	**Name**	**Supervisor**	**Co-Supervisor**	**Status/ Reason**
1	202A6010001	18-Jan-21	FT	Anirudh Katyal (SOM)	Not Allocated		Left (was doing a job elsewhere, despite being a full-time student)
2	1720449A602	10-Nov-17	PT	Digbijaya Mahapatra (SOM)	Dr. Payal Kumar	Dr. Vishal Talwar	Applied for Withdrawal in 2020
3	192A6010002	22-Jul-19	PT	Rajesh Sharma (SOM)	Dr. Vishal Talwar	Dr. Vaishali Sharma	Applied for Withdrawal in 2020
4	210C6010004	Oct- 2021	FT	Jeffin George (SOET)	Dr. Anubhav Agarwal (ECE)		Withdrew after called to Campus (online to offline)
5	210C6010001	Nov-2021	FT	Vipin Kumar Yadav	Dr. Amiya Dash (MECH)		Withdrew after called to campus (online to offline)

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AGENDA ITEM 5 **Reporting and ratification of the recommendations of RPEC meetings of all Schools.** Decision of the URPC on the recommendations of RPEC meetings in various schools are given below:

No.	Name	Reg. #	Reg. Date	P.T/ F.T	Supervisor	Co-Supervisor	RPEC's Recommendation	Resolution by URPC
						School of Engineering and Technology		
1	Atul Mishra	1720444C602	13-Oct-17	P.T (Internal)	Dr. Soharab Hossain Sheikh	Dr. Ratna Sanyal (External)	Scholarship: 50% of waiver in tuition fee Progress is **satisfactory**.He has already completed with one SCI journal publication. Atul should start writing thesis so as to complete the writing process by the time of acceptance of second paper.	Approved
2	Nishtha Phutela	1720446C602	13-Oct-17	P.T (Internal)	Dr. Devanjali Relan	Dr. Goldie Gabrani	Scholarship: 50% of waiver in tuition fee Progress is **satisfactory** considering the effects of pandemic. It has been suggested that the student needs to focus on the SCI journal publications. PhD supervisors mentioned that the thesis will be submitted by	Approved

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							December 2022.	
3	Ankit Kargeti	1800211C601	16-Jul-18	Full Time	Dr. Tabish Rasheed	Dr. Shamoon Ahmad Siddiqui (External)	Scholarship: 80% of Tuition Fee waiver The committee found that the overall progress of the candidate is **satisfactory**, Six monthly research progress Tentative synopsis would be in April 2022. Thesis submission is expected in July-Dec 2022 semester. He has to focus more on fundamentals. He has to publish at least one more SCI/SCIE paper. he is recommended for registration in next semester.	Approved
4	Lalit Kumar Sharma	1820210C602	19-Jul-18	Full Time	Dr. Maheshwar Dwivedy	Prof. A. K. Prasada Rao	Scholarship: 50% of waiver in tuition fee. Work is **satisfactory** considering pandemic and experimental nature of work. Publication work must be accelerated. Tentative submission	Approved

						would be by December 2022.	
5	Debajyoti Ghosh	1820181C602	31-Jul-18	Full Time	Dr. Kiran Khatter	-Nil-	Scholarship: 50% of waiver in tuition fee. The committee found that the overall progress of the candidate is **satisfactory**, and (Candidate has to further intensify the work on thesis and papers)	Approved
6	Vijay Prakash Sharma	192C6010001	29-Jun-19	Full Time	Dr. Ranbir Singh	-	Scholarship: 50% of waiver in tuition fee. The committee found that the overall progress of the candidate is **satisfactory**, but focus on intense research and good quality publications	Approved
7	Pankaj Sahu	190C6010001	29-Jun-19	Full Time	Dr. Rajiv Dey	-	Scholarship: 80% of Tuition Fee waiver The committee found that the overall **progress of the candidate is good** which was demonstrated through high-quality SCI journal publications, and he is recommended for	Approved

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							registration in next semester.	
8	Kiran Somisetti	200C6010001	07-Sep-20	Full Time	Prof. A. K. Prasada Rao	Dr. Maheshwar Dwivedy	Semester Break due to health issues	Approved
9	Khone Darshika Sanjay	200C6010002	07-Sep-20	Full Time	Dr. Abhimanyu Singh Rana	Dr. Suchitra Chauhan	Scholarship: 50% of waiver in tuition fee. Ph.D. course work is ongoing. The committee found that the overall progress of the candidate is **satisfactory**, and she is recommended for registration in next semester.	Approved
10	Akash Saraswat	200C6010003	07-Sep-20	Full Time	Dr. Arijit Maitra	Dr. Bipin Singh	Scholarship: 80% of waiver in tuition fee. Ph.D. course work is ongoing. The committee found that the overall progress of the candidate is **satisfactory**, and he is recommended for registration in next semester.	Approved
11	Saroj K. Patra	200C6010004	18-Jan-21	Full Time	Dr. Maheshwar Dwivedy	Prof. A. K. Prasada Rao	Scholarship: 80% of waiver in tuition fee. His work is satisfactory. He has acquired all the	Approved

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							fundamentals for carrying his thesis.	
1 2	Anchal Rana	200C601000 5	18-Jan-21	Full Time	Dr. Abhimany u Singh Rana	Dr. Sanmitra Barman	Scholarship: 50% of waiver in tuition fee. Ph.D. course work is ongoing. The committee found that the overall progress of the candidate is **satisfactory**, and she is recommended for registration in next semester.	Approve d
1 3	Monika Mokan	200C601000 6	18-Jan-21	Full Time	Dr. Devanjali Relan	Prof. Goldie Gabrani	Scholarship: 50% of waiver in tuition fee. Ph.D. course work is ongoing. The committee found that the overall progress of the candidate is satisfactory, and she is recommended for registration in next semester.	Approved
1 4	Rajinder Kum ar Kaura	202C601000 1	18-Jan-21	Part Time (External)	Dr. Abhimany u Singh Rana	Dr. D. N. Singh (External)	(Not entitled for scholarship as per BMU's PhD guidelines 2020 Ph.D. course work is ongoing. The committee found that the	Approved

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							overall progress of the candidate is **satisfactory**, and he is recommended for registration in next semester.	
1 5	Aliya Naheed Kazmi	200C601000 7	18-Jan-21	Full Time	Dr. Akhlaq Husain	Dr. Ziya Uddin	Scholarship: 50% of waiver in tuition fee. Ph.D. course work is ongoing. The committee found that the overall progress of the candidate is **satisfactory**, and she is recommended for registration in next semester.	Approved
1 6	Dibyendu Banerjee	210C601000 3	09-Jul-21	Full Time	Dr. Sanmitra Barman	Dr. Abhimanyu Singh Rana	Medical Leave	
1 7	Sai Ganga	210C601000 2	09-Jul-21	Full Time	Dr. Ziya Uddin	Dr. Rishi Asthana	Scholarship: 50% of waiver in tuition fee. Ph.D. course work is ongoing.The committee found that the overall progress of the candidate is **satisfactory**, and she is recommended for registration in next semester.	Approved
1 8	Dronveer Kaura	202C601000 2	18-Jan-21	Part Time (External)	Dr. Neeraj Sharma	Dr. Maheshwar Dwivedy	The committee found that the overall	Approved

| | | | | | | | | progress of the candidate is **<u>un-satisfactory</u>**, Although there isn't any progress in the research, He failed to complete at least one course out of four courses prescribed for him. It is evident that he is not serious about his PhD work. He may be allowed to continue to register for next semester as a one time consideration. And will be de-registered from the PhD program, if no progress is demonstrated in the next RPEC | |

School of Management

S.No	Reg. #	Name	Reg. Date	P.T / F.T	Supervisor	Co-Supervisor	RPEC's Recommendation	Resolution by URPC
1	15D00471	Sumit Shandilya	01-Feb-15	PT	Dr. Jaskiran Arora	Dr. Kalluri Vinayak	Not entitled for scholarship as per BMU's PhD guidelines	Approved
2	1720448A602	Amit Kumar	10-Nov-17	PT	Dr. Anusree Paul	Dr. Surya Prakash	Applied for Withdrawal	

3	1720449A602	Digbijaya Mahapatra	10-Nov-17	PT	Dr. Payal Kumar	Dr. Vishal Talwar	Applied for Withdrawal	
4	1820236A602	Gautam	31-Jul-18	PT	Dr. Ruchi Garg	Dr. Ritu Chhikara Dr. Vishal Talwar	Not entitled for scholarship as per BMU's PhD guidelines	Approved
5	1820279A602	Himanshi Arora	01-Dec-18	PT	Dr. Jaskiran Arora	Dr. Amit Bagga	Not entitled for scholarship as per BMU's PhD guidelines	Approved
6	190A6010001	Rachna Bhatia	22-Jul-19	FT	Dr. Ruchi Garg	Dr. Vishal Talwar	Scholarship of 80% tuition fee waiver	Approved
7	190A6010002	Udayan Karnatak	22-Jul-19	FT	Dr. Anusree Paul	Dr. Chirag Malik	sscholarship of 80% tuition fee waiver	Approved
8	190A6010003	Rubal Rathi	06-Jan-20	FT	Dr. Ruchi Garg	Dr. Ritu Chhikara Dr. Rik Paul	scholarship of 80% tuition fee waiver	Approved
9	202A6010001	Alok	25-Jan-2021	PT	Dr. Jaskiran Arora	Dr. Jaya Ahuja	Not entitled for scholarship as per BMU's PhD guidelines	Approved
10	212A6010001	Chandrima Roy	Nov-2021	PT	Dr. Ruchi Garg	Dr. Ritu Chhikara	Not entitled for scholarship as per BMU's PhD guidelines	Approved

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11	210A6010001	Ashutosh Yadav	Nov-2021	FT	Dr. Sangita Dutta	Dr. Nilanjan	scholarship of 50% tuition fee waiver	Approved
School of Law								
S.No	Reg. #	Name	Reg. Date	P.T/F.T	Supervisor	Co-Supervisor	RPEC's Recommendation	Resolution by URPC
1	200D6010001	Fahad Mohd. Khan	01-Sep-2020	F.T	Prof. N.S. Nigam	Dr. Vivek Sehrawat	Scholarship: 80% of Tuition Fee waiver and continuance of fellowship was approved	Approved
2	202D6010001	K Sudarshan	10-Nov-2020	P.T	Prof. N.S. Nigam	Dr. Vivek Sehrawat	Progress satisfactory	Approved

AGENDA ITEMS .6: Allocation of PhD supervisors presented to URPC.

SI. No.	Supervisor	Co-Supervisor	Scholar Name	Reason	Resolution of URPC
1	Dr. Devanjali Relan	Prof. Goldie Gabrani	Ms. Nishtha Phutela	Dr Goldie left BMU, so the supervisors are interchanged as per policy	Approved
2	Dr. Devanjali Relan	Prof. Goldie Gabrani	Ms. Monika Mokan	Dr Goldie left BMU so the supervisors are interchanged as per policy	Approved
3	Dr. Arijit Maitra	Dr. Bipin Singh	Mr. Akash Saraswat	Dr Bipin Singh left BMU so the supervisors are interchanged as per policy	Approved
4	Dr. Ranbir Singh	Dr. Surya Prakash	Mr. Vijay Prakash Sharma	Dr Surya Prakash left BMU.	Approved by URPC. (Supporting

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				Therefore Dr. Ranbir Singh has been added as main supervisor	documentation along with CV (Annexure-II) of the new supervisor to be furnished by the office of the Dean-SoET, with justification the allocation

AGENDA ITEMS .7: Recommendations of the RPEC on the protocol of Mr. Gautam Agarwal, PhD student in the School of Management were reviewed and approved by URPC

Annexure I. Protocol report of Mr. Gautam Agarwal, PhD student, School of Management.

Annexure. II: CV of the new supervisor along with supporting documents with justification of the allocation, approved by Dean-SoET.

As there was no other item, the meeting ended with a vote of thanks to the Chair.

Dr A.K. Prasada Rao

Member Secretary - URPC

Copy to: VC, Deans of Schools, DSW, Office of the Dean-Research, COE, Registrar, Director-IQAC, Ph.D. Coordinators, Program offices.

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PhD Thesis Protocol

(Date of submission to URPC: 12th JAN 2022)

Title: A study to examine the Consumer Legitimacy in the Sharing Economy context

Submitted by:

Gautam Agrawal

1820236A602

Supervisors:

Dr. Vishal Talwar

Director, IMT Ghaziabad

Dr. Ritu Chhikara

Associate Professor, SoM, BML Munjal University

Abstract

The research project is a study on the effects of values, beliefs and norms on the behavior of the consumers towards the sharing economy practices. Sharing economy business are a disruptive form of business models that need to be perceived as legitimate by consumers in order to develop their operations in the business sector in which they are embedded (Gonzalez-Padron, 2017). By amplifying their environment-friendly of operations, resulting in sustainable production and consumption, thus adhering to SDG 12, the sharing organizations can aspire for consumer legitimacy.

The study adopts the VBN (Value-beliefs-norms) theory of Environmentalism to conceptualize the framework to research the consumers legitimacy granting behavior. The values which are being studied: Hedonic value, altruistic values, biospheric values, openness to change and egoistic value. The extant literature proves that these values influence the belief- awareness of responsibility which further affects the ascription of responsibility. These further influences the norms of an individual.

The consumers have their own motivations and beliefs towards the sustainable consumption. They accept and imbibe sustainable consumption behavior by legitimizing the pro-environment

behavior on different paradigms of legitimacy. These paradigms are: cognitive, moral and pragmatic legitimacy.

A conceptual framework has been developed after pursuing the literature. There are number of empirical studies on the positive effect of sharing economy on the physical environment in the form of reduced air pollution, economical, reduced wastage of food, efficient usage of services (transportation, hospitality) thus VBN theory of Environmentalism is an appropriate choice to provide the underlying theoretical structure.

Literature Review

Sharing Economy

S. No.	Title, journal, year of publication, Author	Findings
01.	Community structure and collaborative consumption: A routine activity approach,1978, The American Behavioral Scientist, Felson & Spaeth	The study emphasized on: 1. joint consumption of economic goods and services 2. psychology behind social sharing
02.	Possessions and the Extended Self, Journal of Consumer Research, 1988, Belk	Asserted upon the possessions of an individual as a reason for their self-identity & self-perception
03.	Sharing nicely: On shareable goods and the emergence of sharing as a modality of economic production, 2004, Yale Law Journal, Benkler	1. Described the value co-creation in collaborative practices 2. Discussed the public laws governing the sharing practices
04.	What's Mine Is Yours: The Rise of Collaborative Consumption, 2010, Harper Collins, Botsman & Rogers	Argued about the boundaries of the sharing economy practices
05.	What's Mine Is Yours: How Collaborative Consumption Is Changing the Way We Live, 2011, Botsman & Rogers	Discussed about the taxonomy and practices of collaborative consumption
06.	Access-Based Consumption: The Case of Car Sharing, Journal of Consumer Research, 2012, Bardhi & Eckhardt	Seminal paper which conceptualized the framework of sharing economy
07.	Sharing versus Pseudo-Sharing in Web 2.0, The Anthroplogist,2014, Belk	Argued that renting, borrowing practices should not be termed as sharing practices rather as pseudo-sharing
08.	Alternative marketplaces in the 21st century: Building community through sharing events, Journal of Consumer Behavior, 2012, Albinsson & Perrera	Highlighted the importance of community-building & crowdsourcing in sharing economy
09.	The sharing economy: Why people participate in collaborative consumption, Journal of the Association for Information Science and	Studied behavioral 'attitude' as a variable for participating in collaborative consumption

S. No.	Title, journal, year of publication, Author	Findings
	Technology, 2015, Hamari, Sjoklint & Ukkonen	
10.	Promises and paradoxes of the sharing economy: An organizing framework, Technological Forecasting and Social Change 2017,Acquirer, Daudigeos & Pinkse	Posited the 3 cores of sharing economy: i) access-based ii) platform-based iii) community-based
11.	Sharing for people, planet or profit? Analysing motivations for intended sharing economy participation, 2017, Environmental Innovation & Social Transitions, Bocker & Meelen	Studied the pro-environment behavior of sharing economy participants
12.	A Triadic Framework for Collaborative Consumption (CC): Motives, Activities and Resources & Capabilities of Actors, 2017, Journal of Business Research, Benoit, Baker, Bolton, Gruber & Kandampully	Provided a conceptual framework for collaborative consumption business models
13.	A conceptual perspective on collaborative consumption,2018, AMS Review, Ertz, Arcand and Durif	1. Discussed the six key characteristics of collaborative consumption. 2. Provided the dimensions of collaborative consumption 3. Provided a conceptual framework of collaborative consumption process
14.	Clarifying the sharing economy: conceptualization, typology, antecedents, and effects, 2018, AoM Perspectives, Gerwe & Silva	1. Differentiates between P2P & B2P (Business to Peer) economic exchanges 2. Provided typology of organizations engaged in sharing economy practices
15.	How sustainable is the sharing economy? On the sustainability connotations of sharing economy platforms, 2019, Journal of Cleaner Production, Geissinger, Oberg, Laurell, Sandstorm & Suseno	Sharing practices being environmentally sustainable/ pro-environment
16.	Defining the sharing economy for sustainability,2019, Sustainability, Curtis & Lehner	Provided the conceptual definition of sharing economy based on 3P's framework

Value-Belief-Norms (VBN) Theory

S. No.	Title, journal, year of publication, Author	Findings
01.	Normative Influences on Altruism, Advances in Experimental Social Psychology,1977, S.H. Schwartz	Posited Moral -norm activation theory

02.	Attitudes, intentions, and behavior: A test of some key hypotheses, Journal of Personality & Social Psychology, 1981, Bagozzi	Defined the constructs like- Attitude, behavior
03.	Values, beliefs and pro environmental action: Attitude formation toward emergent attitude objects, Journal of Applied Social Psychology,1995, Stern, Dietz, Kalof & Guagnano	Posited a positive relationship between environment-friendly attitude and an individual's beliefs, values system.
04.	A brief inventory of values, Educational and Psychological Measurement, 1998, Stern, Dietz & Guagnano	Defined values, its antecedents, factors defining values
05.	A Value-Belief-Norm Theory of Support for Social Movements: The Case of Environmentalism, Human Ecology Review, 1999, Stern, Dietz, Abel, Kalof & Guagnano	Gave the Value-Belief- Norms (VBN) theory conceptual framework
06.	Toward a Coherent Theory of Environmentally Significant Behavior, Journal of Social Issues, 2000, Stern	Explained the emerging VBN theory in detail. Clarified constructs.
07.	Green consumption or sustainable lifestyles? Identifying the sustainable consumer, Futures, 2005, Gilg, Barr & Ford	1.Provided scale items for Egoistic values 2. Scale items for Openness to change
08.	Situational and Personality Factors as Direct or Personal Norm Mediated Predictors of Pro-environmental Behavior: Questions Derived from Norm-activation Theory, Basic Applied Social Psychology, 2007, Harland, Staats & Wilke	Posit that Ascription of Responsibility is an important construct in VBN theory
09.	The use (and abuse) of the new environmental paradigm scale over the last 30 years: A meta-analysis, Journal of Environmental Psychology, 2010, Hawcroft & Millard	The study posits that the New Environmental Paradigm (NEP) in the original VBN theory can be discontinued without affecting the basic premise of the theory
10.	Exploring consumer adoption of a high involvement eco-innovation using value-belief-norm theory, Journal of Consumer Behavior, 2011, Jansson, Marell & Nordlund	Identified Personal Norms as important antecedent of VBN theory
11.	The environmental belief-behaviour gap: Exploring barriers to green consumerism, Journal of Consumer Behavior, 2013, Gabler, Butler & Adams	Extended VBN theory by identifying the role of social norms
12.	Application of the extended VBN theory to understand consumers' decisions about green hotels, International Journal of Hospitality	Provided scale items for beliefs: 1. Ascription of responsibility 2. Awareness of consequences

S. No.	Title, journal, year of publication, Author	Findings
	Management, 2015, Choi, Jung & Kandampully	
13.	Young travelers' intention to behave pro-environmentally: Merging the value-belief-norm theory and the expectancy theory, Tourism Management, 2017, Kiatkawsin & Han	1. Scale items for Altruistic values 2. Scale items for Biospheric values
14.	Understanding Collaborative Consumption: An Extension of the Theory of Planned Behavior with Value-Based Personal Norms, Journal of Business Ethics, 2017, Roos & Hahn	Identified the various belief factors based on an individual's Personal norms to participate in collaborative consumption
15.	Testing VBN theory in Japan: Relationships between values, beliefs, norms, and acceptability and expected effects of a car pricing policy, Transportation F, 2017, Hiratsuka, Steg & Perlaviciute	1.Re-introduced hedonic values as an antecedent of VBN theory for sharing practices 2. Asserted that VBN theory has been empirically tested in Asian context
16.	Pro-Environmental Behaviours and Value-Belief-Norm Theory: Assessing Unobserved Heterogeneity of Two Ethnic Groups, Sustainability, 2019, Ghazali, Ngyuen, Yap & Mutum	Empirical study on the effects of Pro-environment behavior through VBN theory

Consumer Legitimacy

S. No.	Title, journal, year of publication, Author	Findings
01.	Class, status, party, From Max Weber: Essays in Sociology, (OUP), 1946, Max Weber	1. Introduced the concept of legitimacy in organizational studies
02.	Institutionalized organizations: Formal structures as myth & ceremony, American journal of sociology, 1977, Meyer & Rowan	1. Brought terms and concepts like rational effectiveness' (later termed pragmatic legitimacy), 'legal mandates' (regulatory or sociopolitical legitimacy), and 'collectively valued purposes, means, goals, etc.' (normative or moral legitimacy) 2. Did not gave a specific definition of legitimacy 3. Posited that legitimacy insulated the organization from external pressures
03.	Centralization and legitimacy problems of local govt., Organizational Environments: Ritual and Rationality,1983, Meyer & Scott	1. Gave a formal definition to legitimacy 2. Introduced cognitive legitimacy aspects-explanation, theorization, and the incomprehensibility of alternatives.

04.	Fools rush in? The institutional context of industry creation, AMR,1994, Aldrich & Fiol	Advanced the legitimacy studies by discussing about the importance of socio-political and cognitive legitimacy
05.	Managing legitimacy: strategic and institutional approaches, AMR, 1995, Mark Suchman	1. Seminal work- importance of consumers as legitimacy granting agency 2. Advanced the work in legitimacy literature by bringing it outside the realm of Organizational legitimacy 3. Gave the universal definition of legitimacy
06.	Rules, resources, and legitimacy processes: some implications for social conflict, order, and change, American Journal of Sociology, 1994, R. Stryker	Discussed about the attitudinal, behavioral and cognitive legitimacy orientations in organizational studies
07.	Beyond survival: achieving new venture growth by building legitimacy, AMR, 2002, M.A. Zimmerman & G.J. Zietz	Advanced the role of consumers as strategic legitimacy-granting authority
08.	Media legitimation effects in the market of IPO's, AMJ, 2003, Pollock & Rindova	Asserted the increasing spread of media has made the media too a legitimacy-granting constituent
09.	Legitimacy in organizational institutionalism. The Sage handbook of organizational institutionalism, 2008, Deephouse & Suchman	1. A comprehensive review of literature on antecedents and consequences of legitimacy 2. Discussed the commonalities between legitimacy, status & reputation 3. Asserted the reasons of legitimacy being a source of competitive advantage for the firms
10.	Developing measurement scales of organizational and issue legitimacy: a case of direct-to-Consumer advertising in the pharmaceutical industry, Journal of Business Ethics, 2016, J.Y. Chung, B.K. Berger, and J. DeCoster	Developed uni-dimensional measurement scales for organizational legitimacy from individuals
11.	The fruits of legitimacy: why some new ventures gain more from innovation than others, Journal of Marketing, 2008, Rao, Prabhu & Chandy	Divided the legitimacy granting agencies into i) External (alliances, partnerships) & ii) internal (market, history, scientific & location)
12.	Consumer legitimacy: conceptualization and measurement scales, Journal of Consumer Marketing, 2020, Randrianasolo & Arnold	Developed the multi-dimensional scales for consumer legitimacy
13.	Ecosystem Legitimacy Emergence: A Collective Action View, Journal of Management, 2021, Thomas & Paavo Ritala	1. Introduced ecosystem identity as a construct to promote legitimation

		2.Posited that collective action reduces 'liability of newness' of emerging
		3. Emphasized on the importance of users as legitimation granting authority

Need for this study:

1. Uncovering what drives consumers to accept and adopt sharing economy models is important to understand what impedes or improves their adoption and success in the marketplace. However, whether legitimacy of sharing economy platforms is an issue that affects the consumer choices remains under-explored. (Ackerman et al 2021).

2. The sharing business practices are estimated to be worth more than US$1 trillion (Statista 2021). Except a few studies research on acceptance, adoption, and diffusion of sharing economy practices is still limited (Piscicelli *et al*. 2015).

3. The advent of sharing economy practices has impacted the consumer behavior which needs to be researched in this emerging context (Morewedge *et al* 2020).

Thus, this study will be beneficial for the academia by bridging the gap in the extant literature about consumer behavior in sharing business practices. Simultaneously, the practitioners can utilize this study to understand the factors leading to granting of legitimacy for their business model by the consumers.

Problem statement:

What is the role played by the values, beliefs and norms of a consumer to indulge in sustainable consumption by legitimizing the sharing economy practices?

Objectives

- To study the effect of consumer legitimacy on sustainable consumption in the form of likelihood to share again

- To research the effect of pro-environment & pro-social values of the consumers towards the formation of their beliefs towards sustainability based shared practices

- To understand the impact of beliefs of an individual on the formation of their social norms

- To explore the effect of social norms on the pro-environment legitimacy granting behavior of the consumers

Proposed methodology:

1. The Quantitative techniques will be used.
2. Based on the existing validated scales, a preliminary questionnaire is being developed.
3. The expected number of respondents>500
4. Snowball sampling technique has been planned based on the following eligibility criteria:
    - The respondent must have recently participated in sharing economy practice(s)
    - The respondent should be aware about the industry examples of sharing economy

5. The statistical tools planned: SEM & AMOS

FLOW CHART OF RESEARCH DESIGN

Formulation of Research Problem (Defining Research Objectives)

Literature Review

Development of hypothesis

Research Design (Quantitative techniques)

Identify the main constructs to measure

Prepare & validate the conceptual framework

Survey design   Prepare questionnaire   Pretest
Develop sampling plan

Preparation of data   Data collection (N=500)
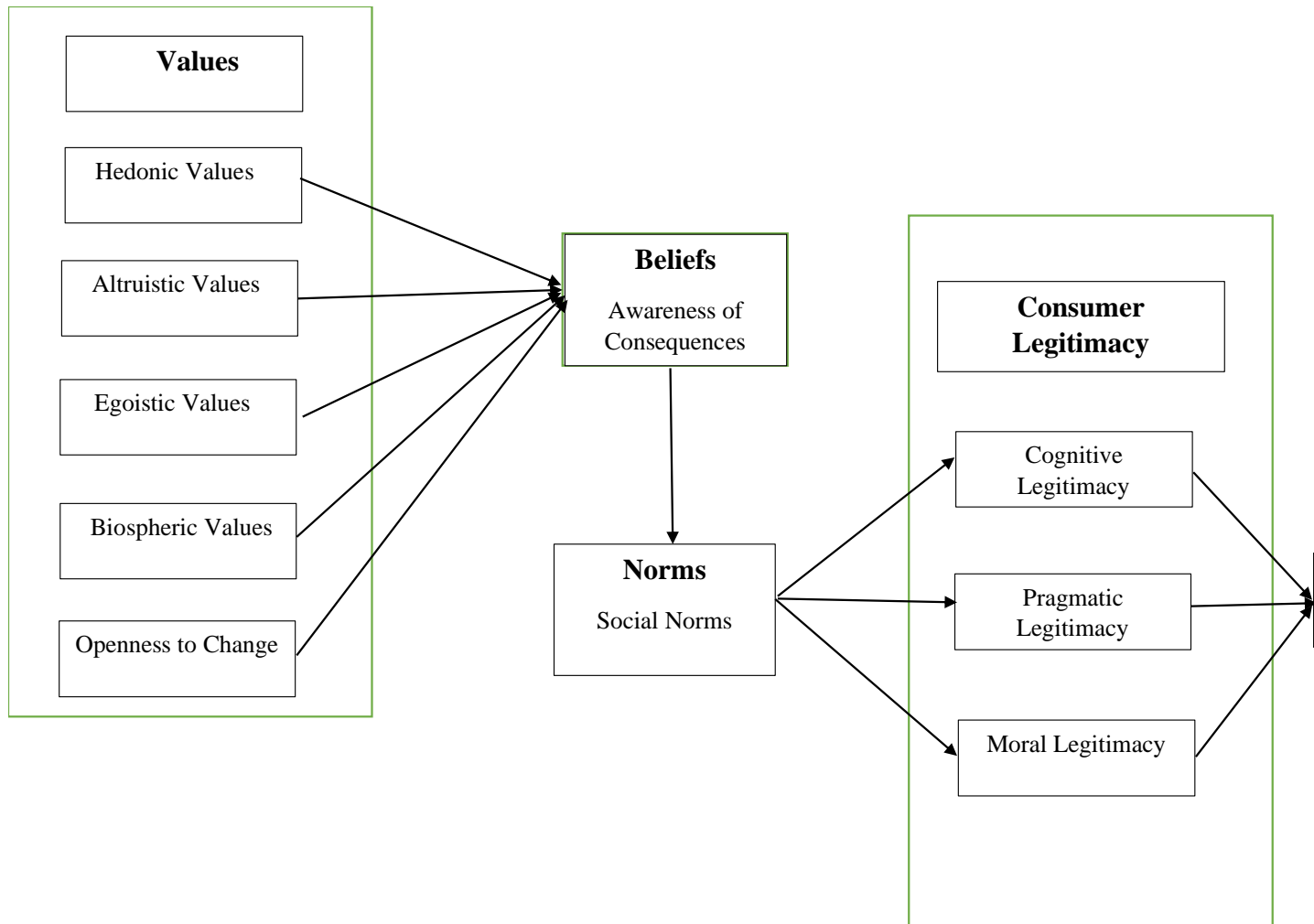Random sampling

 (data entry, coding, validation)
(Cross-sectional)

Analysis (Goodness of fit, hypothesis testing, SEM)
Interpretation & Conclusion

Preliminary Results:

Discussion:

In order to mitigate the 'wicked problems' of resource overconsumption, climate change, unsustainable consumption, economic inequality, and social alienation, we must consider how to influence human behaviour towards being environment-friendly. Therefore, factors influencing human-behaviour are important to study. The extant literature has accepted the environment friendly credentials of the collaborative consumption. The sharing practices discourage individual linear consumption, thereby, promoting the environmentally-sustainable exchange between the participants.

For shared consumption, current values, attitudes, norms, and habitual behaviors are identified as major inhibitors (Barnes & Mattsson, 2016) therefore, we ground our arguments in VBN Theory of Environmentalism.

In our study we posit that a consumer is expected to behave favorably towards the sustainable consumption and is likely to share again if he/she i.e., the consumer has granted the legitimacy to the sharing practice.

Relevance of VBN theory of Environmentalism for studying Consumer Legitimacy & Sustainable consumption behavior:

Several studies (Böcker & Meelen, 2017; Ertz & Leblanc-Proulx, 2018; Michelini et al., 2018) have determined that consumers, present and potential, are increasingly concerned with the effects of their actions on the environment, eco- sustainability, thus, they are more likely to be supportive of collaborative consumption practices. Zhang and Mi (2018) showcased the positive environmental impact of the sharing practices, by empirically proving that in 2016, bike sharing in Shanghai saved 8,358 tonnes of conventional fuel simultaneously, eliminating 25,240 tonnes of carbon dioxide and 64 tonnes of nitrogen oxide emissions. A number of researchers offer predictions, frameworks, and algorithmic models based on the premises of collaborative consumption to create solutions through the networked platforms (Lombardi & Schwabe, 2017; Masoud & Jayakrishnan, 2017; Niu et al., 2018). For example, Kong et al. (2018) highlighted the most effective routes for shared subway and shuttle buses to increase public transportation efficiency. Lombardi and Schwabe (2017) also demonstrated that the sharing economy-based energy storage system model may increase the profitability of operating a battery storage system as compared to the single-use model. Truffer's (2003) study too is focused on the environmental sustainability motivations for participating in this new form of economic models.

Conelley, Ketchen & Slater (2011) have identified Institutional theory as one of the key organizational theories having implications for marketing research on sustainability. Consumer legitimacy is derived from institutional theory. The theory posits that an organization ought to gain legitimacy by adhering to the institutional pressures prevalent in the business environment in order to survive and thrive. In sustainability context they should be aware and respondent to the emerging trends and demands from their stakeholders about the environmental impact of their actions. Jennings and Zandbergen (1995), acclaimed institutional theorists, envisioned sustainability as a "socially constructed concept" whose definitions and methods will evolve over time. Further, the organizations through their practices and policies will be a part of this evolution. The organizations formulating and adhering to the sustainable practices will be leaders in establishing the industry standards. The other organizations will imitate these practices (mimetic isomorphism). For the industry leaders in sustainability, they may derive legitimacy and associated competitive advantage (Conneleey, Ketchen & Slater 2011) whereas the imitating organizations can at best expect competitive parity.

The VBN framework is formulated on value frameworks, and has received substantial recognition since variables like values, beliefs, and norms play an important role in motivating consumers pro-environmental behaviors. Therefore, even when the consumers may have a favorable attitude toward sustainability, they might not understand the behavioral components that contribute to sustainable outcomes (Kagawa 2007), resulting in a gap between knowledge, attitudes, and behaviors (Heeren et al. 2016). Pickett-Baker & Ozaki (2008) and Peattie (2010) contend that even when the consumers state having green preferences, they still refrain from buying sustainable products (4/40 gap). This is due to the attitude-behavior gap since many eco-friendly goods and services are perceived to have lower functional value (Luche et al 2012) (for ex. Range anxiety, restricted speed in Electrical vehicles, costlier than regular products, non-availability during the

time of need etc.) Thereby, leading to trade-off between sustainable behavior and functional values (Olson 2013).

Till date there are not any studies to date that apply the VBN framework to assess sustainability creating values and beliefs towards legitimacy granting behavior among the participants of sustainable consumption. Therefore, we have used VBN in the context of legitimacy-granting behavior leading to selection of appropriate sharing economy practices.

The researchers (Adner, 2017; Autio & Thomas, 2020) posit that higher the number of adopters of a practice, their interrelationship and nature of such relationships, higher is the said practice's acceptance and the greater its legitimacy. As the consumers worldwide gain familiarity with access-based services (Fritze *et al*. 2020) and consequently the sharing economy practices, they appear increasingly willing to legitimize the sharing practices by staying in Airbnb recommended hotels, ride Ola cabs, and share resources and assets over various platforms.

In this study, the authors postulate that the consumers ranking high on pro-environment behavior will grant legitimacy to sustainable consumption practices by choosing to share again i.e. indulge in sustainable consumption behaviour. This, in turn, will lead to higher acceptance levels for these practices within the society in general. In order to increase the acceptance level of the sharing practices, it is important to understand the values which consumers associate with which dimension of legitimacy. For the practitioners, the understanding of consumer legitimacy-granting behavior will ensure that they are able to design their offerings (goods and/or services), communication and marketing strategies to increase the legitimacy dimension which is at low levels. Simultaneously, they can reinforce the legitimacy dimensions ranked on higher scale by the consumer. Thus, our study seeks to answer Eckhardt *et al* (2019) call for studies on how the business practices must adapt in the disruptive business environment.

The study proposes that the hedonic values should be researched as an independent construct in VBN theory separate from Openness to change as initially proposed by Stern *et al* (1999). As deduced from the literature, the hedonic aspects of consumption do influence the values and beliefs towards the norms and behavior. We extend the effect of hedonic values on the acceptance-granting behavior of the consumers, which are further likely to affect their choice of consumption-individual or collaborative. The enjoyment derived from self-driving, freedom of choice, expression of individualism may overcome the need to practice sustainable behavior. Consequently, the hedonic values may negatively affect the legitimacy-granting behavior and reject the sharing practices.

Expected Outcomes

Chapter-1: Introduction

- The data about users of sharing economy models worldwide.
- Economic data of the companies engaged in sharing economy models, their market valuation
- The present and expected monetary value of these business models.

Chapter-2: Literature review

- Explaining and defining the concepts & theories-VBN, consumer legitimacy and sharing economy
- Defining the research problem, research objectives and hypothesis
- A conceptual framework
- Publication in ABDC indexed A or B category journals

Chapter-3 Research methodology

- Selection of the most appropriate Quantitative technique for research purposes
- Development of research tool i.e questionnaire
- Validation of the questionnaire
- Getting the responses from eligible 500+ respondents

Chapter-4 Results and Analysis

- The questionnaires will be analyzed
- The analysis will yield the results showcasing the effect of values on belief which further affect the norms. How these lead to granting of legitimacy to pro-environment behavior in the form of likelihood to share again
- The hedonic value will be an important factor in determining the legitimacy to sustainable consumption
- The three dimensions of consumer legitimacy will have a positive impact on sustainable consumption in the form of likelihood to share again
- The VBN Theory of Environmentalism will be established as a theoretical base for studying sustainable consumption as Pro-environment behavior

    Chapter-5 Implications

- The sharing economy literature will be expanded by this study since these research problems have not been studied in detail yet
- The industry practitioners will understand the influence exerted by the consumer's value systems towards their acceptance of different business models.

Chapter-6 Conclusion

- The findings will be summarized
- The limitations of the study will be mentioned
- The future research areas will be discussed

Expected timelines:

Task	Sept 1-30	Oct 01-15	Oct 16-31	Nov 01-15	Nov 16-30	Dec 01-15	Dec 16-31	Jan 01-15	Jan 16-31
Literature Review	✓	✓							
Questionnaire/Survey Instrument development	✓								
Validation of questionnaire		✓							
Pre-testing/Pilot study			✓						
Responses/survey				✓	✓	✓			
Writing the RM			✓						
Collating & analyzing the data							✓		
Results							✓		
Writing the thesis							✓	✓	
Submission									✓

Scope of future work:

Post doctorate the work has value in academic and practice fields. In academia the understanding of how the consumer grant legitimacy to various forms of collaborative consumption can lead to better understanding of consumer behavior. The study can act as a platform on which the consumers motivations, beliefs and behavior can be further studied in the context of different types of sharing economy. The scholars and academicians can validate the study results in different economic, social and national contexts. A cross-country study, in collaboration with the research scholars from other countries will be an interesting addition to the sharing economy literature since the laws regulating the collaborative consumption practices differ in each country. Further, the varies socio-economic conditions of these countries, the difference in demographic structure, consumer's needs and their expectations will add rich data to the collaborative consumption literature.

The practitioners can validate their business models based on the work done in the study. For industry practitioners understanding the consumers norms (personal & social), their belief and values towards acceptance of the sharing economy models will assist in planning their marketing campaigns accordingly. Further, the study can be used by service marketing organizations to understand the underlying consumer behavior towards their offered services. The organizations will understand the most important factor driving the consumer acceptance towards their business model and in the event of service failure, should be able to focus on those factors. For the

entrepreneurs planning to start the business in collaborative consumption domain, the study will guide them to emphasize on the crucial elements of consumer legitimacy granting behavior.

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Appendix A

Published a Qualitative Study to Understand the Factors Affecting the Adoption of GFRG in Construction Innovation: Information, Process, Management- ABDC Indexed- 'B' category- Emerald Journal (Cite score: 3.6)
Co-authored "Effect of Trusting Beliefs in Online Platforms during Crisis times". Published in SAJM- an ABDC indexed 'C' category &UGC listed journal.
Co-authored "Today's Digital Natives: An exploratory study on students engagement & satisfaction towards virtual classes amid Covid-19 pandemic", accepted for publication in International Journal of Information & Learning Technology- Scopus Indexed Emerald Journal
Exploration of Retail Design in Integrated Bricks & Clicks Environment (1st author) in Materials Today: Proceedings- Scopus Indexed Elsevier Journal (Cite score:1.3)
Case study: "Senior Citizen Homes: Search for a Viable Business Model" (1st author) published in Emerging Economies Case Journal- IIM Rohtak- Sage Publishers case study journal.
Case study Pepperfry: Challenges Ahead with Growing Competition in the Indian Home Furnishings Market (1st author) was published in Sage Business Cases
Co-authored "Employee Satisfaction of Shop Floor Workers in Modern Indian Retail Stores" published in Orissa Journal of Commerce indexed in UGC-Care-1
Co-authored "Opportunities and challenges for HR Managers in relation with the shop floor employees of Multi Brand retail companies in India" published in UGC-Care-1 indexed journal
Published Abundantly Rare: Changing Consumer Trends in the Luxury Market (1st author) - book chapter in Bloomsbury Publishers book
Co-authored (1st author) of "Do service robots create consumer citizenship behavior in luxury hospitality services?" submitted to Journal of Hospitality & Tourism Technology, ABDC-B category, Scopus, WoS indexed journal. Reviews received. Will submit the revised version by Sept -end
Co-authored "Factors affecting the adoption of Electric Vehicles in India: An exploratory study" submitted to Transportation Research Part D- An 'A' category ABDC indexed journal. 3rd round of reviews received. Submitted the revised version.

Appendix B

S. No.	Date	Conference/Workshop Name	Paper Presented
01.	12-14 Dec 2019	7th Pan IIM World Management Conference	Poster: PPP model of Development- Development of NOIDA
02.	Jan 2020	IBA-Markcon (Bengaluru)	Exploration of retail design in integrated bricks & clicks environment
03.	Jan 2020	VINC- ICSGR 2020 by Vivekananda Institute of Professional Studies (VIPS), Delhi	Role of Retailers in Influencing Digital Natives towards sustainable fashion products
04.	Jan 2020	BMU-INDAM workshop	NA
	Feb 2020	Attended 1-day case study writing workshop organized by BIMTECH	
05.	April 2020	WAIMS (Online)	The Unchartered boundaries of Sharing Economy
06.	June 2020	Attended 1-day FDP on "How to be an effective online Educator" organized by Sri Sri University	
07.	Nov 2020	Completed online Swayam/NPTEL course on E-business	
08.	Feb 2021	Attended 1 day workshop on Mendeley	
09.	April 2021	Asian Development Bank Institution's e-course on Leveraging Services for Development: Prospects & Policies	
10.	May 2021	Online 3- day workshop on Nvivo	
11.	May 2021	Co-presented paper at 5th AMI Conference organized by Cardiff Metropolitan University (UK)	Exploring the Role of Gender in Promoting Work from Anywhere in New Normal
12.	July-Aug 2021	Attended 5- Day workshop on ARM by BML Munjal University	
13.	June 2021	Attended 6-day AIM AMA Sheth Foundation Doctorial Consortium	Discussed my thesis framework
14.	July 2021	Participated in Conscious Capitalism Simulation Competition	Came 3rd out of 19 teams

Appendix C

PhD Coursework details

S. No.	Course Name	Marks
01.	Teaching Pedagogy for Management Teachers	A
02.	Basic Statistics & Research Methodology	B
03.	Advance Research Methodology	C+
04.	Critical Literature Review & Academic Writing	C

ANNEXURE-II

Change of supervisor because of resign & reliving of Dr Surya Prakash.

Anirban Chakraborti <anirban.chakraborti@bmu.edu.in>   29 December 2021 at 15:53
To: AK Prasada Rao <prasadd.ayyagari@bmu.edu.in>
Cc: Registrar BMU <registrar@bmu.edu.in>

Approved.

On Wed, Dec 29, 2021 at 1:29 PM AK Prasada Rao <prasadd.ayyagari@bmu.edu.in> wrote:
Dear Sir,

Request your approval on the eligibility of Dr Ranbir Singh as a PhD supervisor, Referring to our meeting today.

Thank you
warm regards
Prasadd

On Tue, 28 Dec 2021, 13:09 Registrar BMU, <registrar@bmu.edu.in> wrote:
Request this may be decided at the earliest in compliance with UGC revised guidelines.

Regards,

Abhay

On Thu, Dec 23, 2021 at 12:53 PM AK Prasada Rao <prasadd.ayyagari@bmu.edu.in> wrote:
Dear Sir,

Referring to the trailing e-mail, please find the publications (one journal & one book chapter), UGC gazette with minimum eligibility criteria for allocation of a PhD supervisor (clause 6.1).

Kindly suggest.

Keep safe
warm regards
Prasadd

Dr. A.K. Prasada Rao, PhD (IITKgp)
Professor & Associate Dean Doctoral Programs
BML Munjal University (A Hero group Initiative),
Gurugaon dist., Haryana - 122413
+91 - 8295 96 3823

https://scholar.google.com/citations?hl=en&user=Dfr16RgAAAAJ&view_op=list_works
https://orcid.org/0000-0002-0422-6758
Official webpage

On Tue, 21 Dec 2021 at 18:54, AK Prasada Rao <prasadd.ayyagari@bmu.edu.in> wrote:
Dear Sir,

Referring to the allocation of the new PhD supervisor for Mr. Vijay Prakash Sharma, the following minimum eligibility criteria stated by UGC doesn't seem to be fulfilled as the proposed supervisor has only one publication in a refereed journal and another as a book chapter. Further, no justification is provided stating that there are no journals in the domain of Supply-Chain Management (PhD research area).

6.   **Allocation of Research Supervisor:** Eligibility criteria to be a Research Supervisor, Co- Supervisor, Number of M.Phil./Ph.D. scholars permissible per Supervisor, etc.

6.1   Any regular Professor of the University/Institution Deemed to be a University/College with at least five research publications in refereed journals and any regular Associate/Assistant Professor of the university/institution deemed to be a university/college with a Ph.D. degree and at least two research publications in refereed journals may be recognized as Research Supervisor.

Provided that in areas/disciplines where there is no or only a limited number of refereed journals, the Institution may relax the above condition for recognition of a person as Research Supervisor with reasons recorded in writing.

Therefore, request your kind suggestion in this regard.

Keep safe
warm regards
Prasadd

Dr. A.K. Prasada Rao, PhD (IITKgp)
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https://scholar.google.com/citations?hl=en&user=Dfr16RgAAAAJ&view_op=list_works
https://orcid.org/0000-0002-0422-6758
Official webpage

On Tue, 30 Nov 2021 at 07:24, Vijay PrakashSharma <vijay.prakashsharma.19pd@bmu.edu.in> wrote:
Dear Sir/ Madam,
I Vijay Prakash Sharma (ID- 192C6010001), registered as a full-time Ph.D. scholar in Mechanical Engineering, School of Engineering & Technology at BML Munjal University from July 2019 under the supervision of Dr. Surya Prakash.
Dr. Surya Prakash has resigned and has been relieved from the official duties at BMU recently. As the statuary requirement of the PHD ordinance/ requirements of the university, the main supervisor needs to be from the University.
After discussion with Dr. Surya Prakash & Dr. Ranbir Singh I proposed Dr. Ranbir Singh, SoET (ME), BMU as my main supervisor. The RPEC members have accepted my proposal in the meeting held on 21 Nov. 2021.
Note: Relevant documents and approval form are attached herewith
1. Cover letter
2. Supervisor Change approval
3. Progress report

--
Warm Regards
Vijay Prakash Sharma
Research Scholar
ME Dept. SOET
BML Munjal University Gurgaon

BML MUNJAL UNIVERSITY

1. Name of Ph.D. candidate   :   **VIJAY PRAKASH SHARMA**

2. School/ Department/Centre   :   **SOET (MECHANICAL ENGINEERING)**

3. Date of Registration   :   **05 JULY 2019**

4. Category   :   **FULL TIME**

5. Proposed Area of Research   :   **INDUSTRY 4.0 TECHNOLOGY DIFFUSION IN LOGISTICS**

   MANAGEMENT FOR EFFICIENT LAST MILE DELIVERY

6. Name, Designation, Department/Organization of Supervisor(s)

   (i) Supervisor   : **Dr. RANBIR SINGH**   Designation   : **Assistant Professor**

   Affiliation   : **BML MUNJAL UNIVERSITY**   Date of Retirement: NA..........................

   (ii) Co-Supervisor-1: ......Not.... Applicable... Designation: ....

   Affiliation: .... Date of Retirement: ....

   (iii) Co-Supervisor-2 (outside BMU, if any): ....Not.... Applicable...............................

   Designation: .... Organization: ....

   (**Note 1:** Consent of supervisor and NOC from Organization are mandatory, if Supervisor is from outside BMU.)

7. Specified research role of supervision in case of Joint Supervision
   (Attach separate sheet with proper justification if required) (To be filled by the proposed supervisor(s))

   VPSharma

   Signature of Ph.D. Student

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8.   Particulars of Proposed Supervisor(s) (To be filled by the proposed supervisor(s)):

DECLARATION: I/ we agree to supervise the above Doctoral student and hereby confirm that I/ we fulfil the eligibility criteria as prescribed in section 6 of University Grants Commission (Minimum Standards and Procedure for Award of M.PHIL./PH.D Degrees) Regulations, 2016 notified in The Gazette of India [No. 278, Part III- Section 4] on 5 July 2016 and Doctoral Programmes Regulations 2020, BML Munjal University [Ref No: BMU/RO/2020/653; Dated: November 17, 2020].

Name & Designation	No. of students being supervised as on date including candidate(s) of other institution(s), excluding this Student						Signature of Supervisor (s)
	Single			Jointly			
	With BMU Fellowship	Without BMU Fellowship	Other Institution(s)	With BMU Fellowship	Without BMU Fellowship	Other Institution(s)	
Dr. Ranbir Singh Assistant Professor (Mechanical Engineering)	✔	—	—	—	—	—	*Rgh.*

(signature) 29/Nov/2021

Signature of the Associate Dean Doctoral Programs

For use of the office of Dean of school only

APPROVED/ NOT APPROVED
(Remarks if NOT Approved)

Anirban Chakraborty

Signature of the Dean of School/Dean (Research)
Date: 29/11/2021

DR. RANBIR SINGH

Ph.D. (Mech. Engg.) **M. Tech.** (Mft. Tech. & Automation) **B. Tech** (Mech. Engg.)

Assistant Professor
Department of Mechanical Engineering
School of Engineering & Technology
BML Munjal University (a hero group initiative)
Sidhrawali, Gurgaon, Haryana, India-122413
ranbirsheoran@gmail.com
+91 9813043366/ +91 9812312052

CARRIER OVERVIEW: *having a rich teaching cum industrial experience of over* **15** *years with professional certifications from renounced institutions/ universities. Expertise in design, drawing, documentation, technical reports, 3-d modeling, automation, PLC Programming, instrumentation, mechatronics, project management, Production Planning & Control, IoT, AI, Machine Learning. Started Professional career as Engineer with TRATEC Engineers Pvt. Ltd. Gurgaon, Haryana India in Jan 2006, & worked there for over* **4 years** *in Design and R & D after passing* **B. Tech** *in Mechanical Engineering in May 2006 (72%-2002-2006 - MDU Rohtak, Haryana, India). Thereafter passed* **M. Tech** *in Manufacturing Technology & Automation from MDU Rohtak in 2010 & regular* **Ph. D.** *in Mechanical Engineering from DCRUST Murthal, Sonepat, Haryana in April 2016. Presently working with* **BML Munjal University,** *Gurgaon, Haryana, India (a* **hero group** *venture) as Assistant* **Professor** *in* **School of Engineering & Technology** *(Department of Mechanical Engineering) since* **1st June 2016** *& teaching subjects like Automation with PLC, Mechatronics, Industrial Instrumentation, Production Planning & control, Engineering Drawing, CAD, Design, Industrial Hydraulics & Metrology.*

DR. RANBIR SINGH

11-C, Faculty Housing Complex
BML Munjal University
67 km milestone, NH-8, Sidhrawali
Gurgaon, Haryana, India-122413

ranbirsheoran@gmail.com

+91 9813043366
+91 9812312052

OBJECTIVE: *deliver engineering excellence with continuous personal & professional efforts for self and organizational growth in Engineering - Technology & business.*

SKILLS: *CAD (Auto-CAD, Solid works, Auto-Desk Inventor, Fusion 360, NX, Rhino etc.), CAM (CNC programming) CAE (FEA with Ansys, NX & Adams), MatLab, Design, Drawing,* **Industrial Instrumentation, IoT (work with Arduino, NodeMCU, Raspberry Pi), Machine Learning, Data Analytics, Automation with PLC, Mechatronics, Hydraulics, Pneumatics,** *Windows (XP, 2002, 2007, 2008, 2010) Mac X, RTOS, Raspbian, IDEs (Arduino), MS office (word, excel, power-point, publisher etc.)*

EXPERIENCE

ASSISTANT PROFESSOR: Mechanical Engineering Department,
(01-06-2016 to till date) School of Engineering & Technology
BML Munjal University, Gurgaon
Haryana, **India** - 122413
Teach & train students with experiential learning philosophy to nurture them for readily acceptability in industry, academia & research by teaching subjects like Engineering Drawing with AutoCAD, Automation with PLC, Mechatronics, Industrial Instrumentation, Production Planning & Control etc.

RESEARCH SCHOLAR: Mechanical engineering department,
(2012 to 2016) DCRUST Murthal, Sonepat, Hryana, **India** – 131039
Regular reaserch scholar in Mechanical Engineering Department at DCRUST Murthal with scholarship.

ASSISTANT PROFESSOR: Mechanical engineering department,
(2010 to 2012) BRCM College of Engineering & Technology
Bahal, Bhiwani, Haryana, **India** - 127021

DESIGN CONSULTANCY.: TRATEC Engineers Pvt. Ltd,
(2012 to 2016) Sohna road, Gurgaon, Haryana, India

ASSTT. MANAGER: TRATEC Engineers Pvt. Ltd. (Engineer to Asstt. Mgr.)
(2006 TO 2010) Sohna road, Gurgaon, Haryana, India
Design of general & special purpose trailers semi-trailers [flat bed, well bed, low bed & ramp bed trailers with mechanical, hydraulic & pneumatic suspension having steerable & non-steerable trailers with live & dead gooseneck] modular trailers & structural work (spreader beam, girder bridge) for construction & transportation industries (drawings, models, design reports & other documentation, FEA, prototype testing & project planning & management)

PICS OF SOME OF ENGINEERED PRODUCTS

Hydraulic Modular trailers

Live (collapsible) gooseneck

Girder Bridge

Telescopic beam

Blade carrier with telescopic chassis

Joining structures

Multiple Axle Steering

View of shop floor manufacturing

PROJECTS UNDERTAKEN: *Global Modular trailer & structures for joining modules; spreader beams & telescopic beams; trailers & running gears with leaf spring, pneumatic and hydraulic suspension; well bed, Flat-bed, Low bed & ramp trailer, steered & non-steered trailers with dead and live goosenecks, container carriers, coil carrier, blade carriers, trailers with steerable axles and telescopic chassis structures*

EDUCATION

Ph. D. Mechanical Engineering (**Awarded in Dec,2016**) from Deenbandhu Chhotu Ram University of Science & Technology, Murthal, Sonepat-131039, Haryana

M.Tech. Manufacturing Technology & Automation (Mechanical engineering) (**Aug,2008-May,2010**)

B.Tech. Mechanical engineering (**July,2002-May,2006**)

12th Physics, Chemistry, Math's, English, Physical Education, Biology (**May,2002**)

10th Math's, Science, Social Science, English, Hindi (**May,2000**)

AREA OF EXPERTISE

- Design, Documentation & presentation
- Teaching & Training
- CAD-CAM- CAE
- Automation
- Mechatronics & Industrial Instrumentation
- IoT & Machine learning & Data Analytics

TRAININGS

Attended several training programmes, FDPs, workshops, seminars, webinars on:

- CAD-CAM-CAE software's
- Automation, Mechatronics, Instrumentation, Hydraulics & Pneumatics
- IoT, Machine Learning, Data Analytics

STRENGTH

- Honest & Hard Working
- Experiential learning approach
- Deterministic with Positive attitude
- Leadership and Management qualities
- Teaching-Learning adaptability
- Excellent computer and programming skills

SOFT SKILLS

- **MS office** – word, excel, power point, publisher, etc.
- **Drawing & Drafting software's**: AutoCAD, Solid works, Autodesk inventor, Siemens NX, CNC programming
- **Analysis software's**: Ansys, Abaques, Phast, Aloha. Mat-lab
- **Automation:** PLC programming (ladder logic), Instrumentation, mechatronics, IoT, ML, Data Analytics

SUBJECTS TAUGHT

- Engineering Graphics & Drawing (with & without AutoCAD), Machine Drawing, CAD, CAM
- Automation with PLC, Mechatronics, Hydraulics & Pneumatics, Measurement & Instrumentation
- Workshop Practice, Manufacturing Technology, Metrology, Production Planning & Control
- Prepared to teach IoT, ML, Data Analysis, Electrical Vehicle Technology

ORGANIZING SKILLS

- Organized a day workshop on "Green Initiatives & Challenges in Light Weight Materials Production & Applications" at BML Munjal University, Sidhrawali, Gurgaon, Haryana on 7th April, 2017.
- Organized a day workshop on "Innovations, Sustainable Manufacturing & Operation Management for Make in India" at BML Munjal University, Sidhrawali, Gurgaon, Haryana on 20th January, 2017.
- Successfully organised a two weeks ISTE sponsored workshop at DCRUST Murthal, Sonepat (Haryana) on Fluid Mechanics conducted by Indian Institute of Technology Kharagpur from 20th to 30th May, 2014 under the National Mission on Education through ICT (MHRD).
- Organized three days ISTE sponsored National workshop on 'Engineering Drawing – the Language of Engineers' as co-convener from 23rd to 25th September, 2011 in the Department of Mechanical Engineering at BRCM College of Engineering & Technology, Bahal, Bhiwani (Haryana).
- Organized three days ISTE sponsored National workshop on 'Computer Aided Technologies (CA-x)' as co-convener from 4th to 6th March, 2011 in the Department of Mechanical Engineering at BRCM College of Engineering & Technology, Bahal, Bhiwani (Haryana).

WEBINARS/ EXPERT LECTURES DELIVERY

- Delivered Expert Lecture on "Computer Aided Technologies for Design, Manufacturing and Planning for Industrial Automation" in International Symposium on "Advanced Manufacturing and Materials Engineering" at Department of Mechanical Engineering, Nawab Shah Alam Khan College of Engineering & Technology Hyderabad
- Delivered two-week Training on "Smart Manufacturing - Automation with PLC" to Choice solution from 1st Feb to 12th Feb 2021.
- Delivered 2 hours Webinar on "Feasibility Study for Automation" to ACMA on Tuesday, February 23, 2021 3:00 pm to 5:00 pm
- Delivered 2 hours Webinar on "Factory Automation Using PLC's" to ACMA on Thursday, Mar 25, 2021 from 3:00 pm to 5:00 pm

WORKSHOPS

- Participated in a one week workshop on 'The Power of MATLAB' organized by Department of Electronics & Communication Engineering, DCRUST Murthal, India held on 22-26 July, 2013.

- Participated in a two weeks ISTE workshop at DCRUST Murthal, Sonepat (Haryana) on 'Engineering Thermodynamics' conducted by Indian Institute of Technology Bombay from 11th to 21st December, 2012 under the National Mission on Education through ICT (MHRD).
- Participated in a two-day's workshop on 'Recent analytical developments in applied sciences' held at Central Instrumentation Laboratory, DCRUST Murthal, India held on 13-14 August, 2012.
- Attended 15 day's workshop on 'solid works at IDS design solutions, sector-14, Gurgaon from 2nd February to 17 February, 2008.

SHORT TERM COURSES

- Participated in a TEQIP sponsored short term course on 'Advanced Energy and thermal Systems' organized by Department of Mechanical Engineering, DCRUST Murthal, India held on 02-07 January, 2014.

FACULTY DEVELOPMENT PROGRAMS

- Participated in a TEQIP sponsored one week Faculty Development Programme on 'Advances in Manufacturing: Challenges & Opportunities' organized by Department of Mechanical Engineering, DCRUST Murthal, India held on 18-22 November, 2016.
- Participated in a TEQIP sponsored one week Faculty Development Programme on 'Recent Research Trends in Industrial and Manufacturing Engineering' conducted by Department of Mechanical Engineering, DCRUST Murthal, India held from 13-17 April, 2015.
- Participated in a TEQIP sponsored one week Faculty Development Programme on 'Computational Techniques and Research Methodology' organized by Department of Mechanical Engineering, DCRUST Murthal, India held on 24-28 September, 2013.

BOOK CHAPTER PUBLICATION

- R. Singh, A. K. Dash, R. Kumar, A. Bewoor and A. Kumar, "Chapter 12: Internet of Things powered Artificial Intelligence using Microsoft Azure Platform," in Artificial Intelligence: Fundamentals and Applications (1st Edition), C. Bhargava and P. K. Sharma, Eds., CRC Press, July 5, 2021, ISBN 9780367559700.
- A. K. Dash, M. K. Pradhan & R. Singh, 'Application of computational Analysis for Risk assessment of chlorine gas from tank in chlorine production Unit: A Case study', Advances in Fire and Process Safety, edited by, Prof. Dr. N. A. Siddiqui, Prof. Dr. S. M. Tauseef, Prof. Dr. S. A. Abbasi & Prof. Dr. Ali S. Rangwala, Springer Singapore, Print ISBN: 978-981-10-7280-2, Electronic ISBN: 978-981-10-7281-9.

PUBL. IN INTERNATIONAL CONFERENCES

1. Dr A. K. Dash, Dr. M. K. Pradhan & Dr. R. Singh, "Application of computational Analysis for Risk assessment of chlorine gas from tank in chlorine production Unit: A Case study", International Conference on Advances in the Field of Health, Safety, Fire, Environment, Allied Sciences and Engineering (HSFEA 2016), 18-19 Nov'2016, University of Petroleum and Energy Studies, Dehradun, INDIA
2. Ranbir Singh, Rajender Singh & B. K. Khan, "A Review of Machine Loading Objectives and Optimization Techniques in Flexible Manufacturing Systems", 3rd International Conference on Production and Industrial Engineering CPIE-2013, March 29-31, 2013, PP- 834-844, NIT Jalandhar, India.
3. Meena Choudhary, Ranbir Singh, Sukhbir Singh, & Kanwarpal, "Simulated Study of feasibility & design of 10kWp of SPV", 2nd International Conference on Evolution in Science & Technology & Eyes on Educational Methodologies, March 3-4, 2013, ESTEEM-2013, pp. 405-411, PPIMT, Hissar (India).
4. Ranbir Singh, Rajender Singh & B. K. Khan, "Manufacturing Trends in Loading and Unloading of Machines in Flexible Manufacturing Systems", Proceedings of the 3rd National Conference on Recent Advances in Manufacturing (RAM-2012) ISBN: 978- ISBN: 978-93-5067-338-6, 27 – 29 June, 2012, pp- 95-101, Sardar Vallabhai National Institute of Technology Surat-395007, Gujarat, India.
5. Gaurav Mehta, Nabi Hasan & Ranbir Singh, "Application of Fuzzy Logic in Braking System", Recent Advances in Engineering Technology and Environmental Issues, 22-24 Feb'2012, PP. 307-310, Jan Nayak Ch. Devilal Memorial College of Engineering, Sirsa, India.

PUBLICATIONS IN INTERNATIONAL JOURNALS

1   Gaurav Kumar Badhotiya, Vijay Sharma, Surya Prakash, Vinayak Kalluri & Ranbir Singh (2021), Investigation and assessment of blockchain technology adoption in the pharmaceutical supply chain, Materials Today: Proceedings.

2   Ranbir Singh, Rajender Singh & B. K. Khan, Meta-hierarchical-heuristic-mathematical- model of loading problems in flexible manufacturing system for development of an intelligent approach, International Journal of Industrial Engineering Computations, Volume 7 Issue 2 pp. 177-190, 2016

3   Ranbir Singh, Rajender Singh & B. K. Khan, A Review of Modelling Techniques for Loading Problems in Flexible Manufacturing System, Global Journal of Researches in Engineering: A – Mechanical and Mechanics Engineering, Volume 15 Issue 1, pp 23-36, 2015, Publisher: Global Journals Inc. (USA) Online ISSN:2249-4596, Print ISSN:0975-5861

4   Ranbir Singh, Rajender Singh and B. K. Khan, A Critical Review of Machine Loading Problem in Flexible Manufacturing System, World Journal of Engineering and Technology, 3, 271-290, 2015. http://dx.doi.org/10.4236/wjet.2015.34028

5   Ranbir Singh, Rajender Singh & B. K. Khan, "Manufacturing Trends in Loading & Unloading of Machines in Flexible Manufacturing Systems", Journal of Manufacturing Engineering. September, 2012, Vol. 7, Issue- 3, pp 277-283.

6   Ranbir Singh, Sandeep Phogat & Kanwarpal, Analytical Evaluation of Steering Errors in a Front Wheel Steered Vehicle, International Journal of Mechanics and Solids, Volume 9, Number 1 (2017), pp. 53-59, ISSN 0973-1881

7   Kanwarpal Singh, Sandeep Phogat & Ranbir Singh, Experimental Analysis of Surface Roughness and Machinability Parameters of Al base Alloys with Material Additives (Fe-Si), International Journal of Materials Science, Volume 12, Number 1 (2017), pp. 57-65, ISSN 0973-4589

8   Kanwarpal Singh, Sandeep phogat & Ranbir Singh, Effect of addition of Fe-Si on Mechanical and Metallurgical Behaviuor of Al Powder Metallurgy (PM) Product, International Journal of Materials Science, Volume 12, Number 1 (2017), pp. 67-72, ISSN 0973-4589

9   Sandeep Phogat, Kanwarpal, Dr. Ranbir Singh, Experimental study of Effect of Process Parameter of GMAW Welding on Mechanical Properties and Microstructure of Steel (SAILMA 350 HI), International Journal of Theoretical and Applied Mechanics, Volume 12, Number 1 (2017) pp. 113-123, ISSN 0973-6085

10 Ranbir Singh, Sandeep Phogat, Kanwarpal, Intelligent Approach for Balancing of Workload on Machines for Loading of Machines in Manufacturing, International Journal of Theoretical and Applied Mechanics, Volume 12, Number 1 (2017) pp. 125-134, ISSN 0973-6085

11 Sandeep Phogat, Dr. Ranbir Singh & Kanwarpal, Review on Elements for Just in Time Implementation in Indian Service Sector, International Journal of Theoretical and Applied Mechanics, Volume 12, Number 1 (2017) pp. 103-111, ISSN 0973-6085

PATIENTS

- **A condyle Tibial fracture fixation system** with application number 201811031534 on 23/08/2018
- **Tether tension monitoring system** with application number 202011057063 dated 29/12/2020
- **Automated alert system for fuel tankers** with application number 202011057060 dated 29/12/2020
- **Modular Electric Axle for Vehicles** with application number IN202111030791 dated 09/07/2021

DECLARATION

I hereby declare that the above-mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above-mentioned.

07-09-2021   Dr. Ranbir Singh

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Annexure-9

(MoM: 1ˢᵗ Meeting of Research Advisory Board) held on March 28, 2022

17ᵗʰ Meeting of Academic Council BML Munjal University, Gurugram

1st Research Advisory Board (RAB) Meeting: Minutes
BML Munjal University, Sidhrawali, Gurgaon-122413
3:15 PM - 4:15 PM, Monday, 28th March 2022

Meeting Agenda

Sr. No.	Agenda Item	Remarks	Time
1.	Joining the meeting	All Members	3:15 PM
2.	Introduction and Opening remarks	Prof. Anirban Chakraborti, Dean Research	3:15-3:20 PM
3.	BML Munjal University Research Vision and Mission	Prof. Manoj Arora, Chairman	3:20-3:25 PM
4.	Research Activities at BML Munjal University	All Deans of constituent schools and faculty from BML Munjal University (2 min each)	3:25-3:45 PM
5.	Inputs by External Expert Members	External Expert Members	3:45-3:58 PM
6.	Closing Remarks	Member Secretary	3:58-4:00 PM

1st Research Advisory Board Meeting was held on Monday, March 28, 2022, at 03:15 PM in hybrid mode (online/offline) from the Board Room, First Floor, Gateway Building (Block- A), BMU Campus, 67th Milestone, NH-8, Sidhrawali, Gurugram, Haryana – 122413.

The following were present during meeting

1. **Chairperson**:

   Prof. Manoj K. Arora, Vice Chancellor - BMU

2. **Members**:

   ➢ Prof. Anirban Chakraborti, Dean SoET & Dean Research, Member

   ➢ Prof. Pritam Baruah, Dean SoM, Member

   ➢ Prof. Jaskiran Arora, Dean SoL, Member

   ➢ Prof. A. K. Prassad Rao, Professor SoET

   ➢ Dr. Sushil Chandra, Professor of Practice SoET

➢ Dr. Ritu Chhikara, Associate Professor SoM, Member

➢ Dr. Sarabjot Singh Anand, Director CSE-SoET, Member

➢ Dr. Nandita Chaudhary, Professor of Practice SoET, Member

➢ Dr. Anusree Paul, Associate Professor SoM, Member

➢ Mr. Abhay Sharma, Registrar BMU, Member

➢ Ms. Suneet Soni, CoE BMU, Member

➢ Dr. Lovekesh Vig, Principal Scientist TCS Research, Member

➢ Prof. Raghunath Bhattacharya, Adjunct Professor IIEST, Shibpur, Member

➢ Mr. Rakesh Sharma, Member

➢ Dr. Ashwa Ghosh Ganju, Member

➢ Prof. B. R. Mehta, Member

➢ Dr. Abhimanyu Singh Rana, Associate Professor SoET, Member Secretary

3. **Special Invitees:**

➢ Mr. Davinder Singh, Associate Professor SoM

➢ Dr. Deepak Pandit, Chair Professor SoM

➢ Mr. Satyendra Singh, Chief Executive Officer-TBI at IISER Mohali

The following members could not attend the meeting due to prior commitments.

➢ Dr. Sanmitra Barman, Associate Professor SoET, Member

Quorum was established and the Research Advisory Board meeting commenced. Leave of absence was granted to the members who could not attend the meeting due to their prior commitments.

Agenda # 1: Joining the meeting

Members joined the meeting in hybrid mode. Chairperson and 11 internal members joined physically from Board Room, First Floor, Gateway Building (Block- A), other members joined through google meeting using the link https://meet.google.com/xdg-hmpf-ivd

Agenda # 2: Introduction and Opening Remarks

Meeting commenced with the welcome address by Prof. Anirban Chakraborti [Dean - Research]. Prof. Anirban greeted all members on joining the first RAB meeting. Prof. Anirban

then briefly outlined the agenda of the meeting, and invited Hon'ble Vice-chancellor and the Chairperson, Prof. Manoj K. Arora to address the RAB.

Agenda # 3: BML Munjal University Research Vision and Mission

Prof. Arora welcomed the External and Internal members and gave a comprehensive overview on the research vision and the mission of BML Munjal University (BMU).

Agenda # 4: Research Activities at BML Munjal University

All deans of schools followed by other internal members gave an overview of the research initiatives taken at different school levels and at the Centre of Excellence.

Agenda # 5: Inputs by External Expert Members

All external members gave their own research background and appreciated the interdisciplinary approach of research at BMU.

Agenda # 5: Closing Remarks

All members agreed to meet in physical mode and the meeting is to be planned in the month of May. The 1st RAB meeting concluded with Vote of Thanks.

Prof. Manoj K. Arora

Chairperson, Research Advisory Board

(Vice Chancellor)

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Annexure-10

(Revision in Programme Structure)
MBA Executive Programme

17th Meeting of Academic Council
BML Munjal University, Gurugram

MBA (Executive) 2021-23

Module	MBA Executive Subject	Credit	TOTAL Hours
1	Managing and Developing People (OB)	2	20
	Management Science	2	20
	Managerial Economics	2	20
	Communication, Presentation and Negotiation Skills	2	20
	Online Tutorial - Research	3	30
		11	110
2	Macro Economics & Business Environment	2	20
	Marketing and Consumer Behaviour	2	20
	Organization Structure and Design	2	20
	Financial Reporting and Analysis	3	30
	Online Tutorial -Statistics	3	30
		12	120
3	Managing Operations and Supply Chain	2	20
	Managing Financial Resources	3	30
	Statistics for Management	3	30
	Cost and Management Accounting for Profitability	2	20
	Marketing Products and Services	2	20
	Choice Based MOOCs(1)	3	30
		15	150
4	Bringing Ideas to Market	2	20
	Managing Stakeholders and Legal Processes	2	20
	Strategic Management	2	20
	Business Ethics and Corporate Governance	2	20
	Data Analysis & Interpretation using SPSS/R	2	20
	Choice Based MOOCs(1)	3	30
		13	130
5	Leadership and Corporate Transformation	2	20
	Business Models and Intellectual Property	2	20
	Competing in a Global Economy	2	20
	Design Thinking	2	20
	Operations Research	2	20
	Choice Based MOOCS(1)	6	60
		16	160
6	Digital And Social Marketing	2	20
	Business Process Reengineering	2	20
	Designing organization for Performance	2	20
	Performance Management	2	20
	Course Project within the Organization	6	60
	Choice Based MOOCs(1)	3	30
		17	170

	Markstrat Simulation		3	30
	Elective		1.5	15
	Elective		1.5	15
7	Elective		1.5	15
	Elective		1.5	15
	Choice Based MOOCs(2)		6	60
			15	150
	Capstone Simulation		3	30
	Elective		1.5	15
	Elective		1.5	15
8	Elective		1.5	15
	Elective		1.5	15
	Applied Business Research		6	60
	Choice Based MOOCs(2)		3	30
			18	180
Summary (Semester)	Sem1 (Module 1&2)		23	230
	Sem2 (Module 3&4)		28	280
	Sem3 (Module 5&6)		33	330
	Sem4 (Module 7&8)		33	330
	Total		117	1170
		Total Hours		1170
	Max available Online Hours =40% of 1170 Hours (online)*			444

* currently online delivered courses include Online tutorials+MOOCs+Markstat and Capstone Simulations = 360 hours

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Annexure-11

(Revision in Programme Structure-Aligned with NEP) MBA Programme

17th Meeting of Academic Council
BML Munjal University, Gurugram

Annexure 2 / BOS meeting

Table 1: Details of module-wise credits [number of credit courses]

Module	Credits [Number of credit courses]				
	Core	Elective	Project	Skill	Total
Module - 1	6 [3]			3 [2]	**9 [5]**
Module - 2	6 [3]			3 [2]	**9 [5]**
Module - 3	8 [4]			2 [1]	**10 [5]**
Module - 4	4 [2]	6 [3]			**10 [5]**
Summer Term			6 [1]		**6 [1]**
Module - 5	2 [1]	8 [4]			**10 [5]**
Module - 6		8 [4]	2 [1]		**10 [5]**
Module - 7		8 [4]			**8 [4]**
Module - 8	2 [1]		4 [1]	2 [1]	**8 [3]**
Total	**28 [14]**	**30 [15]**	**12 [3]**	**10 [6]**	**80 [38]**

Table 2: Presented NEP aligned MBA [PG] program structure

Master of Business Administration (MBA)

Module – 1	Category	Course Title	Credits	Hours
	Foundation	Basics of Accounting and Finance (Need based)	0	20
	Foundation	Essentials of Communication (Need based)	0	20
	Foundation	Developing Business Acumen (Understanding Industry and Markets) - I	0	16
	PJOE	Personal Journey for Excellence (PJOE) - EI and Personal Effectiveness	0	10
	Core	Joy of Management	2	32
	Core	Business Statistics	2	32
	Core	Marketing of Products and Services	2	32
	Skill	Excel Spreadsheet Modelling	2	32
	Skill	Accelerating Creativity and Innovation	1	16
			9	210
Module – 2	Category	Course Title	Credits	Hours
	PJOE	PJOE - Networking, Collaboration and Teamwork	0	10
	Foundation	Developing Business Acumen (Understanding Industry and Markets) - II	0	16
	Core	Organizational Behaviour	2	32
	Core	Managerial Accounting	2	32
	Core	Economics for Managers	2	32
	Skill	Data Management and Business Intelligence	2	32
	Skill	Developing Case Study Skills	1	16

			9	170
Module – 3	**Category**	**Course Title**	**Credits**	**Hours**
	PJOE	PJOE - Self-Discovery and Career Choices	0	10
	Core	Managing Financial Resources	2	32
	Core	Business Research Methodology	2	32
	Core	Operations Research	2	32
	Core	Human Resource Management	2	32
	Skill	Business Communication & Presentation Skills	2	32
			10	170
Module – 4	**Category**	**Course Title**	**Credits**	**Hours**
	PJOE	PJOE - Decision Making under Uncertainty	0	10
	Core	Management of Design	2	32
	Core	Managing Operations and Supply Chain	2	32
	Elective	Elective-1	2	32
	Elective	Elective-2	2	32
	Elective	Elective-3	2	32
			10	170
Summers	**Category**	**Course Title**	**Credits**	**Hours**
	Project	Summer Internship - 08 Weeks	6	
Module – 5	**Category**	**Course Title**	**Credits**	**Hours**
	PJOE	PJOE - Employability Enhancement	0	10
	Core	Strategic Management	2	32
	Elective	Elective-4	2	32
	Elective	Elective-5	2	32
	Elective	Elective-6	2	32
	Elective	Elective-7	2	32
			10	170
Module – 6	**Category**	**Course Title**	**Credits**	**Hours**
	PJOE	PJOE - Work Ethic Skills	0	10
	Project	Capstone Simulation	2	32
	Elective	Elective-8	2	32
	Elective	Elective-9	2	32
	Elective	Elective-10	2	32
	Elective	Elective-11	2	32
			10	170
Module – 7	**Category**	**Course Title**	**Credits**	**Hours**
	PJOE	PJOE - Integrative Thinking Skills	0	10
	Elective	Elective-12	2	32
	Elective	Elective-13	2	32
	Elective	Elective-14	2	32
	Elective	Elective-15	2	32
			8	138
Module – 8	**Category**	**Course Title**	**Credits**	**Hours**

PJOE	PJOE - Leadership Development		0	10
Core	Managing Stakeholders and Legal Processes		2	32
Skill	Problem Solving and Consulting Skills		2	32
Project	Applied Business Research/Sankalp- Social Entrepreneurship Project/Live Project/MOOCs Capstone Projects/Business Venture		4	
			8	74
Total Credits and teaching hours in the program			80	1272

Category	Number of Courses	Credits	Weight
Foundation	4	0	00.0%
PJOE	8	0	00.0%
Core	14	28	35.0%
Skill	6	10	12.5%
Project	3	12	15.0%
Elective	15	30	37.5%
Total Program Credits		80	

BML MUNJAL UNIVERSITY ™

Annexure-12

(Revision in Programme Structure-Aligned with NEP) BBA Programme

17th Meeting of Academic Council
BML Munjal University, Gurugram

Annexure 6: Credit Structure (BBA)/ BOS meeting

Semester	Credits [Number of credit courses]						
	Core	Major/ Minor	Project	Skill	Perspecti ve	Co-Curricular Activities	Total
Semester - I	12 [4]			6 [2]		1[1]	18 [6]
Semester – II	14 [4]			2 [1]	2 [1]	1[1]	18 [6]
Social Internship			4 [1]				4 [1]
Semester – III	9 [3]	9 [3]				1[1]	18 [6]
Semester – IV	6 [2]	12 [4]				1[1]	18 [6]
Summer Internship			6 [1]				6 [1]
Semester – V		15 [5]			2 [1]	1[1]	17 [6]
Semester – VI		9 [3]	7 [2]				16 [5]
Total Academic Program Credits	41 [3]	45 [15]	17 [4]	8 [3]	4 [2]	5[1]	120 [38]

Detailed Program Structure

Semester 1	Courses	Credits
Skills	Business Communication	3
Skills	Excel Spreadsheet Modelling	3
Core	Business Organization and Principles of Management	3
Core	Business Statistics	3
Core	Managerial Accounting	3
Core	Economics for Managers	3
Semester 2		**18**
Perspective	Environmental Studies and Disaster Management	2
Skills	To be Chosen	2
Core	Business Research Methodology	3
Core	Business Law	3
Core	Financial Management	4
Core	Marketing Management	4
		18 Exit Undergraduate Certificate
Project	Summer Internship (Social Project)	4
Semester 3		
Core	Organizational Behaviour	3
Core	Operations Management	3
Core	International Business Management	3
Major/Minor	Major 1	3
Major/Minor	Major 2	3
Major/Minor	Minor 1	3
Semester 4		**18**
Core	Human Resource Management	3
Core	Strategy	3
Major/Minor	Major 3	3
Major/Minor	Major 4	3
Major/Minor	Major 5	3
Major/Minor	Minor 2	3
		18 Exit Undergraduate Diploma
Project	Summer Internship	6
Semester 5		
Perspective	To be Chosen	2
Major/Minor	Major 6	3
Major/Minor	Major 7	3
Major/Minor	Major 8	3
Major/Minor	Minor 3	3
Major/Minor	Minor 4	3
		17
Semester 6		
Major/Minor	Major 9	3

Major/Minor	Major 10	3	
Major/Minor	Minor 5	3	
Project	Capstone Simulation	3	
Project	Integrated Project	4	
		16	**Undergraduate Degree**
	Total Academic Program Credits	115	
Co-curricular	Credits for Co-curricular Activities 1 in each semester	5	
	TOTAL PROGRAM CREDITS	**120**	

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Annexure-13

(Revision in Programme Structure-Aligned with NEP) B.Com (Hons.) Programme

17th Meeting of Academic Council BML Munjal University, Gurugram

Annexure B- B.Com (H) Program Structure

Semester 1	Code	Courses	Credits	
AECC	SKL1705	Business Communication	3	
Core	ACC1702	Financial Accounting	6	
Core	ECO1706	Microeconomics	6	
Core	DSC1702	Statistics for Business and Economic	6	
Core	TAL1711	Law of General Contracts	6	
Semester 2			**27**	
AECC	PSP2702	Environmental Studies and Disaster Management	2	
Core	ACC1704	Cost and Management Accounting	6	
Core	TAL1702	Income Tax Law	6	
Core	KAC2705	Corporate Accounting	6	
Core	ECO1707	Macroeconomics	6	
Semester 3			**26**	Exit Undergraduate Certificate
Core	FIN2703	Financial Management	6	
Core	TAL2711	Company Law	6	
Major/Minor	Major	Major 1	6	
Major/Minor	Major	Major 2	6	
Major/Minor	Minor	Minor 1	3	
Semester 4			**27**	
Core	TAL2703	Goods & Services Tax (GST) and Customs Law	6	
Major/Minor	Major	Major 3	6	
Major/Minor	Major	Major 4	6	
Major/Minor	Major	Major 5	3	
Major/Minor	Minor	Minor 2	3	
Major/Minor	Minor	Minor 3	3	
Semester 5			**27**	
Project	PRJ3901	Practice School Internship (20 weeks Jun - Oct)	10	Exit Undergraduate Diploma
Major/Minor	Major	Major 6	6	
Skills		To be Chosen	3	
		Value Added Courses delivered Online	0	
Semester 6			**19**	
Project		Dissertation	5	
Major/Minor	Minor	Minor 4	3	
Major/Minor	Minor	Minor 5	3	
Skills		To be Chosen	3	
Skills		To be Chosen	3	
			17	

	Total Academic Program Credits	143
Co-curricular	Credits for Co-curricular Activities 1 in each semester	5
	TOTAL PROGRAM CREDITS	**148**

Category	Number of Courses	Credits	%
AECC	2	5	3.4%
Core	11	66	44.6%
Major/Minor	11	48	32.4%
Skills	3	9	6.1%
Co-curricular	1	5	3.4%
Project	2	15	10.1%
	30	**148**	

The courses with * have NISM/NCFM certification attached to the course syllabus

Semester	6 Credits (2+3+1+0) BlockChain & Fintech	6 Credits (2+3+1+0) Forensic Accounting and Corporate Fraud	6 Credits (2+3+1+0) Banking and Insurance	6 Credits (2+3+1+0) Derivative and Risk Management	6 Credits (2+3+1+0) International Accounting and Finance #	6 Credits (2+3+1+0) Financial Markets
	Digital Disruptions in Financial Services	Frauds in Financial Statements, Institutions and Products	Banking and Financial System*	Derivatives and their Applications*	Advanced Accounting	Banking and Financial System*
Semester 3	Technology in Fintech and Banking	Technology in Fintech and Banking	Technology in Fintech and Banking	Technology in Fintech and Banking	Technology in Fintech and Banking	Technology in Fintech and Banking
					Enterprise Information System	
	Blockchain Technology & Design Principles	Asset Misappropriation	Banking Law and Practice*	Risk, Regulation and Governance	Information Technology in Accounting	Stock Market Trading and Mutual Funds*
Semester 4	Fundamentals of Artificial Intelligence and Machine Learning	Cyber Security and Frauds	Strategic Management	Options Trading Strategies*	Strategic Management	Investment Advisory (NISM)*
	Auditing and Assurance	Auditing and Assurance	Auditing and Assurance	Auditing and Assurance	Auditing and Assurance	Auditing and Assurance
Semester 5	Cryptocurrency and Smart Contract	Fraud Risk Management	Insurance and Actuarial Science	Financial Modelling and Business Valuation	Financial Modelling and Business Valuation	Mutual Funds*

This specialization is mapped to the CA curriculum

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Annexure-14

(Revision in Programme Structure-Aligned with NEP)
BA (Hons.) Economics Programme

17ᵗʰ Meeting of Academic Council
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Semester 1	Courses	Credits
AECC	SKL1705 Business Communication	3
Core	MAT1701 Fundamentals of Mathematics	6
Core	ECO1706 Microeconomics I	6
Core	ECO1707 Macroeconomics I	6
Core	DSC1703 Statistics for Business and Economics	6
	Total	27
Semester 2		
AECC	PSP2702 Environmental Studies and Disaster Management	2
Core	ECO1712 Microeconomics II	6
Core	ECO1711 Macroeconomics II	6
Core	ECO 1705 Mathematics for Economics	6
Core	ECO1709 Indian Economic History	6
	Total	26
Semester 3		
Core	ECO1710 Econometrics	6
Core	ECO2714 International Trade	6
Major/Minor	Major 1	6
Major/Minor	Major 2	6
Major/Minor	Minor 1	3
	Total	27
Semester 4		
Core	ECO3711 Public Finance	6
Major/Minor	Major 3	6
Major/Minor	Major 4	6
Major/Minor	Major 5	6
Major/Minor	Minor 2	3
	Total	27
Semester 5		
Project	Internship (20 weeks June – Oct)	10
Major/Minor	Major 6	6
SEC	Electives to be chosen	3
	Value Added Courses delivered Online	0
	Total	19
Semester 6		
Project	Dissertation	5
Major/Minor	Minor 3	3
Major/Minor	Minor 4	3
SEC	Electives to be chosen	3
SEC	Electives to be chosen	3
	Total	17

Exit Undergraduate Certificate

Exit Undergraduate Diploma

143

Co-curricular 5

	TOTAL PROGRAM CREDITS	148

Category	Credits	%
AECC	5	3.4%
Core	66	44.6%
Major/Minor	48	32.4%
SEC	9	6.1%
Co-curricular	5	3.4%
Project	15	10.1%
	148	

Semester	6 Credits (2+3+1+0) Economics	6 Credits (2+3+1+0) Public Policy	6 Credits (2+3+1+0) Sustainability Studies	6 Credits (2+3+1+0) International Studies	6 Credits (2+3+1+0) Econometrics
Semester 3	Advanced Macroeconomics	Introduction to policy studies	Sustainable Development: Politics and Policies	International Relations	Introduction to Predictive Analysis
	Economic Journalism	Environmental and Developmental Policy Policy and Politics	Sustainability in Business Operations	International Trade Policy	Data Visualization for Managers
	Environmental Economics				
	Industrial Organization	Introduction to Law and Policy	Market-based Solutions for Sustainable Development: Pitfalls and Possibilities	International Institutions and Governance	Advanced Econometric Analysis
Semester 4	Labor Economics	International Institutions and Governance	Innovation for Sustainability	International Finance	Mathematical Economics
	Urban Economics	City, Economy, and Society: Urban Restructuring and the Global Economy	Strategic planning and international development	International Political Economy of Trade	Time Series Analysis
	Economics for Social Sector: Education and Health	Globalization and the Politics of Work		Globalization and the Politics of Work	
	Energy Economics	Law and Constitutional Issues	Issues in Sustainability: Environment, Agriculture, Health	Global Economics	
Semester 5	Experimental Economics	Urban Governance in India			Experimental Economics
	Behavioural Economics				Behavioural Economics
	Health Economics				

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Annexure-15

Introduction of Entrepreneurship as a new specialization in MBA Programme

17th Meeting of Academic Council
BML Munjal University, Gurugram

Annexure 3: Structure of new MBA with specialization in Entrepreneurship / BoS Meeting

1	New Venture Creation	MOD 4	2
2	Social Entrepreneurship	MOD 4	2
3	Corporate Entrepreneurship	MOD 5	2
4	Family Business Dynamics	MOD 5	2
5	Venture Funding	MOD 5	2
6	Business Model and Intellectual Property	MOD 6	2
7	Managing Technology & Innovation	MOD 6	2
8	SME Financing	MOD 6	2
9	Succession Planning	MOD 7	2
10	Legal Aspects of Venturing	MOD 7	2

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Annexure-16

(Revision in the List of Electives)

MBA Programme

17th Meeting of Academic Council
BML Munjal University, Gurugram

	3+4+4+3	3+4+4+3	3+4+4+3	3+4+4+3	2+3+3+2	3+4+4+3	TopUp
Modules	**Marketing**	**Finance**	**Human Resources**	**Business Analytics**	**Operations and Supply Chain**	**Entrepreneurship**	**Forensic**
Module 4	Consumer Behavior	Advanced Corporate Finance	Talent Acquisition and Management	Advanced Business Research	Lean Six Sigma	Corporate Entrepreneurship	Accounting and Auditing (KPMG)
	Sales and Distribution Management	Indian Banking and Financial Markets	Compensation Management	Programming for Analytics	Project Management	Social Entrepreneurship	Fraud Risk Management (KPMG)
	Data Visualization for Managers	Data Visualization for Managers	Data Visualization for Managers	Data Visualization for Managers	Data Visualization for Managers	Data Visualization for Managers	
Module 5	Brand Management and IMC	Derivatives and Financial Risk Management	Industrial relations and labor legislation	Business Process Automation with MS Excel	Global Supply Chain Management	Bringing Ideas to Market	Fraud in Digital Environment (KPMG)
	Marketing at the bottom of the Pyramid	Business Valuation and Financial Modelling	Performance Management and Competency mapping	Predictive Business Analytics	Industry 4.0	Family Business Dynamics	Legal and Regulatory compliance (KPMG)
	Service Marketing	Mergers and Acquisitions	Conflict & Negotiation	NLP and Text Analytics	Service Operations	SME Funding	
	Digital and Social Media Marketing	Wealth Management	Building Capability for Performance	Ecosystem for Big Data Anaytics			
Module 6	Luxury Management	Private Equity & Venture Capitalists	Organizational Structure &Design	Prescriptive Business Analytics	Operations Strategy	Managing Technology & Innovation	
	Marketing Metrics	Treasury and Forex Management	AI & Human Resource Management	Business Applications of Analytics	Advaced Inventory Control	Business Model and Intellectual Property	
	Search Engine Optimization and Marketing	Analyzing & Mitigating Risk	Employer Branding	Applied Machine Learning for Business Applications	Total Quality Management	Venutre Funding	
	Content Marketing	Fixed Income Securities	Strategic HRM	Advances in Analytics (Self Exploration & Entrepreneurial Opportunities)			
Module 7	Relationship Marketing	Algo Trading Strategies	Cross-Cultural HRM	Business Simulation	Operational Leadership	Succession Planning	
	Online Repuation Management	Asset Allocation and Investment Strategies	HR Analytics	Multi-criteria Decision Making	Integrated Management System	Legal Aspects of Venturing	
	International Marketing	Behavioral Finance and Technical analysis	Managing & Leading Organizational Change	Navigating Business Value and Growth with Analytics			

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Annexure-17

(Revision in the List of Electives)

BBA Programme

17th Meeting of Academic Council
BML Munjal University, Gurugram

Semester	Marketing (2+1):(3+1):(3+2):(2+1)	Finance (2+1):(3+1):(3+2):(2+1)	Human Resources (2+1):(3+1):(3+2):(2+1)	Business Analytics (2+1):(3+1):(3+2):(2+1)	Digital Marketing (2+1):(3+1):(3+2):(2+1)	Operations & Supply Chain (2+1):(3+1):(3+2):(2+1)	Entrepreneurship (2+1):(3+1):(3+2):(2+1)	General Studies (2+1):(3+1):(3+2):(2+1)
Semester 3	Marketing Research	Financial Statement Analysis	Compensation Management	Synthesizing and Analyzing data	Website Planning and Development	Lean Six Sigma	Design Thinking	Design Thinking
	Consumer Behavior	Financial Modelling	Selection & Recruitment	Advanced Business Research	Social Media Organic & Content Planning	Data Visualization for Managers	Social Entrepreneurship	Introduction to Psychology
	Digital Marketing	Indian Financial System	Data Visualization for Managers	Data Visualization Concepts	Digital Marketing	Production, Planning & Control	Corporate Governance and Ethics in Business	Living Literature and Arts
Semester 4	Marketing Analytics	Security Analysis and Portfolio Management	Industrial Relations	Predictive Business Analytics	Social Media Marketing	Logistics And Supply Chain Analytics	Bringing Ideas to Market	World Civilization
	Brand Management	International Finance	Performance Management	Business Intelligence using Tableau	Social Media Advertising	Project Management	Dynamics of Family Business	Introduction to Sociology
	Integrated Marketing Communication	Personal Finance and Wealth Management	Conflict & Negotiation	Business Process Automation using MS Excel	Experiential Learning for Social Media Marketing	Service Operations	SME Financing & Management	
	Luxury Management	Advance Corporate Finance	Training & Development	Web and Social Media Analytics	Ecommerce Marketing & Management	Operations Strategy		
Semester 5	Retail Management	Derivatives & Financial Risk Management	Organizational Structure & Design	Business Intelligence using Power BI	Media Planning & Buying	Manufacture Planning and Control	Managing Technology & Innovation	Happiness
	Sales and Distribution Management	Mergers and Acquisitions	AI & Human Resource Management	Prescriptive Business Analytics	Brand Analysis & Consumer Behaviour	Advanced Inventory Control	Business Model and Intellectual Property	Philosophy and Logic
	Service Marketing	Trading Strategies	Employer Branding	Marketing/HR/Financial/Operatios/... "Analytics"	Google Ads	Total Quality Management	Venture Funding	Indian Culture & Ethos

Semester	Marketing (2+1):(3+1):(3+2):(2+1)	Finance (2+1):(3+1):(3+2):(2+1)	Human Resources (2+1):(3+1):(3+2):(2+1)	Business Analytics (2+1):(3+1):(3+2):(2+1)	Digital Marketing (2+1):(3+1):(3+2):(2+1)	Operations & Supply Chain (2+1):(3+1):(3+2):(2+1)	Entrepreneurship (2+1):(3+1):(3+2):(2+1)	General Studies (2+1):(3+1):(3+2):(2+1)
	Customer Relationship and Database Management	Marketing of Financial Services	Strategic HRM	NLP and Text Analytics	Search Engine Optimization, Blogging & ASO	Enterprise Resource Planning	Corporate Entrepreneurship	
Semester 6	International Marketing	Introduction to Forecasting and Risk Analysis	Cross-Cultural HRM	Machine Learning and AI in Business	Frontend Web Development	Operational Leadership	Succession Planning	Contemporary Societal Issues
	Sports Marketing	Business Valuation	HR Analytics	Business Simulation	Video Marketing	Integrated Management System	Legal Aspects of Venturing	
	Marketing Metrics	Private Equity and Venture Capital	Managing & Leading Organizational Change	Analytics driven Business Enterprises	Current & New Age Marketing Techniques (AI & ML)	Supply Chain Analytics		

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Annexure-18

(Revision in the List of Electives)

B.Com (Hons.) Programme

17th Meeting of Academic Council
BML Munjal University, Gurugram

Semester	6 Credits (2+3+1+0) BlockChain & Fintech	6 Credits (2+3+1+0) Forensic Accounting and Corporate Fraud	6 Credits (2+3+1+0) Banking and Insurance	6 Credits (2+3+1+0) Derivative and Risk Management	6 Credits (2+3+1+0) International Accounting and Finance	6 Credits (2+3+1+0) Financial Markets
Semester 3	Digital Disruptions in Financial Services	Frauds in Financial Statements, Institutions and Products	Banking and Financial System*	Derivatives and their Applications*	Advanced Accounting	Banking and Financial System*
	Technology in Fintech and Banking	Technology in Fintech and Banking	Technology in Fintech and Banking	Technology in Fintech and Banking	Technology in Fintech and Banking	Technology in Fintech and Banking
					Enterprise Information System	
Semester 4	Blockchain Technology & Design Principles	Asset Misappropriation	Banking Law and Practice*	Risk, Regulation and Governance	Information Technology in Accounting	Stock Market Trading and Mutual Funds*
	Fundamentals of Artificial Intelligence and Machine Learning	Cyber Security and Frauds	Strategic Management	Options Trading Strategies*	Strategic Management	Investment Advisory (NISM)*
	Auditing and Assurance	Auditing and Assurance	Auditing and Assurance	Auditing and Assurance	Auditing and Assurance	Auditing and Assurance
Semester 5	Cryptocurrency and Smart Contract	Fraud Risk Management	Insurance and Actuarial Science	Financial Modelling and Business Valuation	Financial Modelling and Business Valuation	Mutual Funds*

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Annexure-19

(MoMs: BOS)

**School of Management
&
School of Economics and Commerce**

**17ᵗʰ Meeting of Academic Council
BML Munjal University, Gurugram**

Board of Studies Meeting on 9th February 2022
Online

Members Present:

Dr. Jaskiran Arora, Dean – School of Management
Dr. Vishwanath Pingali, Professor-Indian Institute of Management, Ahmedabad
Mr. Jagvinder Brar, Partner, Forensic Services, KPMG
Mr. Tanmay Bhargava, KPMG
Prof. Sarabjot Singh, Professor from other School of the University
Dr. Deepak Pandit, Chair Professor
Prof. Davinder Singh, Associate Professor & CEO-ACIC BMU Foundation
Dr. K K Jain, Associate Professor
Prof. Prashant Verma, Associate Professor of Practice
Dr. Jaya Ahuja, Assistant Dean & Head-PG programmes
Dr. Vaishali Sharma, Assistant Professor & Head-UG programmes
Prof. Sumedh Kulkarni, Associate Professor of Practice
Dr. Anusree Paul, Associate Professor
Dr. Sangita Dutta Gupta, Associate Professor
Ms. Rubal Rathi, Student Alumni
Mr. Apoorv Malik, Student – UG programmes
Mr. Anshul Sharma, Student – PG programmes

Agenda of the BOS Meeting

S. No.	Topic	Presenter
1	Welcoming the members and new joiners in the BOS, SOM	Prof. Jaskiran Arora
2	To review the minutes of the last Board of Studies meeting held on 4th August 2021	Dr. Sangita Dutta Gupta
3	To present the revisions in the Hero-MBA Program Structure	Prof. Prashant
4	To present the NEP aligned MBA Program Structure	Dr. KK Jain
5	To present to structure of new MBA with specialization in Entrepreneurship	Dr. Deepak Pandit
6	To review the basket of electives in other MBA specializations	Dr. Jaya Ahuja & Prof. Prashant Verma
7	To present the NEP aligned BBA Program Structure	Dr. Vaishali
8	To review the basket of electives in other BBA specializations	Dr. Jaya Ahuja & Prof. Prashant Verma & Dr. KK Jain
9	Any other item with the permission of the Chair	

Agenda Item 1:

Prof. Jaskiran Arora welcomed Prof. Sarabjot Singh from SOET and introduced him to the members of Board of Studies.

Agenda Item 2:

Dr. Sangita Dutta Gupta-Associate Professor-School of Management presented the MOMs of the last meeting. BOS passed the minutes of the meeting.

Agenda item 3:

Prof. Prashant Verma on behalf of the Executive-MBA program requested approval to increase the online course delivery up to 40% in accordance with current guidelines from UGC.
In the Executive MBA program, currently, operational batches are the Batch of 2020-22 (Module 6) and 2021-23 (Module 2). Some of the elective courses will be delivered in online mode. Details are presented in **Annexure – 1**. BOS approved the request.
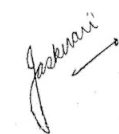
Agenda item 4:

Dr. K.K. Jain-Associate Professor-School of Management [SoM], BML Munjal University [BMU] presented NEP aligned program structures in Board of Studies. (Details about the program structure in **Annexure 2**)

02-year NEP aligned MBA [PG] program structure, presented in BoS is designed with following features:
  - Total credits: 80[1]
  - Credits courses distributed across 04 broad categories: Core, Elective, Project, Skill[2]
  - Non-credit [Audit] courses in Foundation category including customized interventions for "Personalized Journey of Excellence" [PJOE] across all modules
  - Exit opportunity: PG Diploma following completion of Year – I

BoS members appreciated the efforts in direction of the NEP aligned MBA program structure and shared following observations and suggestions/recommendations:

---

[1] Year - I: 38 Credits + Summer Internship: 6 Credits + Year - II: 36 Credits
[2] Table 1 || Core [28 Credits] + Elective [30 Credits] + Project [12 Credits] + Skill [10 Credits], Details in Annexures

- Total credits for the program, adopted in cognisance of draft NHEQF framework and relevant UGC guidelines shall be compared with similar programs across competition. University level decision in this regard must be considered for implementation.
- Focus should remain on Graduate Learning / Program Outcome, as number of credits does not equate directly to the level of learning.
- Provision should be created for the students to take higher credits if required
- There must be emphasis on communication and presentation skills as well as on the personality development and networking skills. PJOE interventions across the modules may be designed and delivered effectively to achieve the same.
- Flexibility embedded in the program, in terms of electives for Major/Minor or both specializations is exciting and well designed.
- Program structure shall also highlight the scope for "Double Major", i.e., students should be counselled and mentored during modules 1-2 regarding the choice and options to earn the required extra credits.
- Consulting skill to be imparted to the students

Agenda item 5:

Prof. Deepak Pandit presented the structure of new MBA with specialization in Entrepreneurship. Details about the Entrepreneurship are in **annexure 3.**

BOS members appreciated the effort and provided following observations.

- Corporate Entrepreneurship is a good option to offer.
- BOS members felt the need to develop entrepreneurial orientation among the students as industry values people with entrepreneurial mindset.

Agenda item 6 and 8

Dr. Jaya, Assistant Dean-School of Management and Dr. Vaishali-Head of UG program, School of Management presented the basket of electives for MBA and BBA program respectively. Details are in **annexure 4 & 5** respectively.

BOS members appreciated the effort and following recommendations were provided.

- A separate category of electives which can be chosen as a MINOR by the student. These would be general and skill-based electives like Quantitative Techniques, foreign language, Living Literature, World Civilization. This category of electives to be termed as "General Education".

➢ Addition of Industry 4.0 as an elective under Operations Management list.
➢ Addition of Programming Analytics under Business Analytics category.

Agenda item 7:

Dr. Vaishali-Head of BBA program proposed new restructured BBA program to make higher education more conducive for agile and flexible learning which is also aligned with UGC's NEP 2020 Guidelines for Multiple Entry and Exit in Academic Programmes offered in Higher Education. Following points were discussed. Details in **Annexure 6**

➢ Total proposed credits-120
➢ Total Program Credits to fit in the basket of NEP Credits- 13 core subjects with 41 credits, 15 Major and Minor subjects with 45 credits, 4 projects with 17 credits, 3 skill courses with 8 credits, 2 perspective courses with 4 credits and 5 credits from extra co-curricular activities.
➢ Created 2 exit points-

a) **Exit 1:** An Undergraduate certificate will be awarded when a student exits at the end of year 1 (Level 5). A student must complete 36 to 40 credits during the first year of the UG programme for qualifying for an undergraduate certificate.
b) **Exit 2:** At the end of the 2nd year, if a student exits, a diploma shall be awarded (Level 6). A diploma requires 72-80 credits from levels 5 to 6, with 36-40 credits at level 6.

Annexure 1

Module	MBA (Executive) 2021-23		
Module	**MBA Executive**		**TOTAL**
	Subject	**Credit**	**Hours**
1	Managing and Developing People (OB)	2	20
	Management Science	2	20
	Managerial Economics	2	20
	Communication, Presentation and Negotiation Skills	2	20
	Online Tutorial - Research	3	30
		11	110
2	Macro Economics & Business Environment	2	20
	Marketing and Consumer Behaviour	2	20
	Organization Structure and Design	2	20
	Financial Reporting and Analysis	3	30
	Online Tutorial -Statistics	3	30
		12	120
3	Managing Operations and Supply Chain	2	20
	Managing Financial Resources	3	30
	Statistics for Management	3	30
	Cost and Management Accounting for Profitability	2	20
	Marketing Products and Services	2	20
	Choice Based MOOCs(1)	3	30
		15	150
4	Bringing Ideas to Market	2	20
	Managing Stakeholders and Legal Processes	2	20
	Strategic Management	2	20
	Business Ethics and Corporate Governance	2	20
	Data Analysis & Interpretation using SPSS/R	2	20
	Choice Based MOOCs(1)	3	30
		13	130
5	Leadership and Corporate Transformation	2	20
	Business Models and Intellectual Property	2	20
	Competing in a Global Economy	2	20
	Design Thinking	2	20
	Operations Research	2	20
	Choice Based MOOCS(1)	6	60
		16	160
6	Digital And Social Marketing	2	20
	Business Process Reengineering	2	20
	Designing organization for Performance	2	20
	Performance Management	2	20
	Course Project within the Organization	6	60
	Choice Based MOOCs(1)	3	30
		17	170

7	Markstrat Simulation		3	30
	Elective		1.5	15
	Elective		1.5	15
	Elective		1.5	15
	Elective		1.5	15
	Choice Based MOOCs(2)		6	60
			15	150
8	Capstone Simulation		3	30
	Elective		1.5	15
	Elective		1.5	15
	Elective		1.5	15
	Elective		1.5	15
	Applied Business Research		6	60
	Choice Based MOOCs(2)		3	30
			18	180
Summary (Semester)	Sem1 (Module 1&2)		23	230
	Sem2 (Module 3&4)		28	280
	Sem3 (Module 5&6)		33	330
	Sem4 (Module 7&8)		33	330
	Total		**117**	1170
		Total Hours		**1170**

Max available Online Hours =40% of 1170 Hours (online)* 444

* currently online delivered courses include Online tutorials+MOOCs+Markstat and Capstone Simulations = 360 hours

Annexure 2

Table 1: Details of module-wise credits [number of credit courses]

Module	Credits [Number of credit courses]				
	Core	Elective	Project	Skill	Total
Module - 1	6 [3]			3 [2]	**9 [5]**
Module - 2	6 [3]			3 [2]	**9 [5]**
Module - 3	8 [4]			2 [1]	**10 [5]**
Module - 4	4 [2]	6 [3]			**10 [5]**
Summer Term			6 [1]		**6 [1]**
Module - 5	2 [1]	8 [4]			**10 [5]**
Module - 6		8 [4]	2 [1]		**10 [5]**
Module - 7		8 [4]			**8 [4]**
Module - 8	2 [1]		4 [1]	2 [1]	**8 [3]**
Total	**28 [14]**	**30 [15]**	**12 [3]**	**10 [6]**	**80 [38]**

Table 2: Presented NEP aligned MBA [PG] program structure

Master of Business Administration (MBA)

Module – 1	Category	Course Title	Credits	Hours
	Foundation	Basics of Accounting and Finance (Need based)	0	20
	Foundation	Essentials of Communication (Need based)	0	20
	Foundation	Developing Business Acumen (Understanding Industry and Markets) - I	0	16
	PJOE	Personal Journey for Excellence (PJOE) - EI and Personal Effectiveness	0	10
	Core	Joy of Management	2	32
	Core	Business Statistics	2	32
	Core	Marketing of Products and Services	2	32
	Skill	Excel Spreadsheet Modelling	2	32
	Skill	Accelerating Creativity and Innovation	1	16
			9	210
Module – 2	Category	Course Title	Credits	Hours
	PJOE	PJOE - Networking, Collaboration and Teamwork	0	10
	Foundation	Developing Business Acumen (Understanding Industry and Markets) - II	0	16
	Core	Organizational Behaviour	2	32
	Core	Managerial Accounting	2	32
	Core	Economics for Managers	2	32
	Skill	Data Management and Business Intelligence	2	32
	Skill	Developing Case Study Skills	1	16

			9	170
Module – 3	**Category**	**Course Title**	**Credits**	**Hours**
	PJOE	PJOE - Self-Discovery and Career Choices	0	10
	Core	Managing Financial Resources	2	32
	Core	Business Research Methodology	2	32
	Core	Operations Research	2	32
	Core	Human Resource Management	2	32
	Skill	Business Communication & Presentation Skills	2	32
			10	**170**
Module – 4	**Category**	**Course Title**	**Credits**	**Hours**
	PJOE	PJOE - Decision Making under Uncertainty	0	10
	Core	Management of Design	2	32
	Core	Managing Operations and Supply Chain	2	32
	Elective	Elective-1	2	32
	Elective	Elective-2	2	32
	Elective	Elective-3	2	32
			10	**170**
Summers	**Category**	**Course Title**	**Credits**	**Hours**
	Project	Summer Internship - 08 Weeks	6	
Module – 5	**Category**	**Course Title**	**Credits**	**Hours**
	PJOE	PJOE - Employability Enhancement	0	10
	Core	Strategic Management	2	32
	Elective	Elective-4	2	32
	Elective	Elective-5	2	32
	Elective	Elective-6	2	32
	Elective	Elective-7	2	32
			10	**170**
Module – 6	**Category**	**Course Title**	**Credits**	**Hours**
	PJOE	PJOE - Work Ethic Skills	0	10
	Project	Capstone Simulation	2	32
	Elective	Elective-8	2	32
	Elective	Elective-9	2	32
	Elective	Elective-10	2	32
	Elective	Elective-11	2	32
			10	**170**
Module – 7	**Category**	**Course Title**	**Credits**	**Hours**
	PJOE	PJOE - Integrative Thinking Skills	0	10
	Elective	Elective-12	2	32
	Elective	Elective-13	2	32
	Elective	Elective-14	2	32
	Elective	Elective-15	2	32
			8	**138**
Module – 8	**Category**	**Course Title**	**Credits**	**Hours**

	PJOE	PJOE - Leadership Development	0	10
	Core	Managing Stakeholders and Legal Processes	2	32
	Skill	Problem Solving and Consulting Skills	2	32
	Project	Applied Business Research/Sankalp- Social Entrepreneurship Project/Live Project/MOOCs Capstone Projects/Business Venture	4	
			8	74
Total Credits and teaching hours in the program			**80**	**1272**

Category	Number of Courses	Credits	Weight
Foundation	4	0	00.0%
PJOE	8	0	00.0%
Core	14	28	35.0%
Skill	6	10	12.5%
Project	3	12	15.0%
Elective	15	30	37.5%
Total Program Credits		**80**	

Annexure 3: Structure of new MBA with specialization in Entrepreneurship

1	New Venture Creation	MOD 4	2
2	Social Entrepreneurship	MOD 4	2
3	Corporate Entrepreneurship	MOD 5	2
4	Family Business Dynamics	MOD 5	2
5	Venture Funding	MOD 5	2
6	Business Model and Intellectual Property	MOD 6	2
7	Managing Technology & Innovation	MOD 6	2
8	SME Financing	MOD 6	2
9	Succession Planning	MOD 7	2
10	Legal Aspects of Venturing	MOD 7	2

Annexure 4
Basket of Electives for MBA

Modules	3+4+4+3	3+4+4+3	3+4+4+3	3+4+4+3	2+3+3+2	3+4+4+3	TopUp
	Marketing	**Finance**	**Human Resources**	**Business Analytics**	**Operations and Supply Chain**	**Entrepreneurship**	**Forensic**
Module 4	Consumer Behavior	Advanced Corporate Finance	Talent Acquisition and Management	Advanced Business Research	Lean Six Sigma	Corporate Entrepreneurship	Accounting and Auditing (KPMG)
	Sales and Distribution Management	Indian Banking and Financial Markets	Compensation Management	Programming for Analytics	Project Management	Social Entrepreneurship	Fraud Risk Management (KPMG)
	Data Visualization for Managers	Data Visualization for Managers	Data Visualization for Managers	Data Visualization for Managers	Data Visualization for Managers	Data Visualization for Managers	
Module 5	Brand Management and IMC	Derivatives and Financial Risk Management	Industrial relations and labor legislation	Business Process Automation with MS Excel	Global Supply Chain Management	Bringing Ideas to Market	Fraud in Digital Environment (KPMG)
	Marketing at the bottom of the Pyramid	Business Valuation and Financial Modelling	Performance Management and Competency mapping	Predictive Business Analytics	Industry 4.0	Family Business Dynamics	Legal and Regulatory compliance (KPMG)
	Service Marketing	Mergers and Acquisitions	Conflict & Negotiation	NLP and Text Analytics	Service Operations	SME Funding	
	Digital and Social Media Marketing	Wealth Management	Building Capability for Performance	Ecosystem for Big Data Anaytics			
Module 6	Luxury Management	Private Equity & Venture Capitalists	Organizational Structure &Design	Prescriptive Business Analytics	Operations Strategy	Managing Technology & Innovation	
	Marketing Metrics	Treasury and Forex Management	AI & Human Resource Management	Business Applications of Analytics	Advaced Inventory Control	Business Model and Intellectual Property	
	Search Engine Optimization and Marketing	Analyzing & Mitigating Risk	Employer Branding	Applied Machine Learning for Business Applications	Total Quality Management	Venutre Funding	
	Content Marketing	Fixed Income Securities	Strategic HRM	Advances in Analytics (Self Exploration & Entrepreneurial Opportunities)			
Module 7	Relationship Marketing	Algo Trading Strategies	Cross-Cultural HRM	Business Simulation	Operational Leadership	Succession Planning	
	Online Reputation Management	Asset Allocation and Investment Strategies	HR Analytics	Multi-criteria Decision Making	Integrated Management System	Legal Aspects of Venturing	
	International Marketing	Behavioral Finance and Technical analysis	Managing & Leading Organizational Change	Navigating Business Value and Growth with Analytics			

Annexure 5
Basket of electives for BBA

Semester	(2+1):(3+1):(3+2):(2+1) Marketing	(2+1):(3+1):(3+2):(2+1) Finance	(2+1):(3+1):(3+2):(2+1) Human Resources	(2+1):(3+1):(3+2):(2+1) Business Analytics	(2+1):(3+1):(3+2):(2+1) Digital Marketing	(2+1):(3+1):(3+2):(2+1) Operations & Supply Cain	Blockchain & Fintech	(2+1):(3+1):(3+2):(2+1) Entrepreneurship
Sem 3	Marketing Research	Financial Statement Analysis	Compensation Management	Synthesizing and Analysing data	Website Planning and Development	Lean Six Sigma	Synthesizing and Analysing data	Design Thinking
	Consumer Behaviour	Financial Modelling	Selection & Recruitment	Advanced Business Research	Social Media Organic & Content Planning	Data Visualization for Managers		Social Entrepreneurship
	Digital Marketing	Indian Financial System	Data Visualization for Managers	Data Visualization Concepts	Digital Marketing	Production, Planning & Control		Corporate Governance and Ethics in Business
Sem 4	Marketing Analytics	Security Analysis and Portfolio Management	Industrial Relations	Predictive Business Analytics	Social Media Marketing-Paid	Logistics And Supply Chain Analytics	Digital Disruptions in Financial Services	Bringing Ideas to Market
	Brand Management	International Finance	Performance Management	Business Intelligence using Tableau	Social Media Advertising	Project Management	Predictive Business Analytics	Dynamics of Family Business
	Integrated Marketing Communication	Personal Finance and Wealth Management	Conflict & Negotiation	Business Process Automation using MS Excel	Experiential Learning for Social Media Marketing	Service Operations		SME Financing & Management
	Luxury Management	Advance Corporate Finance	Training & Development	Web and Social Media Analytics	Ecommerce Marketing & Management	Operations Strategy		
Sem 5	Retail Management	Derivatives & Financial Risk Management	Organizational Structure &Design	Business Intelligence using Power BI	Media Planning & Buying	Manufacture Planning and Control	Technology in Fintech and Banking	Managing Technology & Innovation
	Sales and Distribution Management	Mergers and Acquisitions	AI & Human Resource Management	Prescriptive Business Analytics	Brand Analysis & Consumer Behaviour	Advanced Inventory Control	Blockchain Technology & Design Principles	Business Model and Intellectual Property
	Service Marketing	Trading Strategies	Employer Branding	Marketing/HR/Financial/Operations/... "Analytics"	Google Ads	Total Quality Management		Venture Funding
	Customer Relationship and Database Management	Marketing of Financial Services	Strategic HRM	NLP and Text Analytics	Search Engine Optimization, Blogging & ASO	Enterprise Resource Planning		Corporate Entrepreneurship
Sem 6	International Marketing	Introduction to Forecasting and Risk Analysis	Cross-Cultural HRM	Machine Learning and AI in Business	Frontend Web Development	Operational Leadership	Cryptocurrency and Smart Contract	Succession Planning
	Sports Marketing	Business Valuation	HR Analytics	Business Simulation	Video Marketing	Integrated Management System		Legal Aspects of Venturing
	Marketing Metrics	Private Equity and Venture Capital	Managing & Leading Organizational Change	Analytics driven Business Enterprises	Current & New Age Marketing Techniques (AI & ML)	Supply Chain Analytics		

Annexure 6: Credit Structure

	Credits [Number of credit courses]						
Semester	Core	Major/ Minor	Project	Skill	Perspective	Co-Curricular Activities	Total
Semester - I	12 [4]			6 [2]		1[1]	18 [6]
Semester – II	14 [4]			2 [1]	2 [1]	1[1]	18 [6]
Social Internship			4 [1]				4 [1]
Semester – III	9 [3]	9 [3]				1[1]	18 [6]
Semester – IV	6 [2]	12 [4]				1[1]	18 [6]
Summer Internship			6 [1]				6 [1]
Semester – V		15 [5]			2 [1]	1[1]	17 [6]
Semester – VI		9 [3]	7 [2]				16 [5]
Total Academic Program Credits	41 [3]	45 [15]	17 [4]	8 [3]	4 [2]	5[1]	120 [38]

Detailed Program Structure

Semester 1	Courses	Credits
Skills	Business Communication	3
Skills	Excel Spreadsheet Modelling	3
Core	Business Organization and Principles of Management	3
Core	Business Statistics	3
Core	Managerial Accounting	3
Core	Economics for Managers	3
Semester 2		**18**
Perspective	Environmental Studies and Disaster Management	2
Skills	To be Chosen	2
Core	Business Research Methodology	3
Core	Business Law	3
Core	Financial Management	4
Core	Marketing Management	4
		18 Exit Undergraduate Certificate
Project	Summer Internship (Social Project)	4
Semester 3		
Core	Organizational Behaviour	3
Core	Operations Management	3
Core	International Business Management	3
Major/Minor	Major 1	3
Major/Minor	Major 2	3
Major/Minor	Minor 1	3
Semester 4		**18**
Core	Human Resource Management	3
Core	Strategy	3
Major/Minor	Major 3	3
Major/Minor	Major 4	3
Major/Minor	Major 5	3
Major/Minor	Minor 2	3
		18 **Exit Undergraduate Diploma**
Project	Summer Internship	6
Semester 5		
Perspective	To be Chosen	2
Major/Minor	Major 6	3
Major/Minor	Major 7	3
Major/Minor	Major 8	3
Major/Minor	Minor 3	3
Major/Minor	Minor 4	3
		17
Semester 6		
Major/Minor	Major 9	3

Major/Minor	Major 10	**3**	
Major/Minor	Minor 5	**3**	
Project	Capstone Simulation	**3**	
Project	Integrated Project	**4**	
		16	**Undergraduate Degree**

	Total Academic Program Credits	115
Co-curricular	**Credits for Co-curricular Activities 1 in each semester**	5
	TOTAL PROGRAM CREDITS	**120**

Board of Studies

School of Economics and Commerce

11ᵗʰ February 2022 (Online)

Members Present:

Dr. Jaskiran Arora, Dean-School of Economics and Commerce
Dr. Anusree Paul, Associate Professor
Dr. Sangita D Gupta, Associate Professor
Dr. Dipankar Das, Assistant Professor
Dr. Vijay Vir Singh, Vice-Chancellor-Vivekananda Global University, Jaipur
Dr. Deepak Pandit, Chair Professor
Prof. Davinder Singh, Associate Professor & CEO-ACIC BMU Foundation
Prof. Prashant Verma, Associate Professor of Practice
Ms. Komal Yadav – Student representative
Ms. Isha Sharma – Student representative

AGENDA:

1. Welcoming the members in the BOS, SOEC
2. To review the minutes of the last Board of Studies meeting held on 4th August 2021
3. Discussion: New program structure of BA Eco (H) Program
4. Discussion: New program structure of B.Com (H) Programs
5. To discuss about the offering of international summer school program in Economics and commerce
6. Any other item with the permission of the Chair

POINTS DISCUSSED:

1. Previous BOS agenda is presented and approved by the members.
2. The revised BA Eco (H) was presented with the option for the students to opt from various majors in Public Policy, Sustainability Studies, International Studies, and Econometrics in the BA Eco(H) Program. The revised program structure also provides for Multiple Exit for the students, in sync with the NEP. Detailed program structure in presented in Annexure A
3. The revised B.Com (H) was presented with the option for the students to opt from various majors in Block-Chain & Fintech, Forensic Accounting and Corporate Fraud, Banking and Insurance, Derivative and Risk Management, International Accounting and Finance, Financial Markets in the B.Com (H) Program. The revised program structure also provides for Multiple Exit for the students, in sync with the NEP. Detailed program structure in presented in Annexure B
4. It is suggested that under international immersion program LSE Summer school options are to be explored and provisions are to be made to include it into the curriculum. Members have suggested to look into the possibility of incorporating it into the curriculum during 5ᵗʰ Semester of the Program.
5. The meeting ended up with a vote of thanks.

Annexure A - BA in Economics (Honors) 2022-2025

Semester 1	Courses	Credits	
AECC	SKL1705 Business Communication	3	
Core	MAT1701 Fundamentals of Mathematics	6	
Core	ECO1706 Microeconomics I	6	
Core	ECO1707 Macroeconomics I	6	
Core	DSC1703 Statistics for Business and Economics	6	
	Total	27	
Semester 2			
AECC	PSP2702 Environmental Studies and Disaster Management	2	
Core	ECO1712 Microeconomics II	6	
Core	ECO1711 Macroeconomics II	6	
Core	ECO 1705 Mathematics for Economics	6	
Core	ECO1709 Indian Economic History	6	
	Total	26	
Semester 3			**Exit Undergraduate Certificate**
Core	ECO1710 Econometrics	6	
Core	ECO2714 International Trade	6	
Major/Minor	Major 1	6	
Major/Minor	Major 2	6	
Major/Minor	Minor 1	3	
	Total	27	
Semester 4			
Core	ECO3711 Public Finance	6	
Major/Minor	Major 3	6	
Major/Minor	Major 4	6	
Major/Minor	Major 5	6	
Major/Minor	Minor 2	3	
	Total	27	
Semester 5			**Exit Undergraduate Diploma**
Project	Internship (20 weeks June – Oct)	10	
Major/Minor	Major 6	6	
SEC	Electives to be chosen	3	
	Value Added Courses delivered Online	0	
	Total	19	
Semester 6			
Project	Dissertation	5	
Major/Minor	Minor 3	3	
Major/Minor	Minor 4	3	
SEC	Electives to be chosen	3	
SEC	Electives to be chosen	3	
	Total	17	

		143
Co-curricular		5
	TOTAL PROGRAM CREDITS	**148**

Category	Credits	%
AECC	5	3.4%
Core	66	44.6%
Major/Minor	48	32.4%
SEC	9	6.1%
Co-curricular	5	3.4%
Project	15	10.1%
	148	

Semester	6 Credits (2+3+1+0) Economics	6 Credits (2+3+1+0) Public Policy	6 Credits (2+3+1+0) Sustainability Studies	6 Credits (2+3+1+0) International Studies	6 Credits (2+3+1+0) Econometrics
Semester 3	Advanced Macroeconomics	Introduction to policy studies	Sustainable Development: Politics and Policies	International Relations	Introduction to Predictive Analysis
	Economic Journalism	Environmental and Developmental Policy	Sustainability in Business Operations	International Trade Policy	Data Visualization for Managers
	Environmental Economics	Policy and Politics			
Semester 4	Industrial Organization	Introduction to Law and Policy	Market-based Solutions for Sustainable Development: Pitfalls and Possibilities	International Institutions and Governance	Advanced Econometric Analysis
	Labor Economics	International Institutions and Governance	Innovation for Sustainability	International Finance	Mathematical Economics
	Urban Economics	City, Economy, and Society: Urban Restructuring and the Global Economy	Strategic planning and international development	International Political Economy of Trade	Time Series Analysis
	Economics for Social Sector: Education and Health	Globalization and the Politics of Work		Globalization and the Politics of Work	
Semester 5	Energy Economics	Law and Constitutional Issues	Issues in Sustainability: Environment, Agriculture, Health	Global Economics	
	Experimental Economics	Urban Governance in India			Experimental Economics
	Behavioural Economics				Behavioural Economics
	Health Economics				

Annexure B- B.Com (H) Program Structure

Semester 1	Code	Courses	Credits
AECC	SKL1705	**Business Communication**	**3**
Core	ACC1702	**Financial Accounting**	**6**
Core	ECO1706	**Microeconomics**	**6**
Core	DSC1702	**Statistics for Business and Economic**	**6**
Core	TAL1711	**Law of General Contracts**	**6**
Semester 2			**27**
AECC	PSP2702	**Environmental Studies and Disaster Management**	**2**
Core	ACC1704	**Cost and Management Accounting**	**6**
Core	TAL1702	**Income Tax Law**	**6**
Core	KAC2705	**Corporate Accounting**	**6**
Core	ECO1707	**Macroeconomics**	**6**
Semester 3			**26**
Core	FIN2703	**Financial Management**	**6**
Core	TAL2711	**Company Law**	**6**
Major/Minor	Major	**Major 1**	**6**
Major/Minor	Major	**Major 2**	**6**
Major/Minor	Minor	**Minor 1**	**3**
Semester 4			**27**
Core	TAL2703	**Goods & Services Tax (GST) and Customs Law**	**6**
Major/Minor	Major	**Major 3**	**6**
Major/Minor	Major	**Major 4**	**6**
Major/Minor	Major	**Major 5**	**3**
Major/Minor	Minor	**Minor 2**	**3**
Major/Minor	Minor	**Minor 3**	**3**
Semester 5			**27**
Project	PRJ3901	**Practice School Internship (20 weeks Jun - Oct)**	**10**
Major/Minor	Major	**Major 6**	**6**
Skills		**To be Chosen**	**3**
		Value Added Courses delivered Online	**0**
Semester 6			**19**
Project		**Dissertation**	**5**
Major/Minor	Minor	**Minor 4**	**3**
Major/Minor	Minor	**Minor 5**	**3**
Skills		**To be Chosen**	**3**
Skills		**To be Chosen**	**3**
			17

Exit Undergraduate Certificate

Exit Undergraduate Diploma

		Total Academic Program Credits	143
Co-curricular		Credits for Co-curricular Activities 1 in each semester	5
		TOTAL PROGRAM CREDITS	**148**

Category	Number of Courses	Credits	%
AECC	2	**5**	**3.4%**
Core	11	**66**	**44.6%**
Major/Minor	11	**48**	**32.4%**
Skills	3	**9**	**6.1%**
Co-curricular	1	**5**	**3.4%**
Project	2	**15**	**10.1%**
	30	**148**	

The courses with * have NISM/NCFM certification attached to the course syllabus

	6 Credits (2+3+1+0)	6 Credits (2+3+1+0)	6 Credits (2+3+1+0)	6 Credits (2+3+1+0)	6 Credits (2+3+1+0)	6 Credits (2+3+1+0)
Semester	**BlockChain & Fintech**	**Forensic Accounting and Corporate Fraud**	**Banking and Insurance**	**Derivative and Risk Management**	**International Accounting and Finance #**	**Financial Markets**
Semester 3	Digital Disruptions in Financial Services	Frauds in Financial Statements, Institutions and Products	Banking and Financial System*	Derivatives and their Applications*	Advanced Accounting	Banking and Financial System*
	Technology in Fintech and Banking	Technology in Fintech and Banking	Technology in Fintech and Banking	Technology in Fintech and Banking	Technology in Fintech and Banking	Technology in Fintech and Banking
					Enterprise Information System	
Semester 4	Blockchain Technology & Design Principles	Asset Misappropriation	Banking Law and Practice*	Risk, Regulation and Governance	Information Technology in Accounting	Stock Market Trading and Mutual Funds*
	Fundamentals of Artificial Intelligence and Machine Learning	Cyber Security and Frauds	Strategic Management	Options Trading Strategies*	Strategic Management	Investment Advisory (NISM)*
	Auditing and Assurance	Auditing and Assurance	Auditing and Assurance	Auditing and Assurance	Auditing and Assurance	Auditing and Assurance
Semester 5	Cryptocurrency and Smart Contract	Fraud Risk Management	Insurance and Actuarial Science	Financial Modelling and Business Valuation	Financial Modelling and Business Valuation	Mutual Funds*

This specialization is mapped to the CA curriculum

BML MUNJAL UNIVERSITY ™

Annexure-20

(Revision in Programme Structure)

BA LL.B (Hons.) & BBA LL.B (Hons.) Programmes

17th Meeting of Academic Council
BML Munjal University, Gurugram

School of Law, BML Munjal University
Course Curriculum Structure - 5 years integrated
2021-2026 Batch

2nd SEMESTER BBA. LL.B. (Hons.)		L	T	P	Total Credits
Course Code	Subjects				
LAW1706	Law of Special Contracts	4	0	0	4
LAW1705	Legal & Constitutional History	4	0	0	4
PSP2702	Environmental Studies & Disaster Management	2	0	2	3
ECO1703	Introductory Macroeconomics	4	0	0	4
ENG1002	English -II	3	0	2	4
MKT4702	Marketing Management	4	0	0	4
					23

2nd SEMESTER BA. LLB. (Hons.)		L	T	P	Total Credits
Course Code	Subjects				
LAW1706	Law of Special Contracts	4	0	0	4
LAW1705	Legal & Constitutional History	4	0	0	4
PSP2702	Environmental Studies & Disaster Management	2	0	2	3
ECO1703	Introductory Macroeconomics	4	0	0	4
ENG1002	English -II	3	0	2	4
PSC1702	Political Science – II	4	0	0	4
					23

School of Law, BML Munjal University
Course Curriculum Structure - 5 years integrated
2020-2025 Batch

	4th SEMESTER BBA. LLB. (Hons.)				
Course Code	Subjects	L	T	P	Total Credits
LAW2704	Family Law - II	4	0	0	4
LAW2705	Constitutional Law - II	4	0	0	4
LAW2706	Jurisprudence	4	0	0	4
ECO2714	International Trade	4	0	0	4
ACC2703	Accounting for Lawyers	4	0	0	4
HRM4704	Human Resource Management	4	0	0	4
					24

	4th SEMESTER BA. LLB. (Hons.)				
Course Code	Subjects	L	T	P	Total Credits
LAW2704	Family Law – II	4	0	0	4
LAW2705	Constitutional Law – II	4	0	0	4
LAW2706	Jurisprudence	4	0	0	4
ECO2714	International Trade	4	0	0	4
ACC2703	Accounting for Lawyers	4	0	0	4
SCG1701	Sociology -I	4	0	0	4
					24

School of Law, BML Munjal University
Course Curriculum Structure - 5 years integrated
2019-2024 Batch

Course Code	6th SEMESTER BBA. LLB. (Hons.) Subjects	L	T	P	Total Credits
LAW3704	Alternate Dispute Resolution	4	0	0	4
LAW3705	Civil Procedure Code & Limitation Act	4	0	0	4
LAW3706	Law of Evidence	4	0	0	4
SKL3704	Public Speaking Course	1	0	2	2
LAW3707	Law and Economics	4	0	0	4
FIN2703	Financial Management	4	0	0	4
					22

Course Code	6th SEMESTER BA. LLB. (Hons.) Subjects	L	T	P	Total Credits
LAW3704	Alternate Dispute Resolution	4	0	0	4
LAW3705	Civil Procedure Code & Limitation Act	4	0	0	4
LAW3706	Law of Evidence	4	0	0	4
SKL3704	Public Speaking Course	1	0	2	2
LAW3707	Law and Economics	4	0	0	4
SCG3701	Sociology-III	4	0	0	4
					22

Annexure-21

(Revision in Course Outcomes & Syllabi)
BA LL.B (Hons.) & BBA LL.B (Hons.) Programmes

17th Meeting of Academic Council
BML Munjal University, Gurugram

Faculty	Satya Prasoon satya.prasoon@bmu.edu.in	Semester	VI Semester
Course Name	Arbitration & Conciliation Act	No. of Credits	4
No of Contact Hours	4+1	Session duration	One semester
Course Code	LAWS3704		

OBJECTIVE

With the introduction of section 89 in Civil Procedure Code and amendment to the Arbitration & Conciliation Act 1996 in 2015, 2019 and 2020 alternative dispute resolutions have become very important in providing efficacious settlement of disputes while reducing arrears from the courts. The course has two objectives. First is to provide the students with the theoretical understanding of the concepts and legal provisions relating to the Arbitration & Conciliation Act. Secondly, to expose students to different literature and equipping them with tools to learn drafting of Arbitration clauses and agreements.

COURSE OUTCOMES:

At the end of the course, students will be able to:

CO.1 Describe, analyse and apply the substantive rules & principles of Arbitration & Conciliation procedures.
CO.2 To be able to understand the tension points & conflicts through deep reading of statute.
CO.3 Develop a practical appreciation of arbitration process through analysis of case laws.

CO.4 Bridge the difference between theory and practice by involvement in draft of arbitration clause & settlement agreements.

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

Program Outcomes for 5-year Law Programme:

PO1: Draw on a sound understanding of concepts, principles and theories of private and public law, business laws and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyze and interpret legal issues to solve problems.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

Program Specific Outcomes

By the end of the program the students will be able to:

PSO1: Apply knowledge of different ADR mechanisms to think beyond adversarial litigation practice.

PSO2: Understand the value of different techniques to cater to niche areas in law.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

- Discussion method

- Continuous assessment
- Writing assignments
- Case laws and drafting exercise.
- Feedback on the performance of students in multiple and varied continuous assessments to improve the learning.

Primary Source: The Arbitration & Conciliation Act, 1996

Secondary Books – Indicative List –

- **Dr SB Malik, Arbitration & Conciliation Act, Universal Law Publications**
- **Dr SC Tripathi, Arbitration & Conciliation Act, Universal Law Publications**
- **Anirban Chakraborty, Law & Practice of Alternative Dispute Resolution in India, Lexis Nexis**
- **Indu Malhotra, Commentary on the Law of Arbitration, Vol 1 , Wolters Kluwer, 4th Edition, 2020**
- **Indu Malhotra, Commentary on the Law of Arbitration, Vol II , Wolters Kluwer, 4th Edition, 2020**

Case Laws – Provided in the curriculum; T.B.U

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UNITS

Unit 1 – Introduction: ADR & Arbitration [Week 1]

Arbitration: Historical Background; Definition of Arbitration; Arbitration & Conciliation vis a vis Litigation

Essential Readings

- Need for Alternatives to Formal Legal System, International Conference on ADR, Conciliation, Mediation and Case Management organised by the Law Commission of India (May 3-4, 2003) - https://lawcommissionofindia.nic.in/adr_conf/Muralidhar_s_Speech.pdf

Unit 2- Arbitration & Conciliation Act, 1996 [Week 2]

Section 2 of A&C Act; Scheme & definition of key terms; Arbitration; Arbitral Tribunal; Court; Legal Representative; Party; Domestic Award; Foreign Award; Domestic Arbitration; International Arbitration; Seat & Venue of Award.

Unit 3 – Arbitration Agreement [Week 3, 4 & 5]

Sections 7, 8, 9 of A& C Act; Arbitration Agreement – Essentials; Forms of Arbitration Agreement; Distinction between Arbitration & Expert Determination; Reference to Arbitration; Interim Measures of the Court; Applicability of Interim Measures to Foreign Awards under Part II.

Case Laws : KK Modi v KM Modi [AIR 1998 SC 1297]; Bihar State Mineral Development Corporation v Encon Builders (2003) 7 SCC 418; P Anand Gajpati Raju v PVG Raju (AIR 2000 SC 1886); Bharat Aluminium v Kaisar Aluminium Technical Services [(2012) 9 SCC 552] ; Booz Allen and Hamilton Inc v SBI Home Finance Limited (2011) 5 SCC 532

Unit 4 – Composition of Arbitral Tribunal [Week 6]

Sections 10- 15 of A& C Act; Appointment of Arbitrator; Involvement of Court in Appointments; Challenge to Appointment & Substitution of Arbitrators.

Case Laws: MMTC Ltd v Sterlite Industries [AIR 1997 SC 605]; Perkins Eastman Architects DPC & Anr v HSC (India) Ltd; 2019 SCC OnLine SC 1517; Rajasthan Small Industries Corporation Limited v. Ganesh Containers Movers Syndicate, (2019) 3 SCC 282

Unit 5 Kompetenz-Kompetenz [Week 7]

Section 16; Competence of Tribunal to decide their own jurisdiction.

Kvaerner Cementation India Limited v Bajranglal Agarwal and Anr [(2012) 5 SCC 214]; National Aluminium Co Ltd v Subhas Infra Engineers [2019 SCC Online SC 1091]; Uttarakhand Purv Sainik Kalyan Nigam Limited v Northern Coal Field Limited (2020) 2 SCC 455.

Unit 6 – Commencement, Conduct & Termination of Arbitral Proceedings [Week 8]

Sections 18-33 of A& C Act; Changes through 2019 Amendment;

SREI Infrastructure Finance Limited v. Tuff Drilling Private Limited [(2018) 11 SCC 470]; PASL Wind Solutions Pvt Ltd v GE Power Conversion India Ltd [2021 SCC Online SC 331]

Unit 7 – Judicial Intervention Against Arbitral Award [Week 9 - 10]

Section 34, 35, 36 of A& C Act.

Case laws – ONGC Limited v Saw Pipes [AIR 2003 SC 2629]; New India Civil Erectors v ONGC (AIR 1997 SC 980); Ssangyong Engineering & Construction Co. Ltd v National Highways Authority of India; (2019) 15 SCC 131 - Land mark Case

Unit 8 – International Commercial Arbitration [Week 11 –Week 12 (1ˢᵗ Class)] [3 classes]

Sections 44 – 60 of A& C Act; Foreign Arbitral Award; Geneva Convention: Foreign Award; Comparison between Geneva & New York Convention Award.

New York Convention Award [Section 44-52 under Arbitration & Conciliation Act 1996]

-Dr SC Tripathi, Arbitration & Conciliation Act, 1996, Central Law Publications, 8ᵗʰ Ed, 2019, pp324-342

Geneva Convention Award [section 53- 60 under Arbitration & Conciliation Act 1996]

-Dr SC Tripathi, Arbitration & Conciliation Act, 1996, Central Law Publications, 8ᵗʰ Ed, 2019, pp342-350

Case Law – Bharat Aluminium co v Kaisar Aluminium Technical Services (2012) 9 SCC 552

Unit 9 – Conciliation [Week 12 (2ⁿᵈ Class), Week 13]; 3 Classes

Scheme of Conciliation; Section 61-81 of A& C Act;

Unit 10 - Drafting of Arbitration Clause [Week 14]

-Excerpts from Drafting Dispute Resolution Clauses: A Practical Guide, American Arbitration Association

-David St. John Sutton, John Kendall and Judith Gill, Russell on Arbitration, 21ˢᵗ Ed, 1997

- Chapter Three- Drafting the Arbitration Agreement by Margaret L. Moses, International Commercial Arbitration, Cambridge University Press, 3ʳᵈ Ed.

Revision & Makeup Class [Week 15]

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution
Class Participation	10%

Pre Mid Term: writing assignment (1000 to 1200 words)	15%
Mid-Term: Examination written assignment	20%
Post Mid Term: Drafting Assignment	15%
End Term Examination	40%
Total	100

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

BA LLB (Hons.) / BBA LLB (Hons.)

Batch 2019-24

Faculty	Dr. Akhilendra Pratap Singh	Year/Semester	3/VI
Course Name	Civil Procedure Code	No. of Credits	4
No of Contact Hours	4	Session duration	4
Course Code			

ABOUT THE INSTRUCTOR:

EMAIL ID: akhilendra.singh@bmu.edu.in

COURSE OVERVIEW:

Procedural law, in its most basic and elementary sense, is the mode of proceeding by which a legal right is enforced, as distinguished from the law which gives or defines the right. It also governs what can properly be called as 'procedural rights.' Falling under the latter category, civil procedure of any country lays down the process for resolution of non-criminal legal disputes, and thus, acts as a tool of ensuring access to justice in a non-partisan manner. In brief, it provides set of answers to 'How'? and its companions 'When' (e.g., time limit), 'Who' (e.g., judicial organization, joinder of parties), and 'Where' (e.g., territorial jurisdiction) in the context of a civil dispute.

In the same vein, this course intends to introduce and familiarize students with a bunch of rules in the Indian civil procedure which pertain to filing of cases, taking of evidence, interim relief, decree, execution, etc. An additional attempt will also be made to enable students to think critically about the means and ends of civil justice system in India, particularly in respect of pendency of cases and hefty costs involved in the process of obtaining justice.

COURSE OUTCOMES:

By the end of the course

CO1: Students will have become aware of the historical developments vis-à-vis civil procedure in India.

CO2: Students would be able to understand the principal elements and clearly identify as well as apply their learnings of various stages of the civil litigation process in India.

CO3: Students would be able to analyze legal problems and identify as well as apply effective procedural approach for resolution of those problems with the aid of legal precedents, procedural rules, and relevant statutes.

CO4: Students would be able to appreciate the goals underlying the choice of procedural options and the significance of options for achieving often-conflicting objectives.

CO5: Students would be able to think critically about the means and ends of civil procedure in India.

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

PO1: Draw on a sound understanding of concepts, principles and theories of private and public law, business laws and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyze and interpret legal issues to solve problems.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

Considering that the practical application of the knowledge attained from this course is immense, practical approaches of teaching-learning will be adhered to. In other words, rather engaging with provisions directly, students will be primarily be exposed to principles and rules of civil procedure through hypothetical cases.

In addition, students will be given legal problems pertaining to different aspects of civil procedure and asked to share their insights on the preferable modus operandi.

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	Course Outcomes
Class Participation	10%	CO2, CO3, & CO4
Quiz/Project	35%	CO2, CO3, & CO4
Assignments / Response Papers		
Mid Term Examination	20%	All CO's
End Term Examination	35%	All CO's
Total	100	

SYLLABUS & WEEKLY PLAN:

UNIT I: INTRODUCTORY (Week 1)

- Importance, nature, and scope of civil procedure; Court system, hierarchy, and functions
- Definitions

Essential Readings:
- Bare Text of CPC 1908 incorporating Commercial Courts Acts, 2018 and J&K Reorganization Act 2019.
- CK Takwani, *Civil Procedure, Limitation, and Commercial Courts* (9th edition, EBC 2021).

Recommended Readings:
- Justice Deepak Verma & Ors., *Mulla's Code of Civil Procedure* (19th edition, Lexis Nexis, 2017)

UNIT II: JURISDICTION (Weeks 2-3)

- Jurisdictions of civil courts: Subject-matter (Suits of civil nature), Territorial, & Pecuniary
- Principles of res sub-judice & res judicata

Essential Readings:
- Bare Text of CPC 1908 incorporating Commercial Courts Acts, 2018 and J&K Reorganization Act 2019.
- CK Takwani, *Civil Procedure, Limitation, and Commercial Courts* (9th edition, EBC 2021).
- Kiran Singh And Others vs Chaman Paswan *1954 AIR 340, 1955 SCR 117* (Preliminary Jurisdiction)
- Swastik Gases v. IOCL, 2013(9) SCC 32 (Territorial jurisdiction)
- Nahar Industrial Enterprises Ltd. v. HSBC, (2009)8 SCC 646 (Subject-matter jurisdiction)
- Hiralal vs Kalinath [1962] 2 SCR 747 (Objections to jurisdiction)
- Horil vs Keshav & Anr (2012)5 SCC 525 (Scope of section 9)
- Daryao v. State of U.P., AIR 1961 SC 1457 (Res-judicata)

Recommended Readings:
- Justice Deepak Verma & Ors., *Mulla's Code of Civil Procedure* (19th edition, Lexis Nexis, 2017)
- Aspi Jal v. Khusboo Rustom, (2013) 4 SCC 333

- Indian Bank vs. Maharashtra State Co-Operative Marketing Federation Ltd. (1985) 5 SCC 69
- Modi Entertainment v. WSG Cricket, (2003) 4 SCC 341

UNIT III: INSTITUTION OF SUIT (Week 4)

- Parties to a suit; representative suit; joinder of parties; misjoinder and non-joinder (Order I)
- Framing of suits (Order II); Agents and pleaders (Order III); Institution of suit (Order IV); Issue & service of summons (Order V)

Essential Readings:

- Mumbai International Airport v. Regency Convention, 2010 (7) SCC 417
- Pramod P. Shah v. Ratan N Tata, (2017) SCC OnLine Bom 5269
- Inbasagaran v. S. Natarajan, (2015)11 SCC 12
- Gurbux Singh vs Bhooralal 1964 AIR 1810, 1964 SCR (7) 831
- Bare Text of CPC 1908 incorporating Commercial Courts Acts, 2018 and J&K Reorganization Act 2019.
- CK Takwani, Civil Procedure, Limitation, and Commercial Courts (9th edition, EBC 2021).

Recommended Readings:

- Alka Gupta v. Narender Kumar Gupta, (2010) 10 SCC 141
- State of Maharashtra & Anr vs M/S National Construction Co. 1996 SCC (1) 735
- K.V. George vs Water and Power Dept 1990 AIR 53, 1989 SCR Supplementary (1) 398

UNIT IV: PLEADINGS (Weeks 5-6)

- Pleadings: *Meaning, Object, Basic rules of pleadings, Alternative and inconsistent pleadings, Amendment of Pleadings* (Order VI)
- Plaint: *Particulars, Admission, Return and rejection* (Order VII)
- Written statement, Set-off, and Counter claim (Order VIII)

Essential Readings:

- Bare Text of CPC 1908 incorporating Commercial Courts Acts, 2018 and J&K Reorganization Act 2019.
- CK Takwani, Civil Procedure, Limitation, and Commercial Courts (9th edition, EBC 2021).

- B.K. Narayana Pillai v. Parmeswaran, (2000) 1 SCC 712.
- Rajesh Kumar Aggarwal v. KK Modi, (2006) 4 SCC 385
- T Arivandanam v T.V. Satyapal (1977) 4 SCC 467
- Union of India v. Agarwal Iron Industries, 2014 (15) SCC 215

Recommended Readings:

- Salem Bar Association v. Union of India, (2005) 6 SCC 344
- P.V. Gururaj Reddy v P. Neeradha Reddy (2015) 8 SCC 331

UNIT V: APPEARANCE, EXAMINATION, DISCOVERY (Week 7)

- Appearance of parties and consequences of non-appearance (Order IX)
- Examination of Parties by the Court (Order X)
- Discovery and Inspection (Order XI)

Essential Readings:

- Bare Text of CPC 1908 incorporating Commercial Courts Acts, 2018 and J&K Reorganization Act 2019.
- CK Takwani, Civil Procedure, Limitation, and Commercial Courts (9th edition, EBC 2021).

UNIT VI: INTERIM RELIEF (Week 8)

- Attachment before judgment (Order XXXVIII)
- Temporary Injunctions (Order XXXIX)

Essential Readings:

- Bare Text of CPC 1908 incorporating Commercial Courts Acts, 2018 and J&K Reorganization Act 2019.
- CK Takwani, Civil Procedure, Limitation, and Commercial Courts (9th edition, EBC 2021).
- Gujarat Bottling Company Limited v Coca Cola, 1995 SCC (5) 545
- Wander v Antox India (P) Ltd., (1990) Supp SCC 727

UNIT VII: JUDGMENT, DECREE, & EXECUTION (Weeks 9-11)

- Judgment and Decree (Order XX)

- Execution of Decree and Orders: *modes of execution, arrest and detention, attachment, sale, delivery of property* (Order XXI)

Essential Readings:

- Bare Text of CPC 1908 incorporating Commercial Courts Acts, 2018 and J&K Reorganization Act 2019.
- CK Takwani, Civil Procedure, Limitation, and Commercial Courts (9th edition, EBC 2021).
- Satnam Singh & Ors vs Surinder Kaur & Anr (2009) 2SCC 562
- Shankar Balwant Lokhande vs Chandrakant Shankar Lokhande 1995 AIR 1211, 1995 SCC (3) 413
- Harnandrai Badridas vs Debidutt Bhagwati Prasad 1973 AIR 2423, 1974 SCR (1) 210 & (1973) 2 SCC 469
- Kiran Singh And Others vs Chaman Paswan 1954 AIR 340, 1955 SCR 117

UNIT VIII: APPEALS (Week 12)

- Appeals form original decree (Order XLI)

- Appeals form appellate decree (Order XLII)

- Appeals from orders (Order XLIII)

- Second Appeal, Appeal to Supreme Court (Order XLV), Inherent powers of Court

Essential Readings:

- Bare Text of CPC 1908 incorporating Commercial Courts Acts, 2018 and J&K Reorganization Act 2019.
- CK Takwani, Civil Procedure, Limitation, and Commercial Courts (9th edition, EBC 2021).
- A Andisamy Chettiar v A Subburaj Chettiar, (2015) 17 SCC 713
- Santosh Hazari v Purushottam Tiwari, (2001) 3 SCC 179

UNIT VIII: REFERENCE, REVIEW, & REVISION (Week 13)

- Reference (Order XLVI)
- Review (Order XLVII)
- Revision

- Bare Text of CPC 1908 incorporating Commercial Courts Acts, 2018 and J&K Reorganization Act 2019.
- CK Takwani, Civil Procedure, Limitation, and Commercial Courts (9th edition, EBC 2021).

- Municipal Corporation of City v Shiv Shankar Gauri Shankar Mehta (1998) 9 SCC 197

UNIT IX: LIMITATION & COMMERCIAL COURTS (Week 14)

- Time limits

- Introduction to Commercial Courts Act, 2015

Essential Readings:

- Bare Text of CPC 1908 incorporating Commercial Courts Acts, 2018 and J&K Reorganization Act 2019.
- Bare Text of the Limitation Act, 1963.
- CK Takwani, Civil Procedure, Limitation, and Commercial Courts (9th edition, EBC 2021).
- Kandla Export Corporation & Ors. V. OCI Corporation (2018) 4 SCC 715

TEXTBOOKS:

- CK Takwani, Civil Procedure, Limitation, and Commercial Courts (9th edition, EBC 2021).
- Bare Text of CPC 1908 incorporating Commercial Courts Acts, 2018 and J&K Reorganization Act 2019.
- Bare Text of the Limitation Act, 1963.

ADDITIONAL READINGS:

- Justice Deepak Verma & Ors., *Mulla's Code of Civil Procedure* (19th edition, Lexis Nexis, 2017)
- Sarkar's Law of Civil Procedure, 2 vols. (12th ed., LexisNexis, 2017)

LECTURE WISE TOPICS AND READINGS:

TOPIC	NO. OF LECTURES	SESSION OUTCOME	PEDAGOGY	CORRESPONDING CO	MODE OF ASSESSING THE OUTCOME
Introductory *(Week 1)*	3	Students will become aware of importance of civil procedure and will be familiarized with few important definitions in context of CPC	Classroom lecture and discussion	CO1, CO2, & CO5	Class Participation
Jurisdiction *(Week 2-3)*	6	Familiarize students with various sorts of jurisdiction in CPC	Classroom lecture, discussion through case law method	CO1 & CO2	Class Participation
Institution of suit *(Week 4)*	3	Acquaint students with various issues *(parties, joinder, misjoinder, etc.)* relating to institution of suits	Classroom lecture, discussion through case law method	CO1, CO2, & CO3	Quiz
Pleadings *(Week 5-6)*	6	Apprise students with basic rules of pleadings as well as framing of	Classroom lectures & Case study	CO2	Class Participation

		plaints and written statement			
Appearance, Exam., & Discovery *(Week 7)*	3	Acquaint students with procedural rules concerning appearance, examination & discovery	Classroom lectures	CO1, CO2, & CO3	Class Participation
Mid-Terms		Assess students' understanding of the topics covered		CO1, CO2, CO3, & CO4	Open book examination
Interim Relief *(Week 8)*	3	Acquaint students with some of the interim reliefs and the procedure to obtain them	Classroom lecture, discussion through case law method	CO1, CO2, & CO3	Class Participation
Judgment, Decree, & Execution *(Week 9-11)*	9	Familiarize students with various aspects of judgment and decree.	Classroom lectures and discussions	CO1, CO2, & CO3	Class Participation
Appeals *(Week 12)*	3	Acquaint students with the civil appellate procedure	Classroom lecture, discussion through case law method	CO1, CO2, & CO3	Class Participation
Review, Revision, & Reference **(Week 13)**	3	Apprise students with the options of review, reference and revision in cases of civil nature	Classroom lecture, discussion through case law method	CO1, CO2, & CO3	Class Participation

Law of Limitation & Commercial Courts Act 2015 **(Week 14)**	2	Acquaint students with periods of limitation in specific cases	Classroom lecture, discussion through case law method	CO1, CO2, & CO3	Class Participation
Group Projects Week 14	1	Assess students understanding of the chosen topics		All COs	Written Assignments and Presentation
End Semester examination		Assess and evaluate student's overall understanding of the course		All COs	Sit-in open-book examination

CLASSROOM/COURSE ETIQUETTES:

- ATTENDANCE POLICY

As prescribed by School of Law, BML Munjal University

- LATE ASSIGNMENT SUBMISSION POLICY

As prescribed by School of Law, BML Munjal University

- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM

As prescribed by School of Law, BML Munjal University

ALIGNMENT OF COs TO POs AND PSOs

CO	STATEMENT	Bloom's Level	Correlation with POs and PSOs								
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2
CO1	Understand historical developments vis-à-vis civil procedure in India	**Under-stand**	3		3						
CO2	Understand the principal elements and apply the knowledge of various stages of the civil litigation process in India in practice	**Under-Stand & Apply**	3		3			3			
CO3	Analyze legal problems and apply effective procedural approach for resolution of problems	**Analyze & Apply**	3		3						
CO4	Appreciate the goals underlying the choice of procedural	**Under-stand**						3			

							3			
	options and the significance of options for achieving often-conflicting objectives										
CO5	Think critically about the means and ends of civil procedure in India					3				

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

BA LLB(Hons.) 2020-2025 Batch

Faculty	Anubhav Raj Shekhar	Year/Semester	3rd/VI
Course Name	Law of Evidence	No. of Credits	4
No of Contact Hours	(4 + 1 Tutorial)/week	Session duration	1 semester
Course Code			

ABOUT THE INSTRUCTOR:

EMAIL ID: anubhav.shekhar@bmu.edu.in

COURSE OVERVIEW:

The present course approaches the subject of Evidence law from a doctrinal as well as practical perspective. It will cover the principles upon which the subject matter has developed, and its application through the Indian Evidence Act, 1872. Care has been taken to ensure that students are introduced to both theoretical and historical themes of the subject matter, as well also to ensure sufficient understanding and expertise develops through this course to be able to apply the law. Readings for the course range from case law to commentary on the Indian Evidence Act. We also focus on several established textbooks on the law, as well as articles on specific issues.

COURSE OUTCOMES:

By the end of this course, the students will be able to:

CO1. Demonstrate a sound understanding of the history, and need for law of evidence in a modern society.
CO2. Develop a foundation about the theoretical aspects of evidence law.
CO3. Appreciate the practical application of the law of evidence through contemporary cases
CO4. Understand the application of evidentiary principles for enforcement of rights under the Constitution.

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

Program Outcomes for 5-year Law Programme:

PO1: Draw on a sound understanding of concepts, principles and theories of private and public law, business laws and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyze and interpret legal issues to solve problems.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

Program Specific Outcomes for BA, LLB (Hons.)

By the end of the program the students will be able to:

PSO1: Apply knowledge of and insights from political science and sociology domains to enrich their understanding of the law and legal practice.

PSO2: Understand the role and impact of social and political institutions in legal practice.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

1. Lecture

2. Case Law Method

3. Discussions in Break out groups

4. Guest Lectures

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	Course Outcomes	Programme Outcomes
Class Participation	10	CO1, CO2, CO3 and CO4	PO1, PO2, PO3, PO4 and PO5`
Assignment 1 **(After Four weeks of commencement of classes)**	15	CO1, CO2 and CO3	PO1, PO2, PO3 and PO4
Mid Semester Examination	20	CO1, CO2 and CO3	PO1, PO2 and PO3
Assignment II **(After three weeks of mid-term exam)**	15	CO1, CO2, CO3 and CO4	PO1, PO2, PO3, PO4 and PO5
End Semester Examination	40	CO1, CO2, CO3 and CO4	PO1, PO2, PO3, PO4 and PO5
Total	100		

Note: Marks for each internal assignment shall be shared with students within 10 days of the submission of assignment.

SYLLABUS:

Unit 1: Origins and History of Evidence Law in India.

Topics: History and Development of Law of Evidence. Origin of Indian Evidence Act. Role of Stephen Fitzgerald James. Source of Material for the Indian Evidence Act. Precursors to Indian Evidence Act of 1872.

Week 1

Essential Readings

Course Outline for introduction to the course

A Digest of the Law of Evidence, James Fitzjames Stephen.(Pages i – xxiv)

J D Heydon (2010) The Origins of the Indian Evidence Act, Oxford University Commonwealth Law Journal, 10:1, 1-76

VP Sarathi Historical Background Of The Indian Evidence Act, 1872, Journal Of The Indian Law Institute Special Issue: 1972 (1972), Pp. 1-25

Additional Readings

Alex Stein, Foundations Of Evidence Law, Oxford University Press (2005)

Unit 2: Interpretation Clause

Topics: Fact. Fact in issues. Relevant Fact. List of relevant facts. Relevancy implies relationship. Difference between 'facts in issue' and 'relevant facts'. Collateral Facts. Evidence as the means of proof. Meaning of Evidence. Classification of evidence. Presumptions.

Readings :

Week 2

Essential Readings

Text of relevant provisions from Indian Evidence Act.
V.P. Sarathi's Law of Evidence, Eight Edition, 2021(Relevant pages to be shared)
Cases:
Prakash Chand Pathak v State of UP AIR 1960 SC 195

Ramakant Rai v madan Rai AIR 2004 SC 77
Bhagwan Patil v State of Maharashtra AIR 1974 SC 21

Unit 3: Relevancy of Facts

Topics: Facts of which evidence can be given. Logical relevancy and legal relevancy. Relevancy and Admissibility. Facts forming part of same transaction. Doctrine of Res Gestae. Acts/Omission as res gestae. Statements as res gestae. Occasion, Cause or Effect. Motive, Preparation and Conduct. Tape Recorded Conversation. Evidence recorded by video conferencing. Introductory and Explanatory Facts. Test Identification Parade. Relevant facts to prove conspiracy. Inconsistent facts (Alibi) and Probabilities. Suits for damages. Proof of Right or Custom. Facts showing state of mind/body/bodily feeling.

Week 3

Text of relevant provisions from Indian Evidence Act.
V.P. Sarathi's Law of Evidence, Eight Edition, 2021(Relevant pages to be shared)
R.M. Malkani v State of Maharashtra 1973 AIR SC 157
Ram Singh v Col. Ram Singh 1986 AIR SC 3
Basuvraj Patil v State of Karnataka 2000 (8) SCC 740

Week 4

State of Maharashtra v Praful B Desai. (2003) 4 SCC 601
Mirza Akbar v King Emperor (1941) 43 BOMLR 20
Badri Rai v State of Bihar 1958 AIR 953
Jayantbhai v State of Gujrarat AIR 2002 SC 3569

Unit 4: Admissions

Topics: Importance of Admission. Reasons for receiving admission in evidence. Statutory scheme regarding admission. Admission and Hearsay. Forms/ Modes of admission. Admissions in pleadings in earlier proceedings. Prerequisites for admissibility of admission. Admission by conduct. Admission by silence. Persons whose statements are admissions. Relevancy/Proof of Admission. Irrelevant Admissions. Effect of Admission. Judicial Admission as waiver of proof.

Text of relevant provisions from Indian Evidence Act.
V.P. Sarathi's Law of Evidence, Eight Edition, 2021(Relevant pages to be shared)
Basant Singh v Janki Singh 1967 AIR 341
Sitaramcharaya v Gururajcharya [1997] INSC 3 (6 January 1997)

Week 6

Bishwanath Prasad v Dwarka Prasad 1974 AIR 117
CBI v V.C. Shukla 1998 (3) SCC 410,
Nagindas Ramdas v Dalpatram 1974 AIR 471
Chetak Constructions v Om Prakash (1998) 4 SCC 577,

Unit 5 : Confessions, and Dying Declaration

Topics: Meaning of Confession. Confessions carrying inculpatory and exculpatory statements. Forms of Confession. Confession caused by inducement, threat or promise. Confession to Police Officer. Confession to police and consequential discoveries. Confession obtained by unlawful means. Confession of a co-accused. Evidentiary value of confession. Dying declaration. Essentials for relevancy and admissibility. Form of Dying declaration. Evidentiary value of dying declaration

Week 7

Text of relevant provisions from Indian Evidence Act.
V.P. Sarathi's Law of Evidence, Eight Edition, 2021(Relevant pages to be shared)
Pakla Narayanan Swami v Emperor (1939) 41 BOMLR 428
Palvinder Kaur v State of Punjab 1952 AIR 354
Satbir Singh v State of Punjab 1977 AIR 1294
Dagdu v State of Maharashtra 1977 AIR 1579

Week 8
Aghnoo Nagesia v State of Bihar 1966 AIR 119
Raj Kumar v UOI 1969 AIR 180
Bodhraj v State of J&K
Pulukuri Kottaya v Emperor 1947 PC

Further Readings

Nazir Ahmed v Emperor (1936) 38 BOMLR 987
State of UP v Singhara Singh 1963 AIR 358
Kehar Singh v State 1988 SCR Supl. (2) 24

Unit 6: Proof and Forms of Proof.

Topics: Facts which need not be proved. Facts which parties are prohibited from proving. Privileged communication. Oral evidence. Documentary evidence. Exclusion of oral evidence by documentary evidence.

Readings

Week 9 and 10

Text of relevant provisions from Indian Evidence Act.
V.P. Sarathi's Law of Evidence, Eight Edition, 2021(Relevant pages to be shared)

Nagin Das v Dalpat Ram 1974 AIR 471
Narbada Devi v. B.K. Jaiswal (2003) 8 SCC 745
Babu Singh v Ram Sahai AIR 2008 SC 2485 :
Bishwanath Prasad Singh v Rajendra Prasad (2006) 4 SCC 432
Gandabai v Chhabubai 1982 AIR SC 20

Unit 7 : Presumptions

Topics : Meaning of Presumption. Burden of proof and presumption. Kinds of presumptions. Presumptions as to documents. Conclusive proof of legitimacy. Biomedical tests. Presumptions in cases of offences against women. Rules of 'Presumption of fact'.

Week 11 and 12

Text of relevant provisions from Indian Evidence Act.
V.P. Sarathi's Law of Evidence, Eight Edition, 2021(Relevant pages to be shared)
Goutam Kundu v State of West Bengal 1993 AIR 2295
Dipanwita Roy v Ronobrota Roy (2015) 1 SCC 365

Unit 8: Accomplice/Approver Evidence

Topics: Who is an Accomplice/Approver? Categories of Accomplices. Testimonial Competency of an Accomplice. Evidentiary value of Accomplice Evidence. Co-accused confession v Accomplice Evidence.

Week 13 and 14

Text of relevant provisions from Indian Evidence Act.
V.P. Sarathi's Law of Evidence, Eight Edition, 2021(Relevant pages to be shared)
CM Sharma v State of AP 2010 15 SCC 1
Haroon Haji v State of Maharashtra 1968 AIR 832

Unit 9:
Competency of witnesses

Topics : Meaning of 'witness'. Importance of witness. Competency of witness. Test of competency. Credibility of witnesses. Testimony of child witness. Hostile witness. Competency of deaf/dumb. Number/Sufficiency of witnesses

Week 15 and 16

Text of relevant provisions from Indian Evidence Act.
V.P. Sarathi's Law of Evidence, Eight Edition, 2021(Relevant pages to be shared)
Rameshwar Singh v State of Rajasthan 1952 AIR 54
Krishna Mochi v State of Bihar 2002 (6)SCC 81
Vithal v State of Maharashtra 1994 SCALE (1)276
Ranjit Singh v State of MP
State of Bihar v Laloo Prasad AIR 2002 SC 2432

BOOKS:

1. V.P. Sarathi's Law of Evidence, Eight Edition, 2021
2. Principles of the law of Evidence, Twenty Fourth Edition, 2020
3. A Digest of the Law of Evidence, James Fitzjames Stephen.
4. Alex Stein, FOUNDATIONS OF EVIDENCE LAW, Oxford University Press (2005)

LECTURE WISE TOPICS

TOPIC	NO. OF LECTU-RES	SESSION OUTCOME	PEDAGOGY	CORRES-PONDING CO	MODE OF ASSESSING THE OUTCOME
General Introduction	1 x 2 hr	To familiarize the students with the course and its objectives	NA	NA	NA
Origins and History of Evidence Law in India.	1 X 2 hr	Understand evolution of Evidence Law.	Lecture/Discussion	CO1	Mid Semester Exam + End Semester Exam
Interpretation Clause	2 X 2 hr	Gain a sound understanding of statutory provision and appreciate its application.	Lecture/Discussion/Case Studies	CO1, CO3	
Relevancy of Facts	4X 2 hr	Gain a sound understanding of statutory provision and appreciate its application.	Lecture/Discussion/Case Studies	CO1, CO2, CO3, CO4	
Admissions	4 X 2 hr	Gain a sound understanding of statutory provision and appreciate its application.	Lecture/Discussion/Case Studies	CO1, CO2, CO3, CO4	
Confessions, and Dying Declaration	4 X 2 hr	Gain a sound understanding of statutory provision and appreciate its application.	Lecture/Discussion/Case Studies	CO1, CO3, CO4	

Mid-term exam					
Proof and Forms of Proof.	4 X 2 hr	Gain a sound understanding of statutory provision and appreciate its application.	Lecture/Discussion/Case Studies	CO1, CO3, CO4	End Semester Exam
Presumptions	4 X 2 hr	Gain a sound understanding of statutory provision and appreciate its application.	Lecture/Discussion/Case Studies	CO1, CO3, CO4	
Accomplice/Approver Evidence	4 X 2 hr	Gain a sound understanding of statutory provision and appreciate its application.	Lecture/Discussion/Case Studies	CO1, CO2, CO3, CO4	
Competency of witness	4X2	Gain a sound understanding of statutory provision and appreciate its application.			
Total hours: 32 X 2 hr + 16 X 1 hr (Tutorials) = 80 hr					

CLASSROOM/COURSE ETIQUETTES:

- ATTENDANCE POLICY:

    As notified by School of Law.

- LATE ASSIGNMENT SUBMISSION POLICY:

    Late assignments will be marked zero.

- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM:

    Plagiarized assignments will be marked zero.

ALIGNMENT OF COs TO POs AND PSOs

CO	STATEMENT	Bloom's Level	Correlation with POs and PSOs								
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
CO1	Demonstrate a sound understanding of the history, and need for law of evidence in a modern society	Level 2	3	3	2	3	3	1	3	3	3
CO2	Develop a strong foundation about the theoretical aspects of evidence law.	Level 3	3	3	3	3	3	1	3	2	3
CO3	Appreciate the practical application of the law of evidence through contemporary cases	Level 6	3	3	3	2	3	1	2	2	2
CO4	Understand the role of the higher judiciary through the judgments of	Level 2	3	3	3	2	3	1	2	3	3

	the Supreme Court and the High Courts			12								

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

BBA LLB (Hons.) 2020 Batch

Faculty	CA.Sandeep Kapoor	Year/Semester	2020/4
Course Name	Financial Management	No. of Credits	4
No of Contact Hours	56	Session duration	2
Course Code	FIN4701		

ABOUT THE INSTRUCTOR:

CA. Sandeep Kapoor has completed his Chartered Accountancy course from The Institute of Chartered Accountants of India, New Delhi. He has done his B. Com (H) from Delhi University and MBA(Finance) from ICFAI University.

CA. Sandeep Kapoor has more than 19 years of work experience in Teaching and Trainings UG, PG and Corporate Level. He has been a visiting and regular faculty at The Institute of Chartered Accountants of India (ICAI), Rishihood University, Murthal (Haryana), All India Management Association (AIMA), New Delhi, National Stock Exchange (NSE), New Delhi, Bharti Vidyapeeth (BVIMR) College, Paschim Vihar, New Delhi, Jaipuria Institute of Management, Sector 62, Noida, GD Goenka World Institute, ICFAI University, ICICI Securities and various others.

His areas of interests include Financial Accounting, Financial Management, Corporate Accounting, Management Accounting, Income Tax, International Accounting Practices.

Email-ID: Sandeep.kapoor@bmu.edu.in

COURSE OVERVIEW:

Finance is the backbone of any business. It helps in defining the feasible area of operation for any type of business activities and therefore is the foundation for any strategic planning. It may

also be defined as an art or a science of managing money. Finance function is the procurement of funds and their effective utilization in business concerns. This course offers knowledge of practical aspects of financial management so as to develop skills in taking financial and investment decisions.

COURSE OUTCOMES:

CO1: Understanding of various functions of finance- Financing, Investing and Dividend

CO2: Apply different capital budgeting techniques for evaluating investment decisions

CO3: Calculating and Analyzing Cost of Capita, TVMand   the Capital structure of a firm through different theories, leverages and EBIT- EPS Analysis

CO4: Analyzing dividend policies of firms

CO5: Applying various ways to estimate working capital management

PROGRAM OUTCOMES:

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PROGRAM SPECIFIC OUTCOMES:

PSO2: Understand the role and impact of theories of marketing, finance and accounting in legal practice.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

Presentation, lectures, class discussion, numerical and illustrations.

Additional Reading:
ICAI website (icai.org), ICSI website (icsi.edu), Annual report

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	Course Outcomes
Class Participation	10%	N/A
Quiz/Project	20%	CO1,CO2,CO3,CO4,C05
Assignments	10%	CO1,CO2,CO3,CO4,C05
Mid Term Examination	20%	CO1,C02,CO3
End Term Examination	40%	CO1,CO2,CO3,CO4,C05
Total	100	

SYLLABUS:

Cost of Capital, Capital Structure, Leverage, Time Value of Money, Capital Budgeting, Dividend Decisions, Working Capital Management.

TEXTBOOKS:

Sheeba Kapil

ADDITIONAL READINGS:

I.M. Pandey

LECTURE WISE TOPICS AND READINGS:

TOPIC	NO. OF LECTURES	SESSION OUTCOME	PEDAGOGY	CORRESPONDING CO	MODE OF ASSESSING THE OUTCOME
Scope and objectives of	2	Nature, Scope and Objectives of Financial Management	Presentation, lectures, class discussion,	CO1	N/A

Financial Management		- Risk, return and Value of the Firm - Objectives of the firm: Profit Maximisation vs. Wealth Maximisation - Emerging roles of Finance Managers	numerical and illustrations. **Additional Reading:** ICAI website (icai.org), ICSI website (icsi.edu), Annual report		
Types of Financing	2	- Different sources of finance available to a business, both internal and external - Discussion on Long term, medium term and short-term sources of finance	Presentation, lectures, class discussion, numerical and illustrations. **Additional Reading:** ICAI website (icai.org), ICSI website (icsi.edu), Annual report	CO1	N/A
Cost of Capital		- Meaning of Cost of Capital for raising fund from different sources of finance - Significance of Cost of Capital - Methods for Calculating cost of capital- Cost of Debt	Presentation, lectures, class discussion, numerical and illustrations. **Additional Reading:** ICAI website (icai.org), ICSI website (icsi.edu), Annual report	CO3	Assignment, Mid-term, end term

Cost of Capital	2	- Methods for Calculating cost of capital- Cost of Preference Share Capital, Equity Share Capital, retained earnings - Weighted Average Cost of Capital (WACC) - CAPM	Presentation, lectures, class discussion, numerical and illustrations. **Additional Reading:** ICAI website (icai.org), ICSI website (icsi.edu), Annual report	CO3	Assignment, Mid-term, end term
Capital Structure	2	- Introduction- Meaning and Significance - Optimal Capital Structure - Determinants of Capital Structure - Theories of Capital Structure	Presentation, lectures, class discussion, numerical and illustrations. **Additional Reading:** ICAI website (icai.org), ICSI website (icsi.edu), Annual report	CO3	Assignment, Mid-term, end term
Capital Structure	2	Types of leverage – operating leverage, financial leverage, combined leverage	Presentation, lectures, class discussion, numerical and illustrations. **Additional Reading:** ICAI website (icai.org), ICSI website (icsi.edu),		Assignment, Mid-term, end term

			Annual report		
Capital Structure	2	- EBIT- EPS Analysis	Presentation, lectures, class discussion, numerical and illustrations. **Additional Reading:** ICAI website (icai.org), ICSI website (icsi.edu), Annual report	CO3	Assignment, Mid-term, end term

Time Value of money	2	- Introduction
		- Simple Interest Approach
		- Compound Interest Approach
		  - Future value, Present value
		  - Discounting and Compounding
		- Perpetuity and Annuity
			Presentation, lectures, class discussion, numerical and illustrations. **Additional Reading:** ICAI website (icai.org), ICSI website (icsi.edu), Annual report	CO3	Assignment, Mid-term, end term

Capital Budgeting- I	2	- Introduction, purpose, process of Capital Budgeting - Types of Capital Investment decisions - Accounting profit Vs. Cash profit	Presentation, lectures, class discussion, numerical and illustrations. **Additional Reading:** ICAI website	CO2	Assignment, Mid-term, end term

			(icai.org), ICSI website (icsi.edu), Annual report		

Capital Budgeting-II	2	- Capital Budgeting techniques
		  -Traditional techniques (non-Discounting)
		  -Modern techniques (DCF techniques
			Presentation, lectures, class discussion, numerical and illustrations.
			Additional Reading:
			ICAI website (icai.org), ICSI website (icsi.edu), Annual report
				CO2	Assignment, Mid-term, end term

Dividend Policy	2	-types of dividend policies, determinants and constraints of dividend policy - forms of dividend - different dividend theories – Walter's Model, Gordon's Model, Modigliani-Miller Hypothesis of Dividend Irrelevance Policy	Presentation, lectures, class discussion, numerical and illustrations. **Additional Reading:** ICAI website (icai.org), ICSI website (icsi.edu), Annual report	CO4	Assignment, Mid-term, end term
Working Capital Management-I	2	- Meaning and types of working capital - Determinants of Working Capital - Approached to working capital investment	Presentation, lectures, class discussion, numerical and illustrations.	CO5	Assignment, Mid-term, end term

		- Operating cycle	**Additional Reading:** ICAI website (icai.org), ICSI website (icsi.edu), Annual report		
Working Capital Management-II	2	- Management of Receivables - Inventory Management	Presentation, lectures, class discussion, numerical and illustrations. **Additional Reading:** ICAI website (icai.org), ICSI website (icsi.edu), Annual report	CO5	Assignment, Mid-term, end term
Case Study	2	**Group presentation**	N/A	CO2	Project

CLASSROOM/COURSE ETIQUETTES:

- ATTENDANCE POLICY:
- LATE ASSIGNMENT SUBMISSION POLICY:
- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM:

ALIGNMENT OF COs TO POs AND PSOs

CO	STATEMENT	Bloom's Level	Correlation with POs and PSOs								
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO	PSO

											1	2
CO1	Understanding of various functions of finance- Financing, Investing and Dividend						1	2			1	2
CO2	Apply different capital budgeting techniques for evaluating investment decisions	3. Apply					1	2			1	2
CO3	Calculating and Analyzing Cost of Capital, TVM and the Capital structure of a firm through different theories, leverages and EBIT- EPS Analysis	4. Analyse					1	2			1	2
CO4	Analyzing dividend policies of firms	4. Analyse					1	2			1	2
CO5	Applying various ways to estimate working capital	3. Apply					1	2			1	2

	management										

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

B.A., LL. B (Hons.) 2021-22

Faculty	Dr Vikas Kathuria	Year/Semester	3/Semester VI
Course Name	Law & Economics	No. of Credits	4
No of Contact Hours	5	Session duration	One semester
Course Code	LAW2702		

ABOUT THE INSTRUCTOR: Dr Vikas Kathuria

EMAIL ID: vikas.kathuria@bmu.edu.in

COURSE OVERVIEW:

This course is aimed at equipping students with economic insights that can lead to the appreciation of law more scientifically. Law & economics as a discipline is proving extremely useful in crafting optimal rules and pronouncing upon decisions. Economic reasoning may be critical in approaching legal issues in many areas such environmental law, intellectual property, corporate law, tort law, competition law and taxation just to name a few. This course aims at blending the foundational knowledge students have gained so far in their different courses in law and economics.

COURSE OUTCOMES:

At the end of the course, students will be able to:

CO.1 Develop an appreciation of economic analysis of law amongst students

CO.2 Familiarize students with basic economic/mathematical principles and tools that will help them perform scientific analysis of legal rules

CO.3 Help students identify economic viewpoints in a case or legal doctrine and sensitize students towards competing theories and arguments of efficiency and equity

CO.4 Enable students to challenge traditional legal solutions of law through application of principles taught in the course

CO.5 Help understand formation and selection of optimality in human behavior

CO. 6 Equip students with tools to undertake a more rigorous policy analysis and regulatory impact assessment

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

Program Outcomes for 5-year Law Programme:

PO1: Draw on a sound understanding of concepts, principles and theories of private and public law, business laws and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyze and interpret legal issues to solve problems.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

Program Specific Outcomes

By the end of the program the students will be able to:

PSO1: Apply knowledge of and insights from political science and sociology domains to enrich their understanding of the law and legal practice.

PSO2: Understand the role and impact of social and political institutions in legal practice.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

- Discussion method
- Case studies for analyzing past cases.
- Focus on problem-based questions, application of economic principles in legal issues
- Feedback on the performance of students in multiple and varied continuous assessment to improve the learning.

Readings:

Study will be based on certain selected text from books and several articles.

The reading list is divided into two parts, Essential and Further. Students are expected to go through the Essential readings before every lecture. The purpose of further reading is to list the materials that take an in-depth study of the concepts dealt with in the essential readings. Although, the Further readings are just to give you a more detailed outlook, it is however suggested that you go through the readings to enhance your understanding and have a better grasp over the subject.

Please bear in mind that the readings are only indicative and may be changed, with prior intimation, during the term of the course.

Books

- Cooter, Robert and Thomas Ulen, *Law and Economics*, Pearson Education, 6th Edition (2016) Available Online here
- Polinsky, A. Mitchell, *An Introduction to Law and Economics*, Wolters Kluwer, 5th Edition (2019)

Plagiarism Policy

Plagiarism (unacknowledged borrowing and quotation without references) is a serious breach of academic and intellectual honesty and will incur heavy penalties including total rejection of the academic work. All course work which could count towards grading should be original and the result of independent work done by a student.

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	Course Outcomes	Program Outcomes
Research Paper 1	20%	CO1-CO3	PO3, PO4

Mid Term Examination	30%	CO1-CO4	PO1, PO3, PO5
Research Paper 2	20%	CO1-CO6	PO1, PO3, PO4
End Term Examination	30%	CO1-CO6	PO1, PO3, PO5
Total	100		

SYLLABUS:

Unit I

Week 1 and 2

In the introductory session we will build the foundation for forthcoming classes.

- An Introduction to Law and Economics

- Students will be introduced with economic analysis of law, and its importance in contemporary scholarship of law

- Why we need to study this subject

- What has been its contribution to development and growth of legal structures around the world

Essential Readings

- Cooter & Ulen (Chapter 1 and 2)
- Louis Kaplow, Rules Versus Standards: An Economic Analysis, 42 Duke Law Journal 557-629 (1992)

Further Readings

- Maackay, Ejan "History of Law and Economics", Encyclopedia of Law and Economics
- Coleman, J.L. (1982) "The Economic Analysis of Law," in J.R. Pennock and J.W.Chapman (eds.) Ethics, Economics, and the Law New York University Press

Unit II

Week 3, 4, 5

Economic Analysis of Property Law

We will begin the application of economic analysis on specific areas of law. The first of such application will be on property law. Concepts of property law will be studied on economic principles and a temperament of practical significance of such analysis will be developed

1. Private Property and its economic analysis
a. Concept of ownership
b. Intellectual Property, Copyright and Patents
c. Adverse Possession
2. Applied Economic Analysis of Public Property
a. Common Property
b. Nuisance
c. Perspectives on Environmental Regulation

Essential Reading

- Cooter, Robert and Thomas Ulen *Law and Economics*, Pearson Education (Ch 4,5)
- Hardin, Garrett (1968) "The Tragedy of the Commons," Science, 162: 1243-1248

Further Reading

- Ostrom, Elinor "Private and Common Property Rights," Encyclopedia of Law and Economics
- Shavell, Steven "Economic Analysis of Property Law," Discussion Paper 403 – 02/2003, Harvard Law School, part of Foundations of Economic Analysis of Law: Part Two [select pages]
- Louis Kaplow and Steven Shavell, 'Property Rules versus Liability Rules: An Economic Analysis' 109 Harvard Law Review 713 (1996)

Unit III

Week 6,7

Economic Analysis of Tort Law

This week will focus on tort law, one of the most fertile areas of application of economic analysis.

1. Basic Model
2. Property Rules v. Liability Rules
3. Strict Liability v. Negligence
4. Untaken Precaution and Efficient Standard Formation
5. Causation
6. Liability of Firms
7. Insurance

Essential Reading

- Cooter, Robert and Thomas Ulen Law and Economics, Pearson Education (Ch 8,9)
- Shavell, Steven "Economic Analysis of Accident Law," NBER Working Paper 9694; part of Foundations of Economic Analysis of Law: Part One – Accident Law; Ch. 6, pg. 1-6

Further Reading

- Calabresi, Guido and Douglas A. Melamed (1972) "Property Rules, Liability Rules and Inalienability: One View of the Cathedral," Harvard Law Review, 85: 1089-1128 [shorter version]
- Shavell, Steven (1984) "Liability for Harm versus Regulation of Safety," Journal of Legal Studies, 13: 357-374

Unit IV

Week 8,9,10

Economic Analysis of Contract Law

This week, we will discuss theory and application of economic analysis of contract law. By now, students would have begun to get the hang of the subject, so inter-disciplinary elements will be incorporated into them.

1. Law and Economic Approach to Contract Theory
2. Long term and relational contracts
3. Franchise Contracts
4. Filling the gaps

5.   Default Rules

6.   Information Scope Liability

Essential Reading

- Cooter, Robert and Thomas Ulen Law and Economics, Pearson Education (Ch 6,7 select pages)
- Ayres, Ian and Robert Gertner (1989) "Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules", Yale Law Journal, 99: 87-130

Further Reading

- Willamson, Oliver E. (1979) "Transaction Cost-Economics: The Governance of Contractual Relations," Journal of Law and Economics, 22: 233-261
- Shavell, Steven "Economic Analysis of Contract Law," Discussion Paper 403 – 02/2003, Harvard Law School, part of Foundations of Economic Analysis of Law: Part Three [select pages]

Unit V

Week 11,12

Economic Analysis of Corporate Law

Economic Analysis has always been very productively applied in corporate law due to its very nature involving economic aspects. This week, we will cover important topics in this area and help students identify why do firms and corporations function the way they function. Having done the economic analysis of contract theory, it will be easy for students to gauge the concepts in this week.

1.   Firm as a Nexus of Contracts

2.   Agency Cost Perspectives

3.   Insider Trading

4.   Limited Liability

5.   Separation of Ownership and Control and Shareholders Protection

6.   Mergers and Takeovers

7.   Corporate Governance

Essential Reading

- Coase, Ronald H. (1937) "The Nature of the Firm," Economica, 4: 386-405
- Jensen, Michael C. and William H. Meckling (1976) "Theory of the Firm: Managerial Behavior, Agency Cost and Ownership Structure," Journal of Financial Economics, 3: 305-360
- Woodward, Susan E. (1985) "Limited Liability in the Theory of the Firm," Journal of Institutional and Theoretical Economics 141: 601-611

Further Reading

- Winter, Ralph K., Jr. (1977) "State Law, Shareholder Protection and The Theory of the Corporation," Journal of Legal Studies 6: 251-292
- Easterbrook, Frank H. and Daniel R. Fischel (1982) "Corporate Control Transaction," Yale Law Journal, 91: 698-724

ATTENDANCE POLICY:

- As per the notified policy for School of Law.
- Faculty will decide the class breaks.
- **LATE ASSIGNMENT SUBMISSION POLICY:** Late assignments will be marked zero.
- **ACADEMIC DISHONESTY/CHEATING/PLAGIARISM:** Plagiarized assignments will be marked zero.

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

BA LLB(Hons.) 2019-2024 Batch

Faculty	Sunishth Goyal, Dr. Nandita Chaudhary	Year/Semester	3rd/VI
Course Name	Public Speaking	No. of Credits	2
No of Contact Hours	32	Session duration	1 semester
Course Code	SKL3704		

ABOUT THE INSTRUCTOR:

EMAIL ID: sunishth.goyal@ bmu.edu.in, Nandita.chaudhary@bmu.edu.in

COURSE OVERVIEW:

The present Skills Development course must be categorized distinctly from the other traditional perspectives-based courses. This course requires a heavy emphasis on continuous assessment and increased class participation with almost no theoretical obligations in the way of readings being given to the students. The students would be introduced to certain brief theoretical aspects and practical techniques with regards to Public Speaking in the classroom hour which they would be required to demonstrate and practice with their peers in the Class itself.

COURSE OUTCOMES:

By the end of this course, the students will be able to:

- **CO1.** Construct (research, outline, and organize) public speeches for delivery to audiences thereby developing a better understanding of phonetics and articulation.
- **CO2.** Deliver ceremonial, informative, and persuasive speeches by learning ideal non-verbal skills related to public speaking particularly their standing stance, hand gestures and eye contact with the audience etc.
- **CO3.** Develop analytical and critical listening and speaking skills.
- **CO4.** Coherently present arguments and structure speeches in a captivating manner by learning how to successfully manage apprehension about communicating in public contexts.

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

Program Outcomes for 5-year Law Programme:

PO1: Draw on a sound understanding of concepts, principles and theories of private and public law, business laws and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyze and interpret legal issues to solve problems.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

Program Specific Outcomes for BA, LLB (Hons.)

By the end of the program the students will be able to:

PSO1: Understand the role and impact of effective public speaking in Legal Practice.

PSO2: Increase their knowledge about public speaking and improve the skills needed to be a public speaker.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

1. Lecture

2. Discussions in Break out groups

3. Guest Lectures

4. Role Plays

5. JAM

6. Speech Making

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	Course Outcomes
Class Participation – Assignment 1	20	CO1, CO2, CO3 and CO4
Mid Sem Shark Tank inspired Sales Pitch	20	CO4
Assignment 2	20	CO2
Mock Moot Court - Debate	40	CO1, CO2, CO3 and CO4
Total	100	

Note: Marks for each internal assignment shall be shared with students within 10 days of the submission of assignment.

LECTURE WISE TOPICS

TOPIC	NO. OF LECTURES	SESSION OUTCOME	PEDAGOGY	CO(S)	MODE OF ASSESSING THE OUTCOME
Introduction to Public Speaking	1 x 2 hr	➢ Benefits ➢ Models of Communication ➢ Elements of the communication process ➢ Types of speeches ➢ Speaking competencies	NA	NA	NA
Origins of Public Speaking	1 x 2 hr	➢ Ancient Greece ➢ Roman Rhetoric ➢ The Middle Ages ➢ The Renaissance ➢ The Modern Period			Activity Short Questions (SQs)
Ethics in Public Speaking		➢ Defining Ethics ➢ Ethical Speaking ➢ Ethical Listening			Short Questions (SQs)
Listening Effectively		➢ The value of listening ➢ 3 A's of Active Listening ➢ Barriers ➢ Strategies to improve listening ➢ Giving feedback			Activity/Presentation

Audience Analysis		➢ Approaches ➢ Categories of Audience			NA
Critical Thinking and Reasoning		➢ Framework of critical thinking ➢ Logic and the role of arguments ➢ Understanding fallacies			Case analysis presentation
Supporting your ideas		➢ Personal and professional knowledge ➢ Library resources ➢ The Internet ➢ Evaluating information ➢ Citing sources ➢ Avoiding plagiarism			Presentation
Organizing and Outlining	2 X 2 hr	➢ The topic, purpose, and thesis ➢ Writing the body ➢ Organisational styles ➢ Connecting the main points ➢ Creating outlines .	Lecture/Discussion	CO1	Assignment/Activity
Introductions and Conclusions	2 X 2 hr	➢ Functions ➢ Gaining attention ➢ Preparation	Lecture/Discussion	CO2	NA
Using language effectively	1 X 2 hr	➢ Sentence Construction ➢ A.B.C. ➢ Stylised language ➢ Avoiding language pitfalls	Lecture/Discussion/Case Studies	CO3	Activity

Speaking with confidence	2 X 2 hr	➢ Classifying Communication Apprehension (C.A.) ➢ Frames of reference ➢ Cognitive Restructuring (C.A.) ➢ Techniques for building confidence	N/A	CO1, CO2, CO3, CO4	activity/Declamation
Delivering your speech		➢ Methods of delivery ➢ Vocal aspects ➢ Importance of the non-verbal ➢ Mastering the location ➢ 3 Ps' ➢ Visual Aids			Activity/Extempore
Persuasive Speaking		➢ Functions ➢ Types ➢ Approaching audiences ➢ Organising persuasive messages ➢			Activity/Presentation
Speaking to a global audience		➢ Global perspectives ➢ Sensitivity and respect ➢ Understanding diversity ➢ Appropriate verbal and non-verbal expression			Presentation

CLASSROOM/COURSE ETIQUETTES:

- ATTENDANCE POLICY:

  As notified by School of Law.

- LATE ASSIGNMENT SUBMISSION POLICY:

  Late assignments will be marked zero.

- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM:

  Plagiarized assignments will be marked zero.

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

B.A. LLB. (Hons.) 2019-24 Batch

Faculty	Ms. Urmi Gupta	Semester	I
Course Name	Sociology III	No. of Credits	4
No. of Contact Hours	4 hours (per week)	Session duration	1 semester
Course Code	SCG 2702		

Email address of Instructor: urmi.gupta@bmu.edu.in

COURSE OVERVIEW:

This course aims to introduce students to understand the intersections of sociological jurisprudence and law. While law students typically study legal norms declared by authoritative sources like judgments and statutes, sociology with its empirical approaches study the working of these normative laws in society. The course aims to bring these two approaches together. In the beginning of the course we will look at the great thinkers –Karl Marx, Emile Durkheim and Max Weber to understand the historiography and evolution in 'sociology of law'. In the following weeks, we will look at the emergence of modern law in India and explore the everyday social contexts where law is mobilized. The pertinent questions on the access to justice, gender violence, social control will be debated and discussed.

COURSE OUTCOMES:

CO1: Gain extensive insight into the key theories and perspectives in the field of sociology of law.

CO2: Critically analyze the social contexts in which law operates.

CO3: Challenge the view that law is neutral.

CO4: Develop an understanding of diverse social processes and the mechanisms of social change with reference to contemporary Indian society.

CO5. Evaluate and critically assess existing scholarship along with analytical, verbal and written communication skills to effectively engage in independent research.

PROGRAM OUTCOMES:

PO1: Draw on a sound understanding of concepts, principles and theories of private and public law, business laws and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyze and interpret legal issues to solve problems.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

PROGRAM SPECIFIC OUTCOMES: BA, LLB (Hons.)

By the end of the program the students will be able to:
PSO1: Apply knowledge of and insights from political science and sociology domains to enrich their understanding of the law and legal practice.

PSO2: Understand the role and impact of social and political institutions in legal practice.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

(i).   Discussion method

(ii). Student engagement and participation

(iii). Demonstrations with PPT's.

(iv). Group Discussions

(v). Guest Lectures

(vi). Online videos and lectures

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	CO	PO
Class Participation and Presentations	5%	All COs	1,2,4,5,6,7
Classroom Exercises: Debates, Discussion	15%	1,2,3,4,5	1,2,3,4,5,6,7
Assignments	10%	1,2,3,4,5	1,2,3,4,5
Mid Term Examination	20%	1,2,3,4	1,2,4
End Term Research paper	15%	1,2,3,4,5	1,2,3,4,5,6,7
End Term Examination	35%	1,2,3,4	1,2,4
Total	100%		

Class Participation: Students must actively engage in debates and discussions in class. Starting from Week 2, each class shall have 2 presentations from students based on the readings mentioned in the Course Outline. Class participation (5%)

Classroom Exercises: There will be 5 specific classroom exercises (3% each) which will consist of debates, discussions and simulation exercises. In these exercises students will engage in the contemporary debates, analyzing films or be asked to watch relevant debates/videos before the lecture. These exercises will be marked and students will be informed beforehand regarding the assessment.

Assignments: Students will be given 1 assignment for the entire semester. 10 marks will be divided into components: Presentation of topic (2%), Discussion and Peer Review (3%) and Paper (5%). Assignments must demonstrate a flow of logical arguments, adequate understanding of theories and their application to current debates.

Mid Term Examination: Mid-term examination will consist of a written exam.

Research paper: Students will be writing a research paper (1500 words) after completing mid semester examination. The topic must be within the scope of the syllabus and should be innovative and creative. Paper shall have two components – Presentation along with peer feedback (5%) and Paper submission (10%).

End Term Examination: End-term examination will consist of a written exam (35%)

CLASSROOM/COURSE ETIQUETTES:

Attendance Policy: Students are expected to attend the classes regularly. Failure to attend the classes regularly and adhere to the expected attendance percentage will result in a reduction of the grade as per the University's grading policy**.**

Late assignment submission policy: Late submission in assignment is not allowed and any late submission will be awarded "0" marks in that particular assignment.

Academic dishonesty/cheating/plagiarism: Plagiarism and academic dishonesty in any form in any evaluation component will lead to appropriate disciplinary action.

TEXTBOOKS:

The core textbook for the course is Deflem, M. (2008), *Sociology of Law***, CUP.**

All enlisted readings—essential and supplementary—will be provided at the beginning of the semester.

TOPIC	NO. OF LECTURES	SESSION OUTCOME	PEDAGOGY	CORRESPONDING CO	MODE OF ASSESSING THE OUTCOME
Introduction Sociology of Law	2	- Grasp on understanding the	-Introducing the topic by lecture	CO1, CO2	Continuous Assessment

		evolution of sociology of law.	-Student Presentation and Discussion		
Theoretical Explorations: Early Sociologists	2	Classical sociologists and their explorations of law and society.	-Lecture -Student Presentation and Discussion	CO1, C02, CO3	Continuous Assessment
Classical Sociological Thought – Marx, Durkheim, Weber	6	Classical sociologists and their explorations of law and society.	-Lecture -Student Presentation and Discussion	CO1, C02, CO3	Continuous Assessment
MID-TERM EXAMINATION [20%]					
Sociological Jurisprudence to Sociology of Law	1	-Exploring the boundaries of law and morality in sociology of law.	-Lecture -Student Presentation and Discussion	CO1, C02	Continuous Assessment
Emergence of Modern Law in India	1	Evolutionary understanding of law from colonial times to the current globalized discourse.	-Lecture -Student Presentation and Discussion	CO3, CO5, C04	Continuous Assessment
Politics of Access to Justice	4	Critical analysis of law being able to provide justice to poor.	-Lecture	CO3, CO5, C04	Continuous Assessment

5

			- Student Presentation and Discussion		
Law Enforcement: Problem of Social Control	4	What are the excesses of law and how are they justified for the defense of society.	-Lecture -Student Presentation and Discussion	CO3, CO5, C04	Continuous Assessment
Law, Gender and Violence	4	Understanding the problem of gender and violence, sexual security regime, surveillance.	Presentation, Discussion	CO3, CO5, C04	Continuous Assessment
Law and Globalization	3	Looking at the role of law in displacement, migration, refugees. -Human Rights Discourse			
Law and Emotions:	3	Emotions do play an important role in society. Mired in social norms, we need to look at the challenges for accommodating emotions within legal framework	Presentation, Discussion and Feedback	CO3, CO4, CO5	

Law and Social Change	2	Critical analysis of whether law has been a harbinger of change in society	Presentation, Discussion	CO3, CO5, C04	

Total : 64 hours of classes

WEEK WISE READINGS:

Week 1

Topic: Introduction: Sociology of Law

Essential Reading:

- Deflem, M. (2008), *Sociology of Law*, CUP (pages 1–8).
- Banakar, Reza (2011), "Sociology of Law," *Sociopedia.isa*, 1–13.

Supplementary Reading:

- Cotterrell, Roger (2006), "Why Must Legal Ideas Be Interpreted Sociologically?", *Law, Culture ar Society,* Ashgate (chapter 3; pages 45–63).

Week 2 and 3

Topic: Theoretical Explorations: Early Sociologists

Essential Reading:

- Deflem, M. (2008), *Sociology of Law*, CUP (pages 17–24; 28–36).

Topic: Law and the Classical Sociological Thought

1. Karl Marx: Law, Ideology and Power

Essential Readings:

- Deflem, M. (2008), *Sociology of Law*, CUP (pages 24–28).
- S. Spitzer, "Marxist perspectives in the sociology of law." Annual Review of Sociology, 1983, 9:103--124.

Supplementary Reading:

- Linebaugh, Peter (1976), "Karl Marx, the Theft of Wood, and Working Class Composition," *Crime and Social Justice*, 6: 5-16.
- Hunt, Alan (1999), "Marxist Theory of Law," *in* Dennis Patterson (ed.), *A Companion to Philosophy of Law and Legal Theory*, Blackwell Publishers (pages 355–366).

Week 4

Topic: Law and the Classical Sociological Thought Contd.

2. Emile Durkheim: Law, Morality, Social Solidarity

Essential Reading:

- Deflem, M. (2008), *Sociology of Law*, CUP (chapter 3; pages 61–74).

Supplementary Reading:

- Cotterrell, Roger (1977), "Durkheim on Legal Development and Social Solidarity," *British Journal of Law and Society*, 4 (2): 241–252.

Week 5

3. Max Weber: Law and Rationality

Essential Reading:

- Deflem, M. (2008), *Sociology of Law*, CUP (chapter 2; pages 43–55).

Supplementary Reading:

- Trubek, David M. (1985), "Reconstructing Max Weber's sociology of law," *Stanford Law Review*, 37 (3): 919–936.
- Trubek, David, "Max Weber's Tragic Modernism and the Study of Law in Society," Law and Society Review, Vol. 20, No.4 (1986) pp. 573-598

Week 6

Topic: Sociological Jurisprudence to Sociology of Law

- **Emergence of Modern Law in India**

Essential Reading:

- Deflem, M. (2008), *Sociology of Law*, CUP (pages 97–116).
- Galanter, Marc (1968), "The Displacement of Traditional Law in Modern India," *Journal of Social Issues*, XXIV (4): 65–91.

Week 7& 8

Topic: The Politics of Access to *Justice*

Essential Readings :

- Nader, Laura (2002) "A Wide-angle on Dispute Management," *Willameite Journal of International La & Dispute Resolution*, 10:37–46.
- Galanter, Marc and Jayanth K. Krishnan (2004), "Bread for the Poor: Access to Justice and the rights the needy in India," *Hastings Law Journal*, 55 (4): 789–833. (pages 789-803; 810-813; 829-833)

Supplementary Reading:

- Galanter, Marc (2014), "Snakes and Ladders: *Suo Moto* Intervention and the Indian Judiciary," *FIU La Review* 10 (1): 69-83.
- Anuj Bhuwania (2014), "Courting the People: The Rise of Public Interest Litigation in Post-Emergeno India," *Comparative Studies of South Asia, Africa and the Middle East*, 34 (2): 314-335.

Week 9 & 10

Topic: Law Enforcement: Problem of Social Control

Essential Reading

- Deflem, M. (2008), *Sociology of Law*, CUP (pages 227-249).
- Foucault, Michel, and François Ewald. "Society Must Be Defended": Lectures at the Collège de Franc 1975-1976. Vol. 3. Macmillan, 2003.

Supplementary Reading

Week 11 & 12

Topic: Law, Gender and Violence

Essential Reading:

- MacKinnon, Catherine A. (1989), "Rape: On Coercion and Consent," *Toward a Feminist Theory of t State*, Harvard University Press (pages 171–183).
- Kapur, Naina and Purewal, Jasjit (1990), "State violence, Law and Gender Justice", Third World Leg Studies: vol. 9 (5) 133-152

Week 13

Topic: Law and Globalization

Essential Reading:

- Deflem, M. (2008), *Sociology of Law*, CUP (chapter 12; pages 250–270).

- Merry, Sally E. (2006), "Transnational Human Rights and Local Activism: Mapping the Middle" *American Anthropologist*, 108 (1): 38–51.

Week 14

Topic : Law and Emotions: Convergences and Divergences

Essential Reading:

- Nussbaum, Martha (2004), "Stigma and Brand: Shame in Social Life" in *Hiding from Humanity: Disgust Shame and the Law*, New Jersey: Princeton University Press (pages: 1-18).
- Nussbaum, Martha (2004), "Shame and Disgust: Confusion in Practice and Theory," in *Hiding from Humanity: Disgust, Shame and the Law*, New Jersey: Princeton University Press (pages:).

Supplementary readings:

- Malik, Inshah (2018) "Gendered Politics of Funerary Processions" *Economic and Political Weekly* 53(47)

Week 15

Topic: Law and Social Change:

Essential Reading:

- Singh, Yogendra (1993), Social Change in India: Crisis and Resilence.
- Baxi, Upendra (1986), Towards a Sociology of Indian Law 1-3

Supplementary Reading:

Week 16

Revision and Make up Session

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BA LLB(Hons.)/BBA LLB (Hons.) ……….. Batch

Faculty	Parvesh Aghi	Year/Semester	2022/IV
Course Name	Accounting for lawyers	No. of Credits	4
No of Contact Hours	64	Session duration	1.5
Course Code	ACC2703, LTPC		

ABOUT THE INSTRUCTOR:

      EMAIL ID: parveshaghi@yahoo.com

COURSE OVERVIEW:

Introductory Accounting for Lawyers will provide students with a fundamental understanding of the principles underlying financial accounting. Additionally, students will gain an understanding of the development and analysis of financial statements including the balance sheet, income statement and statement of cash flow. Other topics will include a discussion of financial analysis and financial theory.

This subject will review which common accounting concepts emerge in legal work and what lawyers should consider when encountering them. Having a basic knowledge of accounting concepts empowers lawyers in their practice, allowing them to better understand the full picture of legal matters they work on that involve elements of accounting or finance.

COURSE OUTCOMES:

Understanding Generally Accepted Accounting Principles (GAAP). Learning the accounting cycle. How to read the balance sheet, income statement, statement of cash flows, and notes to the financial statements . Regulatory changes , Tax accounting vs book accounting.

The course is intended to equip students with the basic mechanics to review and analyze an entity's financial statements, identify significant issues and to form a general familiarity with financial statements to aid in preparing for litigation or assisting with business transactions.

	Course Outcomes	Bloom's Level	PO1	PO2	PO3	PO4	PO5	P06	PO7
CO1	Explain accounting process, concepts, principles & conventions in preparing and presentation of accounting statements.	2. Understand							
CO2	Apply different depreciation and inventory valuation methods and study their impact on business	3. Apply	3		3				
CO3	Demonstrate an understanding of financial statements in terms of the mechanism behind preparation and their respective significance along with the ability to read them.	3. Apply	3			2			
CO4	Apply the tools and techniques of financial statement analysis	3. Apply	3			2		3	
CO5	Undertake industry analysis and competitive analysis to comment upon the financial performance of the company for the purpose of decision making.	4. Analyze	3		3	2		3	3

Course Evaluations

Components of Course Evaluation	Weight	Course Outcomes	Program Outcomes
Class Participation	10%	CO1, CO2, CO3, CO4, CO5	PO1, PO3, PO5, PO6, PO7
Quiz, class test & Assignments (Group/Individual)	35%	CO1, CO2, CO3, CO4, CO5	PO1, PO3, PO5, PO6, PO7
Mid term	20%	CO1, CO2, CO3	PO1, PO3, PO5, PO6, PO7
End Term Examination	35%	CO1, CO2, CO3, CO4	PO1, PO3, PO5, PO6, PO7
Total	100%		

SYLLABUS:

*Unit 1: **Introduction to Financial Accounting:*** Introduction, Meaning of Book Keeping, Accounting and Accountancy, Distinction between Book Keeping and Accounting, Accounting Process, Objectives of Accounting, Various users of Accounting Information, Limitations of Accounting, Accounting Terminologies

*Unit 2: **Accounting Concepts, Principles and Conventions:*** Introduction, Meaning of Accounting Concepts, Principles, Conventions, Types of Accounting Concepts, Types of Accounting Principles, Types of Accounting Conventions, Accounting standards, International Financial Reporting Standards [IFRS]

*Unit 3: **Recording of Transactions:*** Introduction, Meaning of Assets, Liabilities, Equity, Accounting Equation and Effects of Financial Transaction on Accounting Equation, Classification of Accounts under Modern Approach Method, Double Entry System and Rules of Debit and Credit Entries

*Unit 4: **Secondary Books:*** Introduction, Secondary Books, Cash Book, Petty Cash Book , Ledger

*Unit 5: **Trial Balance and Rectification of Errors:*** Introduction, Trial Balance, Error in Accounting

*Unit 6: **Final Accounts** – 1:* Introduction, Meaning, Objectives and Characteristics of Final Accounts, Adjustments before Preparing Final Accounts, Closing Entries

*Unit 7: **Final Accounts** – 2:* Introduction, Trading Account, Profit and Loss Account, Balance Sheet, Treatment of Adjustments, Practical Problems

Unit 8: **Bank Reconciliation Statement***:* Introduction, Meaning of Bank Reconciliation Statement, Importance of Bank Reconciliation Statement, Reasons for Difference, Procedure for Reconciliation

Unit 9: **Partnership Accounts** *– Admission of a Partner:* Introduction, Partnership - Meaning and Features,   Partnership Deed and Contents, Admission of a Partner,Good will-Meaning, Accounting Treatment of Goodwill at the Time of Admission, Revaluation of Assets and Liabilities, Adjustments of Reserves and Accumulated Profits or Losses

Unit 10: **Depreciation Accounting**: Introduction, Meaning of Depreciation, Causes for Depreciation, Need for Depreciation, Computation of the Amount of Depreciation, Depreciation on Additions to Fixed Assets,   Methods of Depreciation, Revised AS 6

Unit 11: **Introduction to Company Accounts***:* Introduction, Kinds of Companies, Formation of Companies, Share Capital, Issue of Shares, Under Subscription & Oversubscription, Issue of Shares at Premium & Discount, Buy back of Shares and Treasury Stock, Accounting Treatments and Ledger Preparation

Unit 12: **Company Accounts***:* Introduction, Forfeiture of Shares, Reissue of Shares, Issue of Bonus Shares, Rights Issue,   Share Split,   Buy Back of Shares, Redemption of Preference Shares, Debentures

Unit 13: **Accounting Standards***:* Introduction, Objectives of Accounting Standards, Procedure for Issuing Accounting Standards, Advantages of Accounting Standards, Accounting Standards in India

Unit 14 : **Introduction to financial statement analysis and financial ratios** : Learn to calculate and interpret various activity, liquidity, solvency, profitability, and valuation ratios. Calculate and interpret various financial multiples . Learn how to evaluate a company using ratio analysis. Interpret ratios used in credit & equity analysis. Ratio analysis & forecasting

Unit 15 : **The time value of money & valuation of assets**

Future value of a single amount, present value of a single amount , future and present value of a annuity , compounding and discounting , net present value , payback period . Discount rate, cost of capital. Valuation for legal and tax purposes of shares, firm and other assets .

TEXTBOOKS:

Basics of Accounting – Jain & Narang

Basic of Accounting – T. S. Grewal

ADDITIONAL READINGS:

Study material provided by the faculty

LECTURE WISE TOPICS AND READINGS:

TOPIC	NO. OF LECTURES	SESSION OUTCOME	PEDAGOGY	CORRESPONDING CO	MODE OF ASSESSING THE OUTCOME
Introduction to Financial Accounting	2		Videos & Group activities		Mid term exam & quiz results
Accounting Concepts, Principles and Conventions	3		Quiz		Mid term exam & quiz results
Recording of Transactions & Secondary Books	8		Class exercise & Quiz		Mid term exam & quiz results
Trial Balance & Final Accounts	8		Class exercise		Mid term exam & quiz results

Bank Reconciliation Statement	3		Class Exercise & assignment		Mid term exam & quiz results
Partnership Accounts	6		Videos, Group activities. Quiz		Mid term exam & quiz results
Depreciation Accounting	3		Class exercise & Quiz		Mid term exam & quiz results
Company Accounts	8		Videos, Group activities. Quiz		End term exams
Accounting Standards	4		Videos, Group activities. Discussions		End term exams
Introduction to financial statement analysis and financial ratios	8		Classroom discussions, Data collection & research of company's annual reports & how to decipher the actual condition of		End term Exam

			a company. interpretations		
The time value of money & valuation of shares ,firm etc.	8		Classroom discussions ,Case study & Group Project		End term exam

CASE LAWS/READINGS:

CLASSROOM/COURSE ETIQUETTES:
- ATTENDANCE POLICY:
- LATE ASSIGNMENT SUBMISSION POLICY:
- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM:

ALIGNMENT OF COs TO POs AND PSOs

CO	STATEMENT	Correlation with POs and PSOs							
		PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY

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BA LLB(Hons.) 2020-2025 Batch

Faculty	Anubhav Raj Shekhar	Year/Semester	2nd/IV
Course Name	Constitutional Law II	No. of Credits	4
No of Contact Hours	(4 + 1 Tutorial)/week	Session duration	1 semester
Course Code	LAW2705		

ABOUT THE INSTRUCTOR:

EMAIL ID: anubhav.shekhar@bmu.edu.in

COURSE OVERVIEW:

A Constitution represents the political covenant that governs the relationship between the State and its citizens. While Constitutional Law I focused on the functions of the organs of the State and their interactions, this course will focus on the relationship between individuals and the State. The students will learn about the principles underlying fundamental rights and the interpretation given to the constitutional provisions by the Supreme Court. This course is designed to help the students develop a clear understanding of the scope and nature of the rights guaranteed to the individuals by the Constitution. This course employs an analytical approach with the aid of case laws to achieve its course outcomes.

COURSE OUTCOMES:

By the end of this course, the students will be able to:

CO1. Identify and explain substantive principles and concepts underlying the rights guaranteed by the Constitution and the interconnections between them.

CO2. Exhibit understanding of the dual nature of rights with respect to the state – circumscribing the state powers to guarantee liberties for individuals and empowering the state to create conditions for realizing positive rights.

CO3. Apply the provisions under Part III of the Constitution to relevant legal issues.

CO4. Appreciate the role of the higher judiciary and constitutional interpretation through the judgments of the Supreme Court and the High Courts.

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

Program Outcomes for 5-year Law Programme:

PO1: Draw on a sound understanding of concepts, principles and theories of private and public law, business laws and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyze and interpret legal issues to solve problems.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

Program Specific Outcomes for BA, LLB (Hons.)

By the end of the program the students will be able to:

PSO1: Apply knowledge of and insights from political science and sociology domains to enrich their understanding of the law and legal practice.

PSO2: Understand the role and impact of social and political institutions in legal practice.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

1. Lecture

2. Case Law Method

3. Discussions in Break out groups

4. Guest Lectures

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	Course Outcomes	Programme Outcomes
Class Participation	10	CO1, CO2, CO3 and CO4	PO1, PO2, PO3, PO4 and PO5`
Assignment 1 **(After Four weeks of commencement of classes)**	15	CO1, CO2 and CO3	PO1, PO2, PO3 and PO4
Mid Semester Examination	20	CO1, CO2 and CO3	PO1, PO2 and PO3
Assignment II **(After three weeks of mid-term exam)**	15	CO1, CO2, CO3 and CO4	PO1, PO2, PO3, PO4 and PO5
End Semester Examination	40	CO1, CO2, CO3 and CO4	PO1, PO2, PO3, PO4 and PO5
Total	100		

Note: Marks for each internal assignment shall be shared with students within 10 days of the submission of assignment.

SYLLABUS:

Unit 1: Constitution, Constitutionalism and Rights

Questions: What is the relationship between a constitution and constitutionalism? Can there be a constitution without constitutionalism? Rights as a feature of constitutionalism. What Are Constitutional Rights About? What Qualifies as a Fundamental Right? Defining and Listing? What Do Fundamental Rights Imply? Reconciling Government with Freedom in Constitutionalism: Restrictions on Fundamental Rights

Week 1 :

Essential Readings:

Course Outline for first session on introduction to the course
Oketh Ogondo, *Constitutions without Constitutionalism: Reflections on an African Political Paradox*
'Rights' in Andras Sajo and Renata Uitz, The Constitution of Freedom: An introduction to Legal Constitutionalism (OUP: 2017), pp. 372-401.
Sandra Fredman Human Rights Transformed : Positive Rights and Positive Duties (Introduction : Pages 41-49)
'

Further Readings

Mark Tushnet, *Authoritarian Constitutionalism, 100 Cornell L. Rev. 391 (2015)*
Papia Talukdar, *Rights,* in Introduction to Political Theory by Rajeev Bhargava (Chapter 6)
James Griffin, Welfare Rights in The Journal of Ethics, Vol. 4, No. 1/2, Rights, Equality and Liberty Universidad Torcuato Di Tella Law and Philosophy Lectures 1995-97 (Jan- March 2000) pp. 27-43. (X)
Cass Sunstein,;Against Positive Rights;, 2 E. Eur. Const. Rev. 35 (1993).
D.M. Davis, 'Socio-Economic Rights' in Michel Rosenfeld and Andras Sajo (eds.), The Oxford Handbook of Comparative Constitutional Law (Oxford: 2012), pp. 1020-1035.

Unit 2:
"State" and "Law"

Questions: What constitutes "state" against which rights are guaranteed to citizens/persons? What are the tests to decide whether "other authorities" could be included within the definition of "state"? Can the fundamental rights be claimed against non-state actors/private persons? What is the definition of "law" under Art. 13? What is the effect of Art. 13 on laws inconsistent with the Fundamental Rights?

Week 2

Essential Readings

-Text of articles 12 and 13
-Ajay Hasia v Khalid Mujib Sehravardi 1981 AIR 487
-Zee Telefilms Ltd. v. Union of India, (2005) 4 SCC 649

-Deep Chand v State of Uttar Pradesh 1959 AIR 648

Further Readings

Anant Padmanabhan, *RIGHTS : breadth, scope, and applicability*, Oxford Handbook of Indian Constitutional Law

Unit 3:
The right to Equality under Art. 14 and scope for affirmative action (Arts. 15) Article 17

Questions: What is the meaning of equality under the Indian constitution? What is affirmative action? What are the tests to determine the constitutional validity of laws under Art. 14? What principles emerge from Art. 14 ("Reasonableness" and "non-arbitrariness") for regulating the exercise of administrative discretion? What are the grounds of prohibited discrimination under Art. 15 (1) and (2)?

Essential Readings
- Text of Article 14
- The State of West Bengal vs Anwar All Sarkar (1952 AIR 75)
- Shri Ram Krishna Dalmia vs Shri Justice S. R. Tendolkar(1958 AIR 538)
- E.P. Royappa v. State of Tamil Nadu (1974 AIR 555)

Further Readings

- Tarunabh Khaitan, *Equality: Legislative Review under Article 14* in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)

Week 4

Essential Readings

- Text of Articles 15 and 16
- Tarunabh Khaitan, *A Theory of Discrimination* (Relevant excerpts to be shared)
- Champakam Dorai Ranjan v. State of Madras (Paragraphs to be shared)
- MR Balaji v State of Mysore 1963 AIR 649 (Paragraphs to be shared)

Week 5

Essential Readings

- Air India v. Nargesh Meerza "(1981) 4 SCC 335" 1 (Paragraphs to be shared)
- Anuj Garg & Ors vs Hotel Association of India & Ors ((2008) 3 SCC 1 (Paragraphs to be shared)
- Excerpt From: Gautam Bhatia. "The Transformative Constitution".(Chapter on Anuj Garg)

Week 6

Essential Readings

- Text of Article 16
- State of Kerala v NM Thomas (1976) 2 SCC 310. (Paragraphs to be shared)
- Indira Sawhney v Union of India (Paragraphs to be shared) AIR 1993 SC 477
- M Nagaraj v Union of India (2006) 8 SCC 212. (Paragraphs to be shared)
- Ashoka Kumar Thakur v Union of India (2008) 6 SCC 1(Paragraphs to be shared)

Further Readings

- Reservations, Vinay Sitapati in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)
- Anup Surendranath in The Hindu, *The ambiguity of reservations for the poor*(Article in The Hindu)

Unit 4:

Freedoms guaranteed under Article 19

Questions: What are the different rights available under Article 19? What are reasonable restrictions that State can impose upon these freedoms? How has Supreme Court influenced the scope of these rights through interpretation? Problems of Free Speech. Why is free speech important?

Week 7

Essential Readings

Text of Article 19 – Rights and Restrictions
Areopagitica by John Milton (relevant excerpts to be shared)
-Bennett Coleman & Co. v. Union of India, AIR 1973 SC 106 241
-Secretary, Ministry of I & B, State of W. B v. Cricket Association, (1995) 2 SCC 161
-Shreya Singhal v. Union of India, (2013)12 SCC 73
-People's Union for Civil Liberties (PUCL) v. Union of India, (2003) 4 SCC 399

Week 8

Essential Readings

-Communist Party of India (M) v. Bharat Kumar, (1998) 1 SCC 201
-AIADMK v. Chief Secretary, Government of Tamil Nadu, (2007) 1 SCALE 607
- Chindamanrao v. State of M.P., AIR 1951 SC 118
-Narendra Kumar v. Union of India, AIR 1960 SC 430
-State of Gujarat v. Mirzapur Moti Qureshi Kasab Jamat, AIR 2006 SC 212
-Tehseen S. Poonawalla v. Union of India, 2018 SCC Online SC 696

Further Readings:

-Lawrence Liang, 'Free Speech and Expression' in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)
-Anirudh Burman, 'Movement and Residence' in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)

-Vikramaditya S Khanna, 'Profession, Occupation, Trade, or Business' in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)

Unit 5:
Safeguards to persons accused of crimes (Arts. 20 and 22)

Questions: What protections are available to the accused and the arrested under the constitution? What are the safeguards provided in the constitution for those taken into preventive detention?

Week 9

Essential Readings

-Smt. Selvi and Ors. v. State of Karnataka, AIR 2010 SC 1974
-D.K. Basu v. State of West Bengal (1997) 1 SCC 416 315
-People's Union for Civil Rights v. Union of India, 2003 (10) SCALE 967

Further Readings:

-Aparna Chandra And Mrinal Satish, 'Criminal Law and the Constitution' in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)

Unit 6:
Right to life and personal liberty (Arts. 21)

Questions: What is the concept of "life and personal liberty" under Art. 21? What is meant by "procedure established by law?" What is the relationship between Articles 14, 19 and 21? How has the judiciary expanded the scope of Art. 21?

Week 9

Essential Readings

- AK Gopalan v State of Madras AIR 1950 SC 27
-Maneka Gandhi v. Union of India, AIR 1978 SC 597
-National Legal Services Authority v Union of India, (2014) 5 SCC 438
-Animal Welfare Board Of India vs A. Nagaraja & Ors., (2014) 7 SCC 547
-A K Roy v. Union of India, AIR 1982 SC 710
-Justice K.S. Puttaswamy v. Union of India, (2017) 10 SCC 1

Essential Readings

Anup Surendranath, 'Life and Personal Liberty', in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)
Abhinav Chandrachud, 'Due Process' in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)

Unit 7:
Right to freedom of religion (Arts. 25-28)

Questions: What is the nature and scope of freedom of conscience and the right to freely profess, practice and propagate religion? What has been the Indian understanding of secularism and where can it be traced in the constitutional scheme? What are the implications of the judicially evolved distinction between essential and non-essential religious practices; and between religious and secular, commercial and political activity for understanding the scope of this right?

Week 10

Essential Readings

- Text of Article 25 -28
- Hindu Religious Endowments, Madras v Sri Lakshmindra Thirtha Swamiar of Sri Shirur Mutt
- Acharya Jagdishwaranand Avadhuta and Ors. vs. Commissioner of Police, Calcutta and Ors.
- (20.10.1983 - SC) : MANU/SC/0050/1983
- Shayara Bano v. Union of India, 2017 SCC OnLine SC 963

Week 11

Essential Readings

- Indian Young Lawyers Association v. State of Kerala, 2018 SCC OnLine SC 1690(Justice Chandrachud's opinion)
- Kantaru Rajeevaru v Young Indian Lawyers Association REVIEW PETITION (CIVIL) No. 3358 OF 2018 IN WRIT PETITION (CIVIL) No. 373 OF 2006

Additional Readings

- Faizan Mustafa; Jagteshwar Singh Sohi, Freedom of Religion in India: Current Issues and Supreme Court Acting as Clergy, 2017 BYU L. Rev. 915 - 955 (2017)
- Ronojoy Sen, 'Secularism and Religious Freedom' in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)
- Dhavan, Rajeeev, and Fali S. Nariman. 2000. "The Supreme Court and Group Life: Religious Freedom, Minority Groups and Disadvantaged Communities". *Supreme but Not Infallible : Essays in Honour of the Supreme Court of India.* 256-287.

Unit 8:
Cultural and Minority Rights (Arts. 29-30)

Questions: How is a "minority" community defined? What are special rights provided for in the constitution for such minorities?

Week 12

Essential Readings

T.M.A. Pai Foundation V. State of Karnataka, AIR 2003 SC 355
P.A. Inamdar v. State of Maharashtra, AIR 2005 SC 3236

Unit 9:
Public Interest Litigation, Social Rights Jurisprudence and DPSPs

Questions: What is the relationship between Parts III and IV of the constitution? How has the judiciary used the DPSPs as an interpretive tool to read social and economic rights into Part III?

Week 13

Essential Readings

-People's Union for Democratic Rights v. Union of India, AIR 1982 SC 1473
- Minerva Mills Ltd. and Ors. vs Union Of India and Ors., AIR 1980 SC 1789

Essential Readings

-Shyam Divan, 'Public Interest Litigation' in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1ˢᵗ ed., 2017)
- Courting the People – Anuj Bhuwania (Relevant excerpts to be shared).

Unit 10 :
Citizenship

Questions : Meaning of Citizenship. Citizenship at the beginning of the Constitution. Regulation of citizenship through law. Recent debates in citizenship

Week 15

Essential Readings

-   Excerpts from *Citizenship and its discontents* by Niraja Jayal Gopal
-   Excerpts from *On Citizenship* hy Romila Thapar, N Ram, and Gautam Bhatia.

BOOKS:

●   M.P. Jain, Indian Constitutional Law with Constitutional Documents
●   DD Basu, Commentary on the Constitution of India
●   S Pal, India's Constitution –Origins and Evolution

LECTURE WISE TOPICS

TOPIC	NO. OF LECT U-RES	SESSION OUTCOME	PEDAGOGY	CORRES- PONDIN G CO	MODE OF ASSESSIN G THE OUTCOME
General Introduction	1 x 2 hr	To familiarize the students with	NA	NA	NA

		the course and its objectives			
Constitutionalism and Rights	1 X 2 hr	Students will be able to place rights in context of constitutionalism	Lecture/Discussion	CO1	Mid Semester Exam + End Semester Exam
"State" and "Law"	2 X 2 hr	Students will be able to appreciate the concept of state and law as envisaged in the constitution	Lecture/Discussion/Case Studies	CO1, CO3	
Equality and Scope for affirmative action	6 X 2 hr	Students will be able to recognize the differences between formal equality and substantive equality as envisaged in the constitution	Lecture/Discussion/Case Studies	CO1, CO2, CO3, CO4	
Freedoms guaranteed under Art. 19	5 X 2 hr	Students will understand the scope of freedoms and the idea of reasonable restrictions on these freedoms as per the constitutional scheme.	Lecture/Discussion/Case Studies	CO1, CO2, CO3, CO4	

Safeguard to persons accused of crimes	3 X 2 hr	Students will examine the constitutional safeguards available to individuals accused of a crime.	Lecture/Discussion/Case Studies	CO1, CO3, CO4	
Mid-term exam					
Right to Freedom of Religion	4 X 2 hr	Students will identify the scope of freedom of religion and gain a comparative understanding of secularism.	Lecture/Discussion/Case Studies	CO1, CO3, CO4	End Semester Exam
Cultural and minorities rights	2 X 2 hr	Students will be able to enhance their understanding of constitutional design in terms of protection of diversity in the nation.	Lecture/Discussion/Case Studies	CO1, CO3, CO4	
Right to Life and Personal liberty	3 X 2 hr	Students will examine the concept of life, personal liberty and procedure established by law through reading of various judicial	Lecture/Discussion/Case Studies	CO1, CO2, CO3, CO4	

		pronouncements.			
Public Interest Litigation, Social Rights and DPSPs	2 X 2 hr	-Students will examine the genesis and the scope for public interest litigation. - Students will contextualize the evolution of social rights within the constitutional scheme.	Lecture/Discussion/Case Studies	CO1, CO2, CO3, CO4	
Citizenship	3 X 2 hr	Students will appreciate the contemporary debates on citizenship.	Discussions	CO1, CO2, CO3, CO4	
Total hours: 32 X 2 hr + 16 X 1 hr (Tutorials) = 80 hr					

CLASSROOM/COURSE ETIQUETTES:

- ATTENDANCE POLICY:

    As notified by School of Law.

- LATE ASSIGNMENT SUBMISSION POLICY:

    Late assignments will be marked zero.

- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM:

    Plagiarized assignments will be marked zero.

ALIGNMENT OF COs TO POs AND PSOs

CO	STATEMENT	Bloom's Level	Correlation with POs and PSOs								
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
CO1	Identify and explain substantive principles and concepts underlying the rights guaranteed by the Constitution and the interconnections between them.	Level 4	3	3	2	3	3	1	3	3	3
CO2	Exhibit understanding of the dual nature of rights with respect to the state – circumscribing the state powers to guarantee liberties for individuals and empowering the state to create conditions for realizing positive rights.	Level 2	3	3	3	3	3	1	3	2	3
CO3	Apply the provisions under Part III of the Constitution to relevant legal issues.	Level 6	3	3	3	2	3	1	2	2	2
CO4	Appreciate the role of the higher judiciary and constitutional interpretation through the judgments of the Supreme Court and the High Courts.	Level 2	3	3	3	2	3	1	2	3	3

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

2020-2025 B.A., L.L.B. (Hons.) Batch

Faculty	Dr. Kavita Chawla	Year/Semester	II/IV
Course Name	Family Law – II	No. of Credits	4
No of Contact Hours	4 teaching hours + 1 tutorial hour	Session duration	One semester
Course Code	LAW2704		

ABOUT THE INSTRUCTOR: Dr. Kavita Chawla

EMAIL ID: kavita.chawla@bmu.edu.in

COURSE OVERVIEW:

Family law is unlike the other civil laws. It is not uniform and is based on the religion of the person. Due to the large expanse of Family law, it has been covered in two semesters in the form of Family Law I and Family Law II. In Family Law - I, topics such as marriage, divorce, maintenance, guardianship, and adoption for Hindus and Muslims were covered. Family Law II deals with the conveyance of ancestral and coparcenary property. The course will also deal with the law of inheritance given under the Hindu Succession Act, 1956.

COURSE OUTCOMES:

At the end of the course, the student will be able to:

CO1: To understand and distinguish the important principles regarding partition, intestate and testamentary succession, and inheritance under the Hindu and Muslim law.

CO2: To value and critique the *sui generis* role and position of a Karta in a joint Hindu family.

CO3: To analyze and apply the process of intestate succession under the Hindu Succession Act, 1956, and the Muslim customary principles.

CO4: To examine and compare the status of women under the Hindu and Muslim personal laws concerning the right to coparcenary property.

CO5: To argue and recommend whether uniformity in personal laws is required.

PROGRAM OUTCOMES AND PROGRAM-SPECIFIC OUTCOMES:

Program Outcomes for 5-year Law Programme:

PO1: Draw on a sound understanding of concepts, principles, and theories of private and public law, business laws, and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal, and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyze and interpret legal issues to solve problems.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life, and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

Program Specific Outcomes for BA, LLB (Hons.)

By the end of the program, the students will be able to:

PSO1: Apply knowledge of and insights from political science and sociology domains to enrich their understanding of the law and legal practice.

PSO2: Understand the role and impact of social and political institutions in legal practice.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

1. Lectures
2. Case studies
3. Case presentations
4. Discussions
5. Debates

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution
Class Participation	10%
Case Presentation	10%
MCQ Quiz	5% (after mid semester)
Debate	5% (before mid semester)
Assignments / Response Papers	20 % (10% X 2 - one before and one after mid-semester)
Class Test (in the form of mid-semester exams)	15%
End Term Examination	35%
Total	100

SYLLABUS:

Joint Hindu Family: Mitakshara and Dayabhaga schools; formation and incident under the coparcenary property under Dayabhaga and Mitakshara: extent and mode of succession; Karta of joint family: position, powers, and privileges.

Partition - meaning of partition, de facto & de jure partition, the subject matter of partition & properties not capable of partition, persons having the right to partition & persons entitled only to

share in partition; mode of partition & how the partition is affected; revocation, re-opening, and re-union of partition; principles of intestate inheritance - The Hindu Succession Act, 1956 - general rules of succession of a Hindu male (class I, class II heirs, agnates & cognates) and female dying intestate under the Hindu Succession Act, Hindu woman's property - under the Hindu Succession Act, s*tridhan* and women's estate.

Principles of inheritance under Muslim Law (Sunni law). Muslim Law of property - Hiba: concept, formalities, capacity, revocability; wasiyat: concept, formalities; waqf.

Principles of testamentary succession – the Indian Succession Act, 1925 - wills, registration, codicil, probate, letters of administration of the will.

ESSENTIAL READINGS/ TEXTBOOKS:

1. Mulla, Principles of Hindu Law, 23rd Edition, Lexis Nexis, 2018.
2. Poonam Pradhan Saxena, Family Law Lectures- Family law II, 4th Edition, Lexis Nexis Butterworths, 2018.

ADDITIONAL READINGS:

1. Aqil Ahmad, Mohammedan Law, 26th Edition, Central Law Agency, 2016.
2. Asaf AA. Fyzee, Outlines of Mohammedan Law, 5th Edition, Oxford, 2008.
3. Dr. Paras Diwan and Peeyushi Diwan, Family Law, 11th Edition, Allahabad Law Agency, 2019.
4. J. Duncan M. Derrett, *Hindu law past and present,* A. Mukherjee & Co., Private Ltd., 1957.
5. J. Duncan M. Derrett, Introduction to Modern Hindu Law, 1963
6. Flavia Agnes, Family Law: Family Laws and Constitutional Claims, Oxford University Press, 2011.
7. Mayne's Treatise on Hindu Law & Usage, 17th Edition, Bharat Law House, New Delhi, 2014.
8. Mulla, Principles of Mohammedan Law, 21st Edition, Lexis Nexis, 2017.
9. S.R. Myneni, Muslim Law and Other Personal Laws, 2nd Edition, Asia Law House, 2018.

LECTURE WISE TOPICS AND READINGS:

TOPIC	NO. OF LECTURES	SESSION OUTCOME	PEDAGOGY	CORRESPONDING CO	MODE OF ASSESSING THE OUTCOME
Introduction to the course	1	To appraise the students of the objectives of the course and give a brief introduction to the course	Lecture	NA	NA
Mitakshara and Dayabhaga Schools	2	To understand the two kinds of Schools in Hindu law.	Lecture, case studies, and discussion	CO1	Assignment Case Presentations Quiz Mid Semester End Semester
Nature of joint family and coparcenary, characteristic features of coparcenary, the distinction between coparcenary and joint family	4	To analyze the nature of the joint family property and distinguish between coparcenary and joint family.	Lecture, case studies, and discussion	CO1	Assignment Case Presentations Quiz Mid Semester End Semester
Classification of property: joint family property and separate property	2	To categorize the kinds of property into the joint family property and separate/self-acquired property.	Lecture, case studies, and discussion	CO1	Assignment Case Presentations Quiz Mid Semester End Semester

Position, powers, and liabilities of a Karta	8	To examine the role of a Karta and determine his position and power in a joint Hindu family.	Lecture, case studies, and discussion	CO1 and CO2	Assignment Case Presentations Quiz Mid Semester End Semester
Partition – Meaning, persons entitled to demand partition, how effected; suit for partition, re-opening of partition; re-union	10	To understand the principles regarding partition – who can demand partition and how the partition is affected.	Lecture, case studies, and discussion	CO1	Assignment Case Presentations Debate Quiz Mid Semester End Semester
The Hindu Succession Act, 1956 - general rules of succession of a Hindu male (class I, class II heirs, agnates & cognates) and female dying intestate.	10	To analyze the provisions of the Hindu Succession Act, 1956, and to understand the rules of succession of Hindu males and females.	Lecture, case studies, and discussion	CO1 and CO3	Assignment Case Presentations Quiz End Semester
Daughter as a Coparcener – Position After 2005 *stridhan* and women's estate	5	To understand the position of a Hindu daughter vis-à-vis her share in the coparcenary property after the amendment in law 2005 and subsequent clarification by the SC in Vineeta Sharma v.	Lecture, case studies, and discussion	CO1, CO3, and CO4	Assignment Case Presentations Quiz Debate End Semester

		Rakesh Sharma, AIR 2020 SC 3717.			
Principles of testamentary succession – the Indian Succession Act, 1925 - wills, registration, codicil, probate, letters of administration of the will.	5	To understand the principles of testamentary succession and to distinguish it from the intestate succession.	Lecture, case studies, and discussion	CO1	Case Presentations Quiz End Semester
Principles of inheritance under Muslim Law	9	To understand the principles of intestate succession under Muslim Law and to compare it with the Hindu law principles.	Lecture, case studies, and discussion	CO1 and CO3	Assignment Case Presentations Quiz End Semester
Hiba: concept, formalities, capacity, revocability	3	To understand the concept of gift under Muslim law.	Lecture, case studies, and discussion	CO1	Assignment Case Presentations Quiz End Semester
Wasiyat – concept and formalities; waqf	3	To understand the concept of wasiyat and waqf.	Lecture, case studies, and discussion	CO1	Assignment Case Presentations Quiz End Semester
Revision	2				

WEEK WISE READINGS:

Week 1: Introduction to the course + Schools of Hindu law

Week 2: Concepts of HJF and coparcenary property

1. Commissioner of Wealth-Tax v. Chander Sen, AIR 1986 SC 1753
2. Moro Vishwanath v. Ganesh Vithal, (1873) 10 Bom. 444
3. Muhammad Husain Khan v. Babu Kishva Nandan Sahai, AIR 1937 PC 233

Additional Reading

- The Supreme Court and HUF: A Foot Note by Derrett, 1978 JILI 463- 470.

Week 3: Concepts of HJF and coparcenary property

4. Commissioner of Income- Tax v. Gomedalli Lakshminarayan, AIR 1935 Bom. 412
5. C.N. Arunachala Mudaliar v. C.A. Muruganatha Mudaliar, AIR 1953 SC 495
6. Smt. Dipo v. Wassan Singh, AIR 1983 SC 846

Additional Reading

- "Shares to Female Members at a Partition under Mitakshara Law", 1963 JILI (5) 270.
- P. Iswar Bhat, "Protection on unjust enrichments and undeserved misery as essence of property right jurisprudence in Mitakshara", 2006 JILI 155-174.
- Does Remuneration of a Coparcener constitute a Joint Family Income? 1986 JILI (28) 385.

Week 4: Alienation of property by Karta

7. Hunoomanpersaud Panday v. Mussumat Babooee Munraj Koonweree, (1854-1857) 6 Moore's IA 393 (PC) 36
8. Sunil Kumar v. Ram Prakash, (1988) 2 SCC 77
9. Dev Kishan v. Ram Kishan, AIR 2002 Raj. 370
10. Balmukand v. KamlaWati, AIR 1964 SC 1385
11. M/s. Nopany Investments (P) Ltd. v. Santokh Singh (HUF), 2007 (13) JT 448

Week 5: Alienation of property by Karta

12. Arshnoor Singh v. Harpal Kaur, AIR 2019 SC 3098

13. Guramma Bhratar Chanbasappa Deshmukh v. Mallappa Chanbasappa, AIR 1964 SC 510

14. R. Kuppayee v. Raja Gounder, (2004) 1 SCC 295

15. Arvind & Abasaheb Ganesh Kulkarni v. Anna & Dhanpa Parisa Chougule, AIR 1980 SC 645

16. Mrs. Sujata Sharma v. Shri Manu Gupta, 226 (2016) DLT 647

Week 6: Partition

17. A. Raghavamma v. A. Chenchamma, AIR 1964 SC 136

18. Puttrangamma v. M.S. Ranganna, AIR 1968 SC 1018

19. Kakumanu Pedasubhayya v. Kakumanu Akkamma, AIR 1958 SC 1042

Week 7: Partition

Week 8: Inheritance under HSA

20. Vellikannu v. R. Singaperumal, AIR 2005 SC 2587

21. Nirmala v. Government of NCT of Delhi, 170(2010) DLT 577 – SLP PENDING

22. Archna v. Deputy Director of Consolidation, 2015 (111) ALR 63

Week 9: Inheritance under HSA

23. Babu Ram v. Santokh Singh (deceased) through LRs, AIR 2019 SC 1506

24. Revanasiddappa v. Mallikarjun, (2011) 11 SCC 1

25. Ganduri Koteshwarammaand v. Chakiri Yanadiand, AIR 2012 SC 169

26. Danamma @ Suman Surpur v. Amar, (2018) 3 SCC 343 – PARTLY OVERRULED

27. Vineeta Sharma v. Rakesh Sharma, AIR 2020 SC 3717

Week 10: Inheritance under HSA

28. Gurupad Khandappa Magdum v. Hirabai Khandappa Magdum, AIR 1978 SC 1239

29. Uttam v. Saubhag Singh, AIR 2016 SC 1169

30. Radha Bai v. Ram Narayan, 2019 (17) SCALE 64

31. Atma Singh v. Gurmej Kaur (D) and Others, AIR 2017 SC4 604

Additional Reading

- "Some Suggestions for the Amendment of the Indian Succession Act", 1962 (2) SC (J) 62.

Week 11: Inheritance under HSA - Females

32. Bhagat Ram v. Teja Singh, AIR 2002 SC 1
33. Omprakash v. Radhacharan, 2009 (7) SCALE 51
34. Vaddeboyina Tulasamma v. Vaddeboyina Sesha Reddi, AIR 1977 SC 1944
35. Jagannathan Pillai v. Kunjithapadam Pillai, AIR 1987 SC 1493
36. Jupudy Pardha Sarathy v. Pentapati Rama Krishna (2016) 2 SCC 56

Additional Reading

- Suman Gupta, "Status of Women Under Hindu Succession Act, 1956", 2007 AIR (J) 65-72.
- Kusum, "Toward Gender Just Property Law", 2005 JILI 95-101.
- Prakash Chand Jain, "Women's Property Right Under the Traditional Hindu Law", 2003 JILI 509-536.
- "Mother's Share at a Partition under Mitakshara Law", 1963 AIR (J) 67.
- Women's Rights of Inheritance in India, 1973 MLJ
- Poonam Saxena "Reinforcing Patriarchal Dictates through Judicial Mechanism", 2009 JILI 221-236.

Week 12: Inheritance under Muslim law

Week 13:Inheritance under Muslim law

Week 14: Hiba

37. Mussa Miyawalad Mahammed Shaffi v. Kadar Bax, AIR 1928 PC 108
38. Valia Peedikakkandi Katheessa Umma v. Pathakkalan Narayanath Kunhamu, AIR 1964 SC 275
39. Hayatuddin v. Abdul Gani, AIR 1976 Bom. 23
40. Abdul Hafiz Beg v. Sahebbi, AIR 1975 Bom. 165

Week 15: Wasiyat (and Revision)

The cases mentioned above are not exhaustive. Additional cases may be assigned.

STATUTES REFERRED:

1. The Hindu Succession Act, 1956
2. The Indian Succession Act, 1925.
3. The Muslim Personal Law (Shariat) Application Act, 1937
4. The Registration Act, 1908.
5. The Transfer of Property Act, 1882.

CLASSROOM/COURSE ETIQUETTES:

- ATTENDANCE POLICY: As notified by the School of Law
- LATE ASSIGNMENT SUBMISSION POLICY: No late submissions permitted.
- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM: As notified. Strict action will be taken if caught using any unfair means.

ALIGNMENT OF COs TO POs AND PSOs

CO	STATEMENT	Correlation with POs and PSOs								
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
CO1	To understand and distinguish the important principles regarding partition, intestate and testamentary succession, and inheritance	3	3	3	2	1	1	1	1	1

	under the Hindu and Muslim law.									
CO2	To value and critique the *sui generis* role and position of a Karta in a joint Hindu family	3	2	3	1	3	1	1	2	1
CO3	To analyze and apply the process of intestate succession under the Hindu Succession Act, 1956, and the Muslim customary principles.	3	3	3	1	3	1	1	2	2
CO4	To examine and compare the status of women under the Hindu and Muslim personal laws concerning the right to coparcenary property.	2	3	1	1	2	2	1	2	2

CO5	To argue and recommend whether uniformity in personal laws is required.	2	3	1	1	2	2	1	2	2

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

BBA LLB (Hons.) 2020 Batch

Faculty	Dr. Richa Mishra	Year/Semester	2nd/4
Course Name	Human Resource Management	No. of Credits	4
No of Contact Hours	56	Session duration	90 min
Course Code	HRM4704		

ABOUT THE INSTRUCTOR: Dr. Richa Mishra |Associate Professor| School of Management

EMAIL ID: richa.mishra@bmu.edu.in

COURSE OVERVIEW:

The Industrial Revolution 4.0 is upon us, with disruptive technology rapidly changing our personal and professional lives. This puts a big question mark on organizational structure and on human resource allocation in organizations that are strongly leveraging new technologies Furthermore, with the pandemic leading to work-from-home as the new normal, monumental changes are envisaged in the work landscape. It is not clear how organization reorganization will take place, how many layoffs there will be, what kind of upskilling will be required, and there is also haziness over how strategic HRM will pan out in terms of attracting, developing, rewarding and retaining talent in these disruptive times. It is in this context that this course, an introduction to the human resource management (HRM) function, is important not only for human resource managers, but all mangers who deal with internal and external stakeholders. Key functions such as recruitment, selection, development, appraisal, retention, and compensation are explained

COURSE OUTCOMES:

CO1: Employee lifecycle, Understand the HRM functions & role of HR Manager

CO2: Strategically plan for the human resources and apply the manpower planning techniques to identify manpower requirement

CO3: Design a Recruitment and selection process and employee retention measures

CO4: Understand the salary components, incentives and design the benefit plans

CO5: Assess the matters related to grievance, provide a solution based on major regulatory guiding mechanisms to maintain congenial Industrial Relations

CO6: Demonstrate an ability to manage diversity and cross-cultural environment.

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

PO1: Draw on a sound understanding of concepts, principles and theories of private and public law, business laws and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyze and interpret legal issues to solve problems.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues**.**

PSO1: Apply knowledge of and insights from the business management domains to enrich their understanding of the law and legal practice.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

The method of teaching and training would be through

- Lectures/Videos
- In-class experiential exercises
- Assignments/Debates /Discussion
- Case Analysis

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	Course Outcomes
Class Discussions	15%	CO5, CO6
Quiz	30%	CO1, CO2, CO3, CO4, CO5, CO6
Case Analysis| Presentation	20%	CO1, CO2, CO3, CO4, CO5
End Term Examination	35%	CO1, CO2, CO3, CO4, CO5, CO6
Total	100%	

SYLLABUS: Introduction to HRM, Acquiring Human Resources, Performance Appraisal & Compensating Human Resources, Training and Developing Human Resources, Managing Industrial Relations & Contemporary issues in HRM, Introduction to HR Analytics.

TEXTBOOKS:

1. Human Resource Management- Dessler, G. and Varkkey, B. (2016), New Delhi: Pearson

ADDITIONAL READINGS:

1. Human Resource Management, Text and Cases V.S.P. Rao (2013). New Delhi: Excel Books
2. MOOC on Coursera (Students can audit the course)   Preparing to Manage Human Resource offered by University of Minnesota.

LECTURE WISE TOPICS AND READINGS:

Session	Major Topics Covered	1. Cases/Video/Addl. Readings	Textbook
1-10	**Introduction to Human Resource Management** Human Resource Management- Meaning, Significance, Objectives; Evolution and Development of Personnel Management and HRM; Key Roles, Functions and Activities of	2. How Netflix Reinvented HR 3. Anderson, C. (2014). What HR needs to do to get a seat at the table. Harvard Business Review.	Human Resource Management Dessler, G. and Varkkey, B. (2016), New Delhi: Pearson

	HRM; Strategic Human Resource Management.		
11-21	**Acquiring Human Resources** HR Planning, Job Design, Job Analysis, Role Analysis; Recruitment; Selection; Induction, Orientation, Placement and Retention	Breaugh, J. A. (2009). Recruiting and attracting talent: A guide to understanding and managing the recruitment process. SHRM Foundation's Effective Practice Guidelines Series, 1-33	Human Resource Management Dessler, G. and Varkkey, B. (2016), New Delhi: Pearson
22-32	**Performance Appraisal & Compensating Human Resources** Performance Measurement and Reward Systems- Introduction, Performance Drivers, Reward Management, Performance Appraisals: Methods, MBO as Appraisal tool. Job Evaluations, Compensation Administration; Incentive Plans and Fringe Benefits.	Do Something about-He is About to Snap- HBR Case Study	Human Resource Management Dessler, G. and Varkkey, B. (2016), New Delhi: Pearson
33-43	**Learning and Developing Human Resources** Training Human Resources – Phases of Training, Need Assessment, Training Methods and Evaluation, Performance and Potential Appraisal; Career Planning and Development; Succession Planning.	**Group Activity**: You are a HRD Manager in FMCG sector, how will you assess training needs in your organization? Also discuss how will you organize training for sales staff.	Human Resource Management Dessler, G. and Varkkey, B. (2016), New Delhi: Pearson
44-54	**Contempory issues in HRM** Dynamics of Industrial Relations; Discipline and Grievance Management; Collective Bargaining; Trade Unions; Industrial Disputes. Virtual organizations; Work-life Balance, Human Resource Accounting and Audit; HRM and Technology, Introduction to HR Analytics	Grievance Handling in Ranbaxy: A Case Study https://www.aihr.com/blog/what-is-hr-analytics/	Human Resource Management Dessler, G. and Varkkey, B. (2016), New Delhi: Pearson
55-56	Review, Recap and Feedback	-	-

CLASSROOM/COURSE ETIQUETTES:

- ATTENDANCE POLICY:
  Attendance will be taken at the beginning of each class. Students will maintain the attendance, discipline, and demonstrate behavior that creates a positive environment promoting discussion and learning.

- LATE ASSIGNMENT SUBMISSION POLICY:

  Any work submitted after a deadline has passed is considered late, unless an extension has already been agreed upon due to mitigating circumstances. Late submission will be led to penalty of 20% in marks. No submission will be accepted after 12 hours and will be marked zero for that particular component.

  Note: Regardless of attendance, projects and homework assignments must be submitted in no later than the due date

- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM:

  Cheating on assignments, participation exercises, papers, tests, and other academic tasks is a blatant violation of the code, as is sharing information on participation exercises between sections. All written requirements should be reflective of your own efforts. It is prohibited to reveal the contents of a participation exercise to students enrolled in a subsequent course/section that is held on the same day or later.

ALIGNMENT OF COs TO POs AND PSOs

CO	STATEMENT	Bloom's Level	Correlation with POs and PSOs								
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
CO1	Employee lifecycle, Understand the HRM functions & role of HR Manager	2. Understand	1	1		2					
CO2	Strategically plan for the human resources and apply the manpower planning techniques to identify manpower requirement	4. Apply				1				1	
CO3	Design a Recruitment and selection process and employee retention measures	5. Apply								1	
CO4	Understand the salary components, incentives and design the benefit plans	3. Understand				2				1	
CO5	Assess the matters related to grievance, provide a solution based on major regulatory guiding mechanisms to maintain congenial Industrial Relations	4. Analyse					2				
CO6	Demonstrate an ability to manage diversity and cross-cultural environment.	6. Apply				1				1	

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

2020-2025 BA LLB(Hons.)/BBA LLB (Hons.) Batch

Faculty	Dr. Chitrakalpa Sen/Dr. Anusree Paul	Year/Semester	2020-2025/IV
Course Name	International Trade	No. of Credits	4
No of Contact Hours	64	Session duration	One Semester
Course Code	ECO2714		

ABOUT THE INSTRUCTOR:

Dr. Chitrakalpa Sen
Email Id: Chitrakalpa.sen@bml.edu.in

Dr. Anusree Paul, Associate Professor, SOEC, SOM.

Email Id: anusree.paul@bmu.edu.in

COURSE OVERVIEW:

It includes pure trade theory and policies as well as the basic issues relating to international macroeconomics. This course systematically expounds the model, trying to explain the composition, direction and consequences of international trade, as well as the determinants and influence of trade policies.

COURSE OUTCOMES:

CO1	To understand and compare alternative theories of international trade
CO2	Analyze and test international trade models
CO3	To understand and analyze trade policy issues
CO4	Analyze the causes and consequences of the rapid expansion of international financial flows in recent years
CO5	To evaluate real world trade issues.

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES: (copy paste the Pos and the applicable PSOs)

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

PSO1: Apply knowledge of and insights from economics and international trade to enrich their understanding of the law and legal practice.

PSO2: Understand the role and impact of international trade on economy and complexities associated with it.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	Course Outcomes
Quiz	(4 x 5) = 20%	CO1, CO2, CO3, CO4, CO5
Group Video presentation 1	20%	CO3
Group Video presentation 2	20%	CO4
End Term Examination	40%	CO1, CO2, CO3, CO4, CO5
Total	**100**	CO1, CO2, CO3, CO4, CO5

SYLLABUS:

1. **Trade Theory using Demand and Supply – national market with and without trade, free trade equilibrium, effects in the importing and exporting country, gains from trade.**
2. **Why everyone trade? – absolute and comparative advantage, PPC.**
3. **Trade: Factor availability and factor proportions – production and consumption with and without trade, H-O theory, implications of HO theory – SS theorem.**
4. **Scale Economies, Imperfect Competition, and Trade – scale economies, intra-industry trade, monopolistic competition and trade, oligopoly and trade,**
5. **Analysis of a Tariff – effects of tariff on domestic consumer and producers, tariff as govt revenue, TOT and nationally optimal tariff**
6. **Nontariff barriers to import – types, import quota, quota vs tariff**
7. **Argument for and Against Protection – infant industry argument, the politics of protection**
8. **Trade Blocs and Trade Blocks – basic theory: trade creation and diversion, Rules of origin**

9.	Trade and the environment
10.	Introduction to foreign exchange market
11.	International lending and financial crisis

TEXTBOOKS:

International Economics, T. Pugel, **Publisher:** McGraw Hill Publication

ADDITIONAL READINGS:

International Economics, Dominick Salvatore, **Publisher:** Wiley
International Economics, Robert Feenstra; Alan Taylor, **Publisher:** Macmillan learning

LECTURE WISE TOPICS AND READINGS:

TOPIC	NO. OF LECTURES	SESSION OUTCOME	PEDAGOGY	CORRESPONDING CO	MODE OF ASSESSING THE OUTCOME
1	3	Understanding the basic trade theory using demand supply model	Class lecture + case study discussion + group work	CO1, CO2	Graded assignment + ungraded group work + ungraded pop quiz
2	3	Understanding the basis of trade using the concept of comparative advantage	Class lecture + case study discussion + group work	CO1, CO2	Graded assignment + ungraded group work + ungraded pop quiz

3	6	Understanding the modern theory of trade – the Heckscher Ohlin fraamework	Class lecture + case study discussion + group work	CO1, CO2, CO3, CO5	Graded assignment + ungraded group work + ungraded pop quiz
4	6	Understanding trade theory based on imperfect competition	Class lecture + case study discussion + group work	CO1, CO2, CO3, CO5	Graded assignment + ungraded group work + ungraded pop quiz
5	6	Understanding the concept and impact of a tariff	Class lecture + case study discussion + group work	CO1, CO2, CO3, CO5	Graded assignment + ungraded group work + ungraded pop quiz
6	4	Understanding non-tariff barriers to trade	Class lecture + case study discussion + group work	CO3, CO5	Graded assignment + ungraded group work + ungraded pop quiz
7	1	Critically understanding the arguments for and against trade protection	Class lecture + case study discussion + group work	CO3, CO5	Graded assignment + ungraded group work +

					ungraded pop quiz
8	2	Understanding the basic theory of trade blocs	Class lecture + case study discussion + group work	CO3, CO5	Graded assignment + ungraded group work + ungraded pop quiz
9	3	Understanding the impact of trade on environment	Class lecture + case study discussion + group work	CO3, CO5	Graded assignment + ungraded group work + ungraded pop quiz
10	3	Understanding the basics of foreign exchange rate determination and different exchange rate regimes	Class lecture + case study discussion + group work	CO3, CO4, CO5	Graded assignment + ungraded group work + ungraded pop quiz
11	3	Understanding the basics of financial crises	Class lecture + case study discussion + group work	CO3, CO4, CO5	Graded assignment + ungraded group work + ungraded pop quiz

CASE LAWS/READINGS:

CLASSROOM/COURSE ETIQUETTES:

- ATTENDANCE POLICY:
- LATE ASSIGNMENT SUBMISSION POLICY:
- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM:

ALIGNMENT OF COs TO POs AND PSOs

CO	STATEMENT	Bloom's Level	Correlation with POs and PSOs								
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2
CO1	To understand and compare alternative theories of international trade	2. Understand		2		3	2		1	3	3
CO2	Analyze and test international trade models	4. Analyze		2		3	2		1	3	3
CO3	To understand and analyze trade policy issues	4. Analyze		3		3	3		2	3	3
CO4	Analyze the causes and consequences of the rapid expansion of international financial flows in recent years	4. Analyze		3		3	2		3	3	3

CO5	To evaluate real world trade issues.	5. Evaluate		2		3	3		2	3	3

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

BA LLB(Hons.) 2020-2025 Batch

Faculty	Aditya Pratap Singh Rathore	Year/Semester	2nd/IV
Course Name	Jurisprudence	No. of Credits	4
No of Contact Hours	(4 + 1 Tutorial)/week	Session duration	1 semester
Course Code	LAW2706		

ABOUT THE INSTRUCTOR:

EMAIL ID: aditya.rathore@bmu.edu.in

COURSE OVERVIEW:

A good comprehension of legal theory helps students make sense of laws in terms of their genesis and operation. It helps practicing lawyers in thoroughly analyzing the nature and scope of various legal provisions that they are called upon to deal with. Good legal arguments cannot be made based on logic alone. They must be made with an understanding of the legal theory.

However, it is not an easy endeavor to master legal theory. Students are often unable to appreciate the subtleties involved in the discipline and find the teaching/writings on jurisprudence to be abstract and unrelatable. This results in frustration and, consequently, dislike for jurisprudence. This course will make sincere efforts to steer clear of such frustrations. It is divided into three

parts. In the first part, the students will develop an understanding of what is jurisprudence and why do they need to know it. In the second part students will engage with theories of law. A substantial part of it would entail reading Hart in original. The last part deals with the questions of justice and morality; and how they inform law.

COURSE OUTCOMES:

By the end of this course, the students will be able to:

CO1. Exhibit understanding of various theories of law.
CO2. Engage with complex legal texts and judgments.
CO3. Draw connections between different laws/statutes by identifying the underlying legal principles and concepts to make comparisons for legal analysis.
CO4. Apply theories of law in analysis of legal issues.
CO5. Recognize legal theories when reading judgments.

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

Program Outcomes for 5-year Law Programme:

PO1: Draw on a sound understanding of concepts, principles and theories of private and public law, business laws and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyse and interpret legal issues to solve problems.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines.

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

Program Specific Outcomes for BA, LLB (Hons.)

By the end of the program the students will be able to:

PSO1: Apply knowledge of and insights from political science and sociology domains to enrich their understanding of the law and legal practice.

PSO2: Understand the role and impact of social and political institutions in legal practice.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

1. Lecture

2. Discussions

3. Demonstration (Case Studies)

4. Classroom Debates

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	Course Outcomes	Programme Outcomes
Classroom Debates	10	CO1 and CO4	PO1, PO2, PO3 and PO5
Assignments (Week 4 and Week 7)	10 X 2 = 20 (pre-mid-term)	CO1, CO2, CO4 and CO5	PO1, PO2, PO3, PO4 and PO5
Mid Semester Examination (Take away)	20	All COs	PO1, PO2, PO3, PO4 and PO5
Response Paper + Presentation (Different questions will be assigned)	10 + 5 =15 (post-mid-term)	CO1, CO2, CO4 and CO5	PO1, PO2, PO3, PO4 and PO5

End Semester Examination	35		All COs	PO1, PO2, PO3, PO4 and PO5	
Total	100				

LECTURE WISE TOPICS AND READINGS:

TOPIC	NO. OF LECTU- RES	SESSION OUTCOME	PEDAGOGY	CORRES- PONDING CO	MODE OF ASSESSING THE OUTCOME
Introduction (Week 1)	2 X 2 hr	-Students will be able to place jurisprudence in context of law as a discipline -Students will be able to appreciate the complexity of questions that jurisprudence deals with	Lecture/Discussion	N/A	N/A
Natural Law Theory (Weeks 2 and 3)	4 X 2 hr	-Students will be able to exhibit understanding of natural law theory	Lecture/Discussion/Case Studies	COs 1,2,3,4 and 5	Assignment no. 1 + Mid-term examination + End term examination

Legal Positivism (Weeks 4, 5 6 and 7)	8 X 2 hr	-Students will develop ability to engage with complex legal text in original.

-Students will exhibit understanding of legal positivism and its critique | Lecture/Discussion/Case Studies | COs 1,2,3,4 and 5 | Assignment no.2

+ Mid-term examination

+ End term examination |
| Pre-mid-term Revision (Week 8) | 2 X 2 hr | N/A | Lecture | N/A | + Mid-term examination

+ End term examination |
| Mid-term Examination | | | | | |
| Critical Legal Studies (Weeks 9 and 10) | 4 X 2 hr | -Students will exhibit awareness about diversity of approach in study of law as a discipline

. | Lecture/Discussion | COs 1 and 2 | Assignment no.3

+ End term examination |
| Justice (Weeks 11, 12 and 13) | 6 X 2 hr | -Students will recognize variety of approaches in understanding justice as a concept. | Lecture/Discussion/Case Studies | COs 1, 2 and 4 | Assignment no.4

+ End term examination |

		-Students will develop ability to engage with complex legal text in original.			
Law and Morality (Weeks 14 and 15)	4 X 2 hr	-Students will examine the relationship between law and morality. -Students will learn to separate legal issues from moral considerations in a dispute.	Lecture/Discussion/Case Studies	COs 1, 2 and 4	End term examination
Pre End term Revision (Week 16)	2 X 2 hr	N/A	Lecture	N/A	End term examination
Total hours: 32 X 2 hr + 16 X 1 hr (Tutorials) = 80 hr					

SYLLABUS:

Part I: THE CONTEXT

<u>Week 1</u>

Unit 1: Introduction (4 hours)

What is rule of law? What is the nature of the discipline of law? Why study jurisprudence?

Essential Readings:

- Centre Moves SC To Keep Adultery As A Crime In The Armed Forces, The Wire published Jan 13, 2021 https://thewire.in/law/centre-sc-adultery-crime-armed-forces-patriarchy-gender-rights (last accessed on Dec 06, 2021)

- Erik Ortiz, Gabe Gutierrez and Daniella Silva, "Kim Davis, Kentucky Clerk, Held in Contempt and Ordered to Jail" https://www.nbcnews.com/news/us-news/kentucky-clerk-kim-davis-held-contempt-court-n421126 (last accessed on Dec 06, 2021)

- RS French, "Don't You Know Who I am - Ego and Identity in the Administration of Justice", May 08, 2009, Sydney. https://www.hcourt.gov.au/assets/publications/speeches/current-justices/frenchcj/frenchcj8may09.pdf (last accessed on Dec 06, 2021)

Cases:

- *Appeal by Gautam Gambhir Against Test Match Suspension* - Decision by Appeals Commissioner Albie Sachs (Source: ICC website)
- *Pancham Chand* v. *State of Himachal Pradesh* (2008) 7 SCC 117.

Further Readings:

- Brian H. Bix, "Law as an Autonomous Discipline" *in* Peter Cane & Mark Tushnet, *The Oxford Handbook of Legal Studies*, Oxford University Press, 2003, pp. 975 - 987.

- John Gardner, 'Why study jurisprudence?" available at https://johngardnerathome.info/pdfs/whystudyjurisprudence.pdf (last accessed Dec 06, 2021)

- John Gardner, "The Legality of Law" available at https://johngardnerathome.info/pdfs/lundlong.pdf (last accessed Dec 06, 2021)

Part II: THE THEORIES

Unit 2: Natural Law Theory (8 hours)

What is the classic tradition of natural law theory? What is the modern tradition of natural law theory?

Essential Readings:

- John Finnis, "Natural Law: The Classical Tradition" *in* Jules Coleman & Scott Shapiro (Eds.), *The Oxford Handbook of Jurisprudence and Philosophy of Law*, Oxford University Press, Oxford, 2002, pp. 1-45. [4 hours]

- Brian H. Bix, "Natural Law: The Modern Tradition" *in* Jules Coleman & Scott Shapiro (Eds.), *The Oxford Handbook of Jurisprudence and Philosophy of Law*, Oxford University Press, Oxford, 2002, pp. 61-75, 95-100. [4 hours]

Cases:

- *S.R. Batra* v*. Taruna Batra,* (2007) 3 SCC 169.
- *Ashok Rai @ Amit* v*. State,* 2009 SCC OnLine Del 265.
- *Mohd. Arif @ Ashfaq v. Registrar, Supreme Court,* (2014) 9 SCC 737.

Weeks 4, 5, 6 and 7

Unit 3: Legal Positivism (16 hours)

What is exclusive legal positivism? What is Hart-Fuller debate? Is there an inner morality of law? What is inclusive legal positivism? How are legal principles different from legal rules?

Essential Readings:

- HLA Hart, *The Concept of Law*, 2nd edn., Oxford University Press, New Delhi, 1961, pp. 1 - 99. [8 hours]

- Lon Fuller, "Positivism and Fidelity to Law - A Response to Professor Hart", 71 Harv. L. Rev. 630 (1958). [2 hours]

- Ronald Dworkin, *Taking Rights Seriously*, Harvard University Press, Cambridge, 1977, pp. 1-45. [4 hours]

- Kenneth Einar Himma, "Legal Positivism", Internet Encyclopedia of Philosophy available at < https://iep.utm.edu/legalpos/> (last accessed on Dec 06, 2021). [2 hours]

Further Readings:

- Andrei Marmor, "Exclusive Legal Positivism" *in* Jules Coleman & Scott Shapiro (Eds.), *The Oxford Handbook of Jurisprudence and Philosophy of Law*, Oxford University Press, Oxford, 2002, pp. 104-124.

- Kenneth Einar Himma, "Inclusive Legal Positivism" *in* Jules Coleman & Scott Shapiro (Eds.), *The Oxford Handbook of Jurisprudence and Philosophy of Law*, Oxford University Press, Oxford, 2002, pp. 125-157.

Weeks 9 and 10

Unit 4: Critical Legal Theory (8 hours)

What is critical legal theory? What is critical legal studies (CLS) movement? How is CLS different from American realism? What is Feminist Legal Theory? What is critical race theory? Do laws codify the intrinsic biases of the society against the marginalized groups?

Essential Readings:

- Raymond Wacks, *A Very Short Introduction: Philosophy of Law,* 1st edn., Oxford University Press, Oxford, 2006, pp. 92-107. [6 hours]

- Iris Marion Young, "Throwing like a Girl: A Phenomenology of Feminine Body Comportment Motility and Spatiality", Human Studies, Vol. 3, No. 2 (1980) [2 hours]

Further Readings:

- Brian Bix, *Jurisprudence: Theory and Context*, 5th ed., Sweet & Maxwell, London, 2009, pp. 231-252.

- Nicola Lacey, Feminist Legal Theories, Oxford Journal of Legal Studies, Vol. 9, No. 3 (1989), pp. 383-394

- Robert A. Williams Jr., "Taking Rights Aggressively: The Perils and Promise of Critical Legal Theory for Peoples of Color", Minnesota Journal of Law & Inequality (1987)

Part III: JUSTICE AND MORALITY

Weeks 11, 12 and 13

Unit 5: Justice (12 hours)

What is Justice? Is there a universal conception of Justice?

Essential Readings:

- John Rawls, *A Theory of Justice*, Oxford University Press, Oxford, 1972, Ch. I (§1-6), Ch. II (§11-14), Ch. III (§20, 24) [4 hours]

- Susan Moller Okin. "Justice and Gender", Philosophy and Public Affairs, 16(1), 1987. [4 hours]

- Amartya Sen, *The Idea of Justice,* Penguin, United Kingdom, 2010, pp.1-27. [4 hours]

Case:

- *Dr. Nikhil D. Dattar* v. *Union of India* (2008) 110 Bom. L.R 3293

Further Readings:

- Brian Bix, *Jurisprudence: Theory and Context*, 5th ed., Sweet & Maxwell, London, 2009, pp. 107-122.

- Thomas Wells, "Sen's Capability Approach", Internet Encyclopedia of Philosophy available at < https://iep.utm.edu/sen-cap/#SH7b > (last accessed on Dec 06, 2021)

- Martha C. Nussbaum, *Creating Capabilities: The Human Development Approach*, Harvard University Press, 2011.

Weeks 14 and 15

Unit 6: Law and Morality (8 hours)

Should morality inform formulation of law? Should morality be considered a mitigating factor in evaluating actions of individuals? What is Hart-Devlin debate?

Essential Readings:

- Martha C. Nussbaum, *Hiding from Humanity: Disgust, Shame, and the Law,* Princeton University Press, Princeton, 2004, pp. 1-18, 71-122 [6 hours]

- Brian Bix, *Jurisprudence: Theory and Context*, 5th ed., Sweet & Maxwell, London, 2009, pp. 165-175. [2 hours]

Cases:

- *Naz Foundation v. Govt. of NCT of Delhi,* 2009 SCC OnLine Del 1762.
- *Suresh Kumar Koushal v. Naz Foundation,* (2014) 1 SCC 1.

CLASSROOM/COURSE ETIQUETTES:
- ATTENDANCE POLICY:
    As notified by School of Law.
- LATE ASSIGNMENT SUBMISSION POLICY:

Late assignments will be marked zero.

- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM:

  Plagiarized assignments will be marked zero.

ALIGNMENT OF COs TO POs AND PSOs

CO	STATEMENT	Bloom's Level	Correlation with POs and PSOs								
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
CO1	Exhibit understanding of various theories of law.	Level 2	3	3	3	2	2	1	2	2	3
CO2	Engage with complex legal texts and judgments.	Level 2	3	3	3	3	3	1	3	2	2
CO3	Draw connections between different laws/statutes … to make comparisons for legal analysis.	Level 4	3	2	3	3	3	1	3	3	2
CO4	Apply theories of law in analysis of legal issues.	Level 5	3	3	3	3	3	1	3	3	2
CO5	Recognize legal theories when reading judgments.	Level 2	3	3	3	2	3	1	2	1	1

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

B.A. LLB. (Hons.) 2020-25 Batch

Faculty	Ms. Urmi Gupta	Semester	I
Course Name	Sociology I	No. of Credits	4
No. of Contact Hours	4 hours (per week)	Session duration	One semester
Course Code	SCG1701		

Email address of Instructor: urmi.gupta@bmu.edu.in

COURSE OVERVIEW:

This course aims to provide an introduction to sociological study of society. The course has been designed to provide the students with a fair idea of social interaction, institutions and change. They will be able to understand the interplay of individual and society, how society is stable but changing, the causes and consequences of social inequality. The course will cover a fairly wide area: it would introduce students to classical as well as contemporary debates in sociology. Students will recognize that Sociology is not mere common sense knowledge but it is a science: it is creative and simultaneously a disciplined activity.

COURSE OUTCOMES:

CO1: Gain extensive insight into sociological concepts and getting familiar with key texts of Classical Sociological thinkers.

CO2: Develop sound understanding of the relevance of theoretical concepts of sociology into praxis: Looking at culture, family, social structure, and process of socialization, religion, deviance and control.

CO3: Develop an understanding of diverse social processes and the mechanisms of social change with reference to contemporary Indian society.

CO4. Evaluate and critically assess existing scholarship along with analytical, verbal and written communication skills to effectively engage in independent research.

PROGRAM OUTCOMES:

PO1: Draw on a sound understanding of concepts, principles and theories of private and public law, business laws and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyze and interpret legal issues to solve problems.

PO4: Understand the importance of interdisciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

PROGRAM SPECIFIC OUTCOMES: BA, LLB (Hons.)

By the end of the program the students will be able to:
PSO1: Apply knowledge of and insights from political science and sociology domains to enrich their understanding of the law and legal practice.

PSO2: Understand the role and impact of social and political institutions in legal practice.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

(i).   Discussion method

(ii).   Student engagement and participation

(iii).   Demonstrations with PPT's.

(iv).   Group Discussions

(v).   Guest Lectures

(vi).   Online videos and lectures

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	CO	PO
Class Participation and Presentations	10%	1,2,3,4	1,2,4,5,6,7
Classroom Exercises: Debates, Discussion	15%	1,2,3,4	1,2,3,4,5,6,7
Assignments	10%	1,2,3,4,	1,2,3,4,5
Mid Term Examination	20%	1,2,3,4	1,2,4
Research paper [post mid-term]	10%	1,2,3,4	1,2,3,4,5,6,7
End Term Examination	35%	1,2,3,4	1,2,4
Total	100%		

Class Participation: Students must actively engage in debates and discussions in class. Starting from Week 2, each class shall have 2 presentations from students based on the readings mentioned in the Course Outline.Class Participation (5%) and Presentations (5%).

Classroom Exercises: There will be 5 specific classroom exercises (3% each) which will consist of debates, discussions and simulation exercises. In these exercises students will engage in the contemporary debates, analysing films or be asked to watch relevant debates/videos before the lecture. These exercises will be marked and students will be informed beforehand regarding the assessment.

Assignments: Students will be given 1 assignment for the entire semester. Assignments must demonstrate a flow of logical arguments, adequate understanding of theories and their application to current debates.

Mid Term Examination: Mid-term examination will consist of a written exam (20%)

Research paper: Students will be writing a research paper (1500 words) after completing mid semester examination. The topic must be within the scope of the syllabus and should be innovative and creative. Paper shall have two components – Presentation along with peer feedback (2%) and Paper submission (8%).

End Term Examination: End-term examination will consist of a written exam (35%)

CLASSROOM/COURSE ETIQUETTES:

Attendance Policy: Students are expected to attend the classes regularly. Failure to attend the classes regularly and adhere to the expected attendance percentage will result in a reduction of the grade as per the University's grading policy.

Late assignment submission policy: Late submission in assignment is not allowed and any late submission will be awarded "0" marks in that particular assignment.

Academic dishonesty/cheating/plagiarism: Plagiarism and academic dishonesty in any form in any evaluation component will lead to appropriate disciplinary action.

TOPIC	NO. OF LECTURES	SESSION OUTCOME	PEDAGOGY	CORRESPONDING CO	MODE OF ASSESSING THE OUTCOME
An Introduction to Sociology	1	Origin, Evolution and Significance of Sociology.	-Introducing the topic by lecture -Student Presentation and Discussion	CO1, CO2	Continuous Assessment
Central Sociological Concepts	3	- Social Interaction - Social Structure - Social Change	-Lecture -Student Presentation and Discussion	CO1, C02, CO3	Continuous Assessment
Theoretical Perspectives of Sociology	8	Understanding sociological thought and theoretical perspectives.	-Lecture -Student Presentation and Discussion	CO1, C02, CO3	Continuous Assessment
MID-TERM EXAMINATION [20%]					
Society and Culture	4	The interlinkages of society and culture.	-Lecture	CO1, C02	Continuous Assessment

			-Student Presentation and Discussion		
Social Institutions	4	Understanding the role of social institutions – Family, Marriage Kinship	-Lecture -Student Presentation and Discussion	CO1, CO2, C03, C04	Continuous Assessment
Social Stratification	4	How caste, class, race and gender can be analysed within social stratification. - Class - Caste - Gender	-Lecture -Student Presentation and Discussion	C02, C03, C04	Continuous Assessment
Social Movements and Social Change	4	Social movements, its basis, significance and implications.	-Lecture - Student Presentation and Discussion	CO2, CO3, C04	Continuous Assessment
Revision and Make up	2	Revision of topics	Discussion		Continuous Assessment
Total : 64 hours of classes					
END SEMESTER EXAM [35%]					

SYLLABUS

TEXTBOOKS:

5

- George Ritzer: Classical Sociological Theory. New York: McGraw Hill.
- Anthony Giddens: Sociology, Polity Press, Cambridge.
- Satish Deshpande: Contemporary India: A Sociological View, Viking Publishers New Delhi.
- M N Srinivas: Social Change in Modern India. Oxford University Press: New Delhi.

ADDITIONAL REFERENCES:

- Madan and Majumdar, "An Introduction to Social Anthropology", Asia Publishing House.
- MSA Rao, "Social Movements in India, Peasant and Backward Class Movements", Manohar Publishers.
- Craig Calhoun ed. "Classical Sociological Theory", Blackwell Publishing.
- M. Haralambos: Sociology: Themes and Perspectives, Oxford University Press, New Delhi.

WEEK WISE READINGS:

Week 1& 2

Topic : An Introduction to Sociology

- Sociology: Origin, Significance, Concepts, and growth of the discipline
- Relation with other branches of social sciences
- Sociology as a scientific discipline

Essential Readings:

Anthony Giddens, Introduction in 'Sociology" Polity Press. London, 1997

Additional Readings

Alex Inkeles, What is sociology? An Introduction of the Discipline and Profession, Prentice Hall of India, New Delhi.

Topic: Central Sociological Concepts

- Social Interaction
- Social Structure
- Social Change

Essential Readings:

Anthony Giddens (ed.), Ch 2 in Introduction to Sociology, Polity Press. London, 1997

Additional Readings

Week 3 and 4

Topic: Theoretical Perspectives of Sociology

- Development of Sociological thinking
- Introducing Classical Thinkers - Emile Durkheim, Max Weber and Karl Marx
- Karl Marx on Social Change: Materialist Conception of History, Capitalist Mode of Production, Socialist Revolution

Essential Readings:

Ritzer, George (2011), Chapter 2 in "Sociological Theory", Mc Graw Hill.

Additional Readings:

Calhoun, Craig (2007), "Manifesto of the Communist Party by Karl Marx and Friedrich Engels" in *Classical Sociological Theory*, Blackwell Publishing. [class discussion]

Week 5 and 6

Topic: Theoretical Perspectives of Sociology Contd.

- Emile Durkheim: Social Fact, Division of Labor, Suicide, The Elementary Forms of Religious Life
- Max Weber: Rationalization, Fact and Value, Protestant Ethic and Spirit of Capitalism, Science and Disenchantment

Essential Readings:

Ritzer, George (2011), Chapter 3 in "Sociological Theory", Mc Graw Hill
Ritzer, George (2011), Chapter 4 in "Sociological Theory", Mc Graw Hill

Additional Readings

Calhoun, Craig (2007), "Division of Labor in Society by Emile Durkheim" in *Classical Sociological Theory*, Blackwell Publishing [class discussion]
Calhoun, Craig (2007), "Objectivity in Social Science by Max Weber" in *Classical Sociological Theory*, Blackwell Publishing [class discussion]

Week 7 and 8

Topic: Society and Culture

- Individual and Society
- Culture as an important element of society.
- Understanding culture and its relationship with society and its growth.
- Diverse perspectives on socio-cultural linkages

Essential Readings:

Anthony Giddens, Chapter 3 in ' Introduction to Sociology" Polity Press. London, 1997

<u>Additional Readings</u>

T.B Bottomore, "Sociology a guide to problems and literature", Routledge, London, 2010.

Maciver and Page. "Society: An Introductory Analysis, Macmillan India, Pvt. Ltd., New Delhi.

Week 9 and 10

Topic: Social Institutions

- Family, Marriage and Kinship
- Kinship Patterns
- Types of Families and Values

<u>Essential Readings:</u>

Where do our Relatives come from and why do they matter? In Robert H. Lavenda and Emily A. Schultz's 'Anthropology: What does it mean to be human'? NY: Oxford University Press.

<u>Additional Readings</u>

Patricia Uberoi: Family, Kinship and Marriage. Delhi: Oxford University Press.

Madan and Majumdar, "An Introduction to Social Anthropology", Asia Publishing House.

Week 11, 12 and 13

Topic : Social Stratification

- What is social stratification?
- Theoretical understanding of social stratification.
- How caste, class and gender can be analysed within social stratification.

<u>Essential Readings:</u>

Holborn, Martin (2002). Chapter 2 in Sociology: Themes and Perspectives, Oxford University Press, New Delhi (22-32).

Gupta, Dipankar (2004), Chapter 6 in Handbook of Indian Sociology, Oxford University Press.

Ambedkar, B. R. (1968). Annihilation of caste with a reply to Mahatma Gandhi: And Castes in India: their mechanism, genesis, and development. Bheem Patrika Publications.

Kothari, Rajni (1970), Introduction in *Caste in Indian Politics,* Orient Longman

<u>Additional Readings</u>

Andre Beteille: Caste, Class and Power: Changing Patterns of Stratification in a Tanjore Village, University of California Press, Berkeley.

Week 14 and 15

Topic 7: Social Movements and Social Change

- Social movements, its basis, significance and implications.
- Different forms of social movement. Social movements as instruments of social change.
- Peasant Movements, Dalit Movements, Backward Caste/Class Movements, Women's Movements

Essential Readings:

Chapter 2, 3, 4 in Social Movements in India by Ghanshyam Shah.

Additional Readings

MSA Rao, "Social Movements in India, Peasant and Backward Class Movements", Manohar Publishers.

Week 16

Make up Week and Revision Session

ALIGNMENT OF COs TO POs AND PSOs

CO's	Statement	Blooms	Correlation with POs and PSOs								
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO 2
CO1	Gain extensive insight into political thought and key concepts in Sociology.	1,2	3	2	1	2	2	2	2	3	2

CO2	Develop sound understanding of relevance of theoretical concepts of sociology- society, culture family social structure, process of socialization, religion, deviance and control. .	2,3	3	3	1	3	2	3	2	3	3
CO3	Develop an understanding diverse social processes and the mechanisms of social change with reference to contemporary Indian society.	2,3	3	3	1	3	2	3	2	3	3
CO4	Evaluate and critically assess existing scholarship along with analytical, verbal and written communication skills to effectively engage in independent research.	4,5	3	3	3	3	3	3	3	3	3

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

BA LLB(Hons.)/BBA LLB (Hons.) ……….. Batch

Faculty	Parvesh Aghi	Year/Semester	2022/IV
Course Name	Accounting for lawyers	No. of Credits	4
No of Contact Hours	64	Session duration	1.5
Course Code	ACC2703, LTPC		

ABOUT THE INSTRUCTOR:

EMAIL ID: parveshaghi@yahoo.com

COURSE OVERVIEW:

Introductory Accounting for Lawyers will provide students with a fundamental understanding of the principles underlying financial accounting. Additionally, students will gain an understanding of the development and analysis of financial statements including the balance sheet, income statement and statement of cash flow. Other topics will include a discussion of financial analysis and financial theory.

This subject will review which common accounting concepts emerge in legal work and what lawyers should consider when encountering them. Having a basic knowledge of accounting concepts empowers lawyers in their practice, allowing them to better understand the full picture of legal matters they work on that involve elements of accounting or finance.

COURSE OUTCOMES:

Understanding Generally Accepted Accounting Principles (GAAP). Learning the accounting cycle. How to read the balance sheet, income statement, statement of cash flows, and notes to the financial statements . Regulatory changes , Tax accounting vs book accounting.

The course is intended to equip students with the basic mechanics to review and analyze an entity's financial statements, identify significant issues and to form a general familiarity with financial statements to aid in preparing for litigation or assisting with business transactions.

	Course Outcomes	Bloom's Level	PO1	PO2	PO3	PO4	PO5	P06	PO7
CO1	Explain accounting process, concepts, principles & conventions in preparing and presentation of accounting statements.	2. Understand							
CO2	Apply different depreciation and inventory valuation methods and study their impact on business	3. Apply	3		3				
CO3	Demonstrate an understanding of financial statements in terms of the mechanism behind preparation and their respective significance along with the ability to read them.	3. Apply	3			2			
CO4	Apply the tools and techniques of financial statement analysis	3. Apply	3			2		3	
CO5	Undertake industry analysis and competitive analysis to comment upon the financial performance of the company for the purpose of decision making.	4. Analyze	3		3	2		3	3

Course Evaluations

Components of Course Evaluation	Weight	Course Outcomes	Program Outcomes
Class Participation	10%	CO1, CO2, CO3, CO4, CO5	PO1, PO3, PO5, PO6, PO7
Quiz, class test & Assignments (Group/Individual)	35%	CO1, CO2, CO3, CO4, CO5	PO1, PO3, PO5, PO6, PO7
Mid term	20%	CO1, CO2, CO3	PO1, PO3, PO5, PO6, PO7
End Term Examination	35%	CO1, CO2, CO3, CO4	PO1, PO3, PO5, PO6, PO7
Total	100%		

SYLLABUS:

Unit 1: **Introduction to Financial Accounting:** Introduction, Meaning of Book Keeping, Accounting and Accountancy, Distinction between Book Keeping and Accounting, Accounting Process, Objectives of Accounting, Various users of Accounting Information, Limitations of Accounting, Accounting Terminologies

Unit 2: **Accounting Concepts, Principles and Conventions:** Introduction, Meaning of Accounting Concepts, Principles, Conventions, Types of Accounting Concepts, Types of Accounting Principles, Types of Accounting Conventions, Accounting standards, International Financial Reporting Standards [IFRS]

Unit 3: **Recording of Transactions:** Introduction, Meaning of Assets, Liabilities, Equity, Accounting Equation and Effects of Financial Transaction on Accounting Equation, Classification of Accounts under Modern Approach Method, Double Entry System and Rules of Debit and Credit Entries

Unit 4: **Secondary Books:** Introduction, Secondary Books, Cash Book, Petty Cash Book , Ledger

Unit 5: **Trial Balance and Rectification of Errors:** Introduction, Trial Balance, Error in Accounting

Unit 6: **Final Accounts – 1:** Introduction, Meaning, Objectives and Characteristics of Final Accounts, Adjustments before Preparing Final Accounts, Closing Entries

Unit 7: **Final Accounts – 2:** Introduction, Trading Account, Profit and Loss Account, Balance Sheet, Treatment of Adjustments, Practical Problems

*Unit 8: **Bank Reconciliation Statement**:* Introduction, Meaning of Bank Reconciliation Statement, Importance of Bank Reconciliation Statement, Reasons for Difference, Procedure for Reconciliation

*Unit 9: **Partnership Accounts** – Admission of a Partner:* Introduction, Partnership - Meaning and Features,   Partnership Deed and Contents, Admission of a Partner,Good will-Meaning, Accounting Treatment of Goodwill at the Time of Admission, Revaluation of Assets and Liabilities, Adjustments of Reserves and Accumulated Profits or Losses

*Unit 10: **Depreciation Accounting**:* Introduction, Meaning of Depreciation, Causes for Depreciation, Need for Depreciation, Computation of the Amount of Depreciation, Depreciation on Additions to Fixed Assets,   Methods of Depreciation, Revised AS 6

*Unit 11: **Introduction to Company Accounts**:* Introduction, Kinds of Companies, Formation of Companies, Share Capital, Issue of Shares, Under Subscription & Oversubscription, Issue of Shares at Premium & Discount, Buy back of Shares and Treasury Stock, Accounting Treatments and Ledger Preparation

*Unit 12: **Company Accounts**:* Introduction, Forfeiture of Shares, Reissue of Shares, Issue of Bonus Shares, Rights Issue,   Share Split,   Buy Back of Shares, Redemption of Preference Shares, Debentures

*Unit 13: **Accounting Standards**:* Introduction, Objectives of Accounting Standards, Procedure for Issuing Accounting Standards, Advantages of Accounting Standards, Accounting Standards in India

*Unit 14 : **Introduction to financial statement analysis and financial ratios** :* Learn to calculate and interpret various activity, liquidity, solvency, profitability, and valuation ratios. Calculate and interpret various financial multiples . Learn how to evaluate a company using ratio analysis. Interpret ratios used in credit & equity analysis. Ratio analysis & forecasting

*Unit 15 : **The time value of money & valuation of assets***

Future value of a single amount, present value of a single amount , future and present value of a annuity , compounding and discounting , net present value , payback period . Discount rate, cost of capital. Valuation for legal and tax purposes of shares, firm and other assets .

TEXTBOOKS:

Basics of Accounting – Jain & Narang

Basic of Accounting – T. S. Grewal

ADDITIONAL READINGS:

Study material provided by the faculty

LECTURE WISE TOPICS AND READINGS:

TOPIC	NO. OF LECTURES	SESSION OUTCOME	PEDAGOGY	CORRESPONDING CO	MODE OF ASSESSING THE OUTCOME
Introduction to Financial Accounting	2		Videos & Group activities		Mid term exam & quiz results
Accounting Concepts, Principles and Conventions	3		Quiz		Mid term exam & quiz results
Recording of Transactions & Secondary Books	8		Class exercise & Quiz		Mid term exam & quiz results
Trial Balance & Final Accounts	8		Class exercise		Mid term exam & quiz results

Bank Reconciliation Statement	3		Class Exercise & assignment		Mid term exam & quiz results
Partnership Accounts	6		Videos, Group activities. Quiz		Mid term exam & quiz results
Depreciation Accounting	3		Class exercise & Quiz		Mid term exam & quiz results
Company Accounts	8		Videos, Group activities. Quiz		End term exams
Accounting Standards	4		Videos, Group activities. Discussions		End term exams
Introduction to financial statement analysis and financial ratios	8		Classroom discussions, Data collection & research of company's annual reports & how to decipher the actual condition of		End term Exam

			a company. interpretations		
The time value of money & valuation of shares ,firm etc.	8		Classroom discussions ,Case study & Group Project		End term exam

CASE LAWS/READINGS:

CLASSROOM/COURSE ETIQUETTES:
- ATTENDANCE POLICY:
- LATE ASSIGNMENT SUBMISSION POLICY:
- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM:

ALIGNMENT OF COs TO POs AND PSOs

CO	STATEMENT	Correlation with POs and PSOs							
		PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

BA LLB(Hons.) 2020-2025 Batch

Faculty	Anubhav Raj Shekhar	Year/Semester	2nd/IV
Course Name	Constitutional Law II	No. of Credits	4
No of Contact Hours	(4 + 1 Tutorial)/week	Session duration	1 semester
Course Code	LAW2705		

ABOUT THE INSTRUCTOR:

EMAIL ID: anubhav.shekhar@bmu.edu.in

COURSE OVERVIEW:

A Constitution represents the political covenant that governs the relationship between the State and its citizens. While Constitutional Law I focused on the functions of the organs of the State and their interactions, this course will focus on the relationship between individuals and the State. The students will learn about the principles underlying fundamental rights and the interpretation given to the constitutional provisions by the Supreme Court. This course is designed to help the students develop a clear understanding of the scope and nature of the rights guaranteed to the individuals by the Constitution. This course employs an analytical approach with the aid of case laws to achieve its course outcomes.

COURSE OUTCOMES:

By the end of this course, the students will be able to:

CO1. Identify and explain substantive principles and concepts underlying the rights guaranteed by the Constitution and the interconnections between them.

CO2. Exhibit understanding of the dual nature of rights with respect to the state – circumscribing the state powers to guarantee liberties for individuals and empowering the state to create conditions for realizing positive rights.

CO3. Apply the provisions under Part III of the Constitution to relevant legal issues.

CO4. Appreciate the role of the higher judiciary and constitutional interpretation through the judgments of the Supreme Court and the High Courts.

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

Program Outcomes for 5-year Law Programme:

PO1: Draw on a sound understanding of concepts, principles and theories of private and public law, business laws and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyze and interpret legal issues to solve problems.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

Program Specific Outcomes for BA, LLB (Hons.)

By the end of the program the students will be able to:

PSO1: Apply knowledge of and insights from political science and sociology domains to enrich their understanding of the law and legal practice.

PSO2: Understand the role and impact of social and political institutions in legal practice.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

1. Lecture

2. Case Law Method

3. Discussions in Break out groups

4. Guest Lectures

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	Course Outcomes	Programme Outcomes
Class Participation	10	CO1, CO2, CO3 and CO4	PO1, PO2, PO3, PO4 and PO5`
Assignment 1 **(After Four weeks of commencement of classes)**	15	CO1, CO2 and CO3	PO1, PO2, PO3 and PO4
Mid Semester Examination	20	CO1, CO2 and CO3	PO1, PO2 and PO3
Assignment II **(After three weeks of mid-term exam)**	15	CO1, CO2, CO3 and CO4	PO1, PO2, PO3, PO4 and PO5
End Semester Examination	40	CO1, CO2, CO3 and CO4	PO1, PO2, PO3, PO4 and PO5
Total	100		

Note: Marks for each internal assignment shall be shared with students within 10 days of the submission of assignment.

SYLLABUS:

Unit 1: Constitution, Constitutionalism and Rights

Questions: What is the relationship between a constitution and constitutionalism? Can there be a constitution without constitutionalism? Rights as a feature of constitutionalism. What Are Constitutional Rights About? What Qualifies as a Fundamental Right? Defining and Listing? What Do Fundamental Rights Imply? Reconciling Government with Freedom in Constitutionalism: Restrictions on Fundamental Rights

Week 1 :

Essential Readings:

Course Outline for first session on introduction to the course
Oketh Ogondo, *Constitutions without Constitutionalism: Reflections on an African Political Paradox*
'Rights' in Andras Sajo and Renata Uitz, The Constitution of Freedom: An introduction to Legal Constitutionalism (OUP: 2017), pp. 372-401.
Sandra Fredman Human Rights Transformed : Positive Rights and Positive Duties (Introduction : Pages 41-49)
'

Further Readings

Mark Tushnet*, Authoritarian Constitutionalism, 100 Cornell L. Rev. 391 (2015)*
Papia Talukdar, *Rights,* in Introduction to Political Theory by Rajeev Bhargava (Chapter 6)
James Griffin, Welfare Rights in The Journal of Ethics, Vol. 4, No. 1/2, Rights, Equality and Liberty Universidad Torcuato Di Tella Law and Philosophy Lectures 1995-97 (Jan- March 2000) pp. 27-43. (X)
Cass Sunstein,;Against Positive Rights;, 2 E. Eur. Const. Rev. 35 (1993).
D.M. Davis, 'Socio-Economic Rights' in Michel Rosenfeld and Andras Sajo (eds.), The Oxford Handbook of Comparative Constitutional Law (Oxford: 2012), pp. 1020-1035.

Unit 2:
"State" and "Law"

Questions: What constitutes "state" against which rights are guaranteed to citizens/persons? What are the tests to decide whether "other authorities" could be included within the definition of "state"? Can the fundamental rights be claimed against non-state actors/private persons? What is the definition of "law" under Art. 13? What is the effect of Art. 13 on laws inconsistent with the Fundamental Rights?

Week 2

Essential Readings

-Text of articles 12 and 13
-Ajay Hasia v Khalid Mujib Sehravardi 1981 AIR 487
-Zee Telefilms Ltd. v. Union of India, (2005) 4 SCC 649

-Deep Chand v State of Uttar Pradesh 1959 AIR 648

Further Readings

Anant Padmanabhan, *RIGHTS : breadth, scope, and applicability*, Oxford Handbook of Indian Constitutional Law

Unit 3:
The right to Equality under Art. 14 and scope for affirmative action (Arts. 15) Article 17

Questions: What is the meaning of equality under the Indian constitution? What is affirmative action? What are the tests to determine the constitutional validity of laws under Art. 14? What principles emerge from Art. 14 ("Reasonableness" and "non-arbitrariness") for regulating the exercise of administrative discretion? What are the grounds of prohibited discrimination under Art. 15 (1) and (2)?

Essential Readings
- Text of Article 14
- The State of West Bengal vs Anwar All Sarkar (1952 AIR 75)
- Shri Ram Krishna Dalmia vs Shri Justice S. R. Tendolkar(1958 AIR 538)
- E.P. Royappa v. State of Tamil Nadu (1974 AIR 555)

Further Readings

- Tarunabh Khaitan, *Equality: Legislative Review under Article 14* in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)

Week 4

Essential Readings

- Text of Articles 15 and 16
- Tarunabh Khaitan, *A Theory of Discrimination* (Relevant excerpts to be shared)
- Champakam Dorai Ranjan v. State of Madras (Paragraphs to be shared)
- MR Balaji v State of Mysore 1963 AIR 649 (Paragraphs to be shared)

Week 5

Essential Readings

- Air India v. Nargesh Meerza "(1981) 4 SCC 335" 1 (Paragraphs to be shared)
- Anuj Garg & Ors vs Hotel Association of India & Ors ((2008) 3 SCC 1 (Paragraphs to be shared)
- Excerpt From: Gautam Bhatia. "The Transformative Constitution".(Chapter on Anuj Garg)

Week 6

Essential Readings

- Text of Article 16
- State of Kerala v NM Thomas (1976) 2 SCC 310. (Paragraphs to be shared)
- Indira Sawhney v Union of India (Paragraphs to be shared) AIR 1993 SC 477
- M Nagaraj v Union of India (2006) 8 SCC 212. (Paragraphs to be shared)
- Ashoka Kumar Thakur v Union of India (2008) 6 SCC 1(Paragraphs to be shared)

Further Readings

- Reservations, Vinay Sitapati in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)
- Anup Surendranath in The Hindu, *The ambiguity of reservations for the poor*(Article in The Hindu)

Unit 4:

Freedoms guaranteed under Article 19

Questions: What are the different rights available under Article 19? What are reasonable restrictions that State can impose upon these freedoms? How has Supreme Court influenced the scope of these rights through interpretation? Problems of Free Speech. Why is free speech important?

Week 7

Essential Readings

Text of Article 19 – Rights and Restrictions
Areopagitica by John Milton (relevant excerpts to be shared)
-Bennett Coleman & Co. v. Union of India, AIR 1973 SC 106 241
-Secretary, Ministry of I & B, State of W. B v. Cricket Association, (1995) 2 SCC 161
-Shreya Singhal v. Union of India, (2013)12 SCC 73
-People's Union for Civil Liberties (PUCL) v. Union of India, (2003) 4 SCC 399

Week 8

Essential Readings

-Communist Party of India (M) v. Bharat Kumar, (1998) 1 SCC 201
-AIADMK v. Chief Secretary, Government of Tamil Nadu, (2007) 1 SCALE 607
- Chindamanrao v. State of M.P., AIR 1951 SC 118
-Narendra Kumar v. Union of India, AIR 1960 SC 430
-State of Gujarat v. Mirzapur Moti Qureshi Kasab Jamat, AIR 2006 SC 212
-Tehseen S. Poonawalla v. Union of India, 2018 SCC Online SC 696

Further Readings:

-Lawrence Liang, 'Free Speech and Expression' in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)
-Anirudh Burman, 'Movement and Residence' in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)

-Vikramaditya S Khanna, 'Profession, Occupation, Trade, or Business' in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)

Unit 5:
Safeguards to persons accused of crimes (Arts. 20 and 22)

Questions: What protections are available to the accused and the arrested under the constitution? What are the safeguards provided in the constitution for those taken into preventive detention?

Week 9

Essential Readings

-Smt. Selvi and Ors. v. State of Karnataka, AIR 2010 SC 1974
-D.K. Basu v. State of West Bengal (1997) 1 SCC 416 315
-People's Union for Civil Rights v. Union of India, 2003 (10) SCALE 967

Further Readings:

-Aparna Chandra And Mrinal Satish, 'Criminal Law and the Constitution' in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)

Unit 6:
Right to life and personal liberty (Arts. 21)

Questions: What is the concept of "life and personal liberty" under Art. 21? What is meant by "procedure established by law?" What is the relationship between Articles 14, 19 and 21? How has the judiciary expanded the scope of Art. 21?

Week 9

Essential Readings

- AK Gopalan v State of Madras AIR 1950 SC 27
-Maneka Gandhi v. Union of India, AIR 1978 SC 597
-National Legal Services Authority v Union of India, (2014) 5 SCC 438
-Animal Welfare Board Of India vs A. Nagaraja & Ors., (2014) 7 SCC 547
-A K Roy v. Union of India, AIR 1982 SC 710
-Justice K.S. Puttaswamy v. Union of India, (2017) 10 SCC 1

Essential Readings

Anup Surendranath, 'Life and Personal Liberty', in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)
Abhinav Chandrachud, 'Due Process' in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)

Unit 7:
Right to freedom of religion (Arts. 25-28)

Questions: What is the nature and scope of freedom of conscience and the right to freely profess, practice and propagate religion? What has been the Indian understanding of secularism and where can it be traced in the constitutional scheme? What are the implications of the judicially evolved distinction between essential and non-essential religious practices; and between religious and secular, commercial and political activity for understanding the scope of this right?

Week 10

Essential Readings

- Text of Article 25 -28
- Hindu Religious Endowments, Madras v Sri Lakshmindra Thirtha Swamiar of Sri Shirur Mutt
- Acharya Jagdishwaranand Avadhuta and Ors. vs. Commissioner of Police, Calcutta and Ors.
- (20.10.1983 - SC) : MANU/SC/0050/1983
- Shayara Bano v. Union of India, 2017 SCC OnLine SC 963

Week 11

Essential Readings

- Indian Young Lawyers Association v. State of Kerala, 2018 SCC OnLine SC 1690(Justice Chandrachud's opinion)
- Kantaru Rajeevaru v Young Indian Lawyers Association REVIEW PETITION (CIVIL) No. 3358 OF 2018 IN WRIT PETITION (CIVIL) No. 373 OF 2006

Additional Readings

- Faizan Mustafa; Jagteshwar Singh Sohi, Freedom of Religion in India: Current Issues and Supreme Court Acting as Clergy, 2017 BYU L. Rev. 915 - 955 (2017)
- Ronojoy Sen, 'Secularism and Religious Freedom' in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)
- Dhavan, Rajeeev, and Fali S. Nariman. 2000. "The Supreme Court and Group Life: Religious Freedom, Minority Groups and Disadvantaged Communities". *Supreme but Not Infallible : Essays in Honour of the Supreme Court of India.* 256-287.

Unit 8:
Cultural and Minority Rights (Arts. 29-30)

Questions: How is a "minority" community defined? What are special rights provided for in the constitution for such minorities?

Week 12

Essential Readings

T.M.A. Pai Foundation V. State of Karnataka, AIR 2003 SC 355
P.A. Inamdar v. State of Maharashtra, AIR 2005 SC 3236

Unit 9:
Public Interest Litigation, Social Rights Jurisprudence and DPSPs

Questions: What is the relationship between Parts III and IV of the constitution? How has the judiciary used the DPSPs as an interpretive tool to read social and economic rights into Part III?

Week 13

Essential Readings

-People's Union for Democratic Rights v. Union of India, AIR 1982 SC 1473
- Minerva Mills Ltd. and Ors. vs Union Of India and Ors., AIR 1980 SC 1789

Week 14

Essential Readings

-Shyam Divan, 'Public Interest Litigation' in Sujit Choudhry and others (eds.), The Oxford Handbook of the Indian Constitution (1st ed., 2017)
- Courting the People – Anuj Bhuwania (Relevant excerpts to be shared).

Unit 10 :
Citizenship

Questions : Meaning of Citizenship. Citizenship at the beginning of the Constitution. Regulation of citizenship through law. Recent debates in citizenship

Week 15

Essential Readings

- Excerpts from *Citizenship and its discontents* by Niraja Jayal Gopal
- Excerpts from *On Citizenship* hy Romila Thapar, N Ram, and Gautam Bhatia.

BOOKS:

● M.P. Jain, Indian Constitutional Law with Constitutional Documents
● DD Basu, Commentary on the Constitution of India
● S Pal, India's Constitution –Origins and Evolution

LECTURE WISE TOPICS

TOPIC	NO. OF LECT U-RES	SESSION OUTCOME	PEDAGOGY	CORRES - PONDIN G CO	MODE OF ASSESSIN G THE OUTCOME
General Introduction	1 x 2 hr	To familiarize the students with	NA	NA	NA

		the course and its objectives			
Constitutionalism and Rights	1 X 2 hr	Students will be able to place rights in context of constitutionalis m	Lecture/Discussion	CO1	Mid Semester Exam + End Semester Exam
"State" and "Law"	2 X 2 hr	Students will be able to appreciate the concept of state and law as envisaged in the constitution	Lecture/Discussion/Cas e Studies	CO1, CO3	
Equality and Scope for affirmative action	6 X 2 hr	Students will be able to recognize the differences between formal equality and substantive equality as envisaged in the constitution	Lecture/Discussion/Cas e Studies	CO1, CO2, CO3, CO4	
Freedoms guaranteed under Art. 19	5 X 2 hr	Students will understand the scope of freedoms and the idea of reasonable restrictions on these freedoms as per the constitutional scheme.	Lecture/Discussion/Cas e Studies	CO1, CO2, CO3, CO4	

Safeguard to persons accused of crimes	3 X 2 hr	Students will examine the constitutional safeguards available to individuals accused of a crime.	Lecture/Discussion/Case Studies	CO1, CO3, CO4	
Mid-term exam					
Right to Freedom of Religion	4 X 2 hr	Students will identify the scope of freedom of religion and gain a comparative understanding of secularism.	Lecture/Discussion/Case Studies	CO1, CO3, CO4	End Semester Exam
Cultural and minorities rights	2 X 2 hr	Students will be able to enhance their understanding of constitutional design in terms of protection of diversity in the nation.	Lecture/Discussion/Case Studies	CO1, CO3, CO4	
Right to Life and Personal liberty	3 X 2 hr	Students will examine the concept of life, personal liberty and procedure established by law through reading of various judicial	Lecture/Discussion/Case Studies	CO1, CO2, CO3, CO4	

		pronouncements.		
Public Interest Litigation, Social Rights and DPSPs	2 X 2 hr	-Students will examine the genesis and the scope for public interest litigation. - Students will contextualize the evolution of social rights within the constitutional scheme.	Lecture/Discussion/Case Studies	CO1, CO2, CO3, CO4
Citizenship	3 X 2 hr	Students will appreciate the contemporary debates on citizenship.	Discussions	CO1, CO2, CO3, CO4
Total hours: 32 X 2 hr + 16 X 1 hr (Tutorials) = 80 hr				

CLASSROOM/COURSE ETIQUETTES:

- ATTENDANCE POLICY:

    As notified by School of Law.

- LATE ASSIGNMENT SUBMISSION POLICY:

    Late assignments will be marked zero.

- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM:

    Plagiarized assignments will be marked zero.

ALIGNMENT OF COs TO POs AND PSOs

CO	STATEMENT	Bloom's Level	Correlation with POs and PSOs								
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
CO1	Identify and explain substantive principles and concepts underlying the rights guaranteed by the Constitution and the interconnections between them.	Level 4	3	3	2	3	3	1	3	3	3
CO2	Exhibit understanding of the dual nature of rights with respect to the state – circumscribing the state powers to guarantee liberties for individuals and empowering the state to create conditions for realizing positive rights.	Level 2	3	3	3	3	3	1	3	2	3
CO3	Apply the provisions under Part III of the Constitution to relevant legal issues.	Level 6	3	3	3	2	3	1	2	2	2
CO4	Appreciate the role of the higher judiciary and constitutional interpretation through the judgments of the Supreme Court and the High Courts.	Level 2	3	3	3	2	3	1	2	3	3

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

2020-2025 B.A., L.L.B. (Hons.) Batch

Faculty	Dr. Kavita Chawla	Year/Semester	II/IV
Course Name	Family Law – II	No. of Credits	4
No of Contact Hours	4 teaching hours + 1 tutorial hour	Session duration	One semester
Course Code	LAW2704		

ABOUT THE INSTRUCTOR: Dr. Kavita Chawla

EMAIL ID: kavita.chawla@bmu.edu.in

COURSE OVERVIEW:

Family law is unlike the other civil laws. It is not uniform and is based on the religion of the person. Due to the large expanse of Family law, it has been covered in two semesters in the form of Family Law I and Family Law II. In Family Law - I, topics such as marriage, divorce, maintenance, guardianship, and adoption for Hindus and Muslims were covered. Family Law II deals with the conveyance of ancestral and coparcenary property. The course will also deal with the law of inheritance given under the Hindu Succession Act, 1956.

COURSE OUTCOMES:

At the end of the course, the student will be able to:

CO1: To understand and distinguish the important principles regarding partition, intestate and testamentary succession, and inheritance under the Hindu and Muslim law.

CO2: To value and critique the *sui generis* role and position of a Karta in a joint Hindu family.

CO3: To analyze and apply the process of intestate succession under the Hindu Succession Act, 1956, and the Muslim customary principles.

CO4: To examine and compare the status of women under the Hindu and Muslim personal laws concerning the right to coparcenary property.

CO5: To argue and recommend whether uniformity in personal laws is required.

PROGRAM OUTCOMES AND PROGRAM-SPECIFIC OUTCOMES:

Program Outcomes for 5-year Law Programme:

PO1: Draw on a sound understanding of concepts, principles, and theories of private and public law, business laws, and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal, and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyze and interpret legal issues to solve problems.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life, and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

Program Specific Outcomes for BA, LLB (Hons.)

By the end of the program, the students will be able to:

PSO1: Apply knowledge of and insights from political science and sociology domains to enrich their understanding of the law and legal practice.

PSO2: Understand the role and impact of social and political institutions in legal practice.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

1. Lectures
2. Case studies
3. Case presentations
4. Discussions
5. Debates

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution
Class Participation	10%
Case Presentation	10%
MCQ Quiz	5% (after mid semester)
Debate	5% (before mid semester)
Assignments / Response Papers	20 % (10% X 2 - one before and one after mid-semester)
Class Test (in the form of mid-semester exams)	15%
End Term Examination	35%
Total	100

SYLLABUS:

Joint Hindu Family: Mitakshara and Dayabhaga schools; formation and incident under the coparcenary property under Dayabhaga and Mitakshara: extent and mode of succession; Karta of joint family: position, powers, and privileges.

Partition - meaning of partition, de facto & de jure partition, the subject matter of partition & properties not capable of partition, persons having the right to partition & persons entitled only to

share in partition; mode of partition & how the partition is affected; revocation, re-opening, and re-union of partition; principles of intestate inheritance - The Hindu Succession Act, 1956 - general rules of succession of a Hindu male (class I, class II heirs, agnates & cognates) and female dying intestate under the Hindu Succession Act, Hindu woman's property - under the Hindu Succession Act, s*tridhan* and women's estate.

Principles of inheritance under Muslim Law (Sunni law). Muslim Law of property **-** Hiba: concept, formalities, capacity, revocability; wasiyat: concept, formalities; waqf.

Principles of testamentary succession – the Indian Succession Act, 1925 - wills, registration, codicil, probate, letters of administration of the will.

ESSENTIAL READINGS/ TEXTBOOKS:

1. Mulla, Principles of Hindu Law, 23rd Edition, Lexis Nexis, 2018.
2. Poonam Pradhan Saxena, Family Law Lectures- Family law II, 4th Edition, Lexis Nexis Butterworths, 2018.

ADDITIONAL READINGS:

1. Aqil Ahmad, Mohammedan Law, 26th Edition, Central Law Agency, 2016.
2. Asaf AA. Fyzee, Outlines of Mohammedan Law, 5th Edition, Oxford, 2008.
3. Dr. Paras Diwan and Peeyushi Diwan, Family Law, 11th Edition, Allahabad Law Agency, 2019.
4. J. Duncan M. Derrett, *Hindu law past and present,* A. Mukherjee & Co., Private Ltd., 1957.
5. J. Duncan M. Derrett, Introduction to Modern Hindu Law, 1963
6. Flavia Agnes, Family Law: Family Laws and Constitutional Claims, Oxford University Press, 2011.
7. Mayne's Treatise on Hindu Law & Usage, 17th Edition, Bharat Law House, New Delhi, 2014.
8. Mulla, Principles of Mohammedan Law, 21st Edition, Lexis Nexis, 2017.
9. S.R. Myneni, Muslim Law and Other Personal Laws, 2nd Edition, Asia Law House, 2018.

LECTURE WISE TOPICS AND READINGS:

TOPIC	NO. OF LECTURES	SESSION OUTCOME	PEDAGOGY	CORRESPONDING CO	MODE OF ASSESSING THE OUTCOME
Introduction to the course	1	To appraise the students of the objectives of the course and give a brief introduction to the course	Lecture	NA	NA
Mitakshara and Dayabhaga Schools	2	To understand the two kinds of Schools in Hindu law.	Lecture, case studies, and discussion	CO1	Assignment Case Presentations Quiz Mid Semester End Semester
Nature of joint family and coparcenary, characteristic features of coparcenary, the distinction between coparcenary and joint family	4	To analyze the nature of the joint family property and distinguish between coparcenary and joint family.	Lecture, case studies, and discussion	CO1	Assignment Case Presentations Quiz Mid Semester End Semester
Classification of property: joint family property and separate property	2	To categorize the kinds of property into the joint family property and separate/self-acquired property.	Lecture, case studies, and discussion	CO1	Assignment Case Presentations Quiz Mid Semester End Semester

Position, powers, and liabilities of a Karta	8	To examine the role of a Karta and determine his position and power in a joint Hindu family.	Lecture, case studies, and discussion	CO1 and CO2	Assignment Case Presentations Quiz Mid Semester End Semester
Partition – Meaning, persons entitled to demand partition, how effected; suit for partition, re-opening of partition; re-union	10	To understand the principles regarding partition – who can demand partition and how the partition is affected.	Lecture, case studies, and discussion	CO1	Assignment Case Presentations Debate Quiz Mid Semester End Semester
The Hindu Succession Act, 1956 - general rules of succession of a Hindu male (class I, class II heirs, agnates & cognates) and female dying intestate.	10	To analyze the provisions of the Hindu Succession Act, 1956, and to understand the rules of succession of Hindu males and females.	Lecture, case studies, and discussion	CO1 and CO3	Assignment Case Presentations Quiz End Semester
Daughter as a Coparcener – Position After 2005 *stridhan* and women's estate	5	To understand the position of a Hindu daughter vis-à-vis her share in the coparcenary property after the amendment in law 2005 and subsequent clarification by the SC in Vineeta Sharma v.	Lecture, case studies, and discussion	CO1, CO3, and CO4	Assignment Case Presentations Quiz Debate End Semester

		Rakesh Sharma, AIR 2020 SC 3717.			
Principles of testamentary succession – the Indian Succession Act, 1925 - wills, registration, codicil, probate, letters of administration of the will.	5	To understand the principles of testamentary succession and to distinguish it from the intestate succession.	Lecture, case studies, and discussion	CO1	Case Presentations Quiz End Semester
Principles of inheritance under Muslim Law	9	To understand the principles of intestate succession under Muslim Law and to compare it with the Hindu law principles.	Lecture, case studies, and discussion	CO1 and CO3	Assignment Case Presentations Quiz End Semester
Hiba: concept, formalities, capacity, revocability	3	To understand the concept of gift under Muslim law.	Lecture, case studies, and discussion	CO1	Assignment Case Presentations Quiz End Semester
Wasiyat – concept and formalities; waqf	3	To understand the concept of wasiyat and waqf.	Lecture, case studies, and discussion	CO1	Assignment Case Presentations Quiz End Semester
Revision	2				

WEEK WISE READINGS:

Week 1: Introduction to the course + Schools of Hindu law

Week 2: Concepts of HJF and coparcenary property

1. Commissioner of Wealth-Tax v. Chander Sen, AIR 1986 SC 1753
2. Moro Vishwanath v. Ganesh Vithal, (1873) 10 Bom. 444
3. Muhammad Husain Khan v. Babu Kishva Nandan Sahai, AIR 1937 PC 233

Additional Reading

- The Supreme Court and HUF: A Foot Note by Derrett, 1978 JILI 463- 470.

Week 3: Concepts of HJF and coparcenary property

4. Commissioner of Income- Tax v. Gomedalli Lakshminarayan, AIR 1935 Bom. 412
5. C.N. Arunachala Mudaliar v. C.A. Muruganatha Mudaliar, AIR 1953 SC 495
6. Smt. Dipo v. Wassan Singh, AIR 1983 SC 846

Additional Reading

- "Shares to Female Members at a Partition under Mitakshara Law", 1963 JILI (5) 270.
- P. Iswar Bhat, "Protection on unjust enrichments and undeserved misery as essence of property right jurisprudence in Mitakshara", 2006 JILI 155-174.
- Does Remuneration of a Coparcener constitute a Joint Family Income? 1986 JILI (28) 385.

Week 4: Alienation of property by Karta

7. Hunoomanpersaud Panday v. Mussumat Babooee Munraj Koonweree, (1854-1857) 6 Moore's IA 393 (PC) 36
8. Sunil Kumar v. Ram Prakash, (1988) 2 SCC 77
9. Dev Kishan v. Ram Kishan, AIR 2002 Raj. 370
10. Balmukand v. KamlaWati, AIR 1964 SC 1385
11. M/s. Nopany Investments (P) Ltd. v. Santokh Singh (HUF), 2007 (13) JT 448

Week 5: Alienation of property by Karta

12. Arshnoor Singh v. Harpal Kaur, AIR 2019 SC 3098

13. Guramma Bhratar Chanbasappa Deshmukh v. Mallappa Chanbasappa, AIR 1964 SC 510

14. R. Kuppayee v. Raja Gounder, (2004) 1 SCC 295

15. Arvind & Abasaheb Ganesh Kulkarni v. Anna & Dhanpa Parisa Chougule, AIR 1980 SC 645

16. Mrs. Sujata Sharma v. Shri Manu Gupta, 226 (2016) DLT 647

Week 6: Partition

17. A. Raghavamma v. A. Chenchamma, AIR 1964 SC 136

18. Puttrangamma v. M.S. Ranganna, AIR 1968 SC 1018

19. Kakumanu Pedasubhayya v. Kakumanu Akkamma, AIR 1958 SC 1042

Week 7: Partition

Week 8: Inheritance under HSA

20. Vellikannu v. R. Singaperumal, AIR 2005 SC 2587

21. Nirmala v. Government of NCT of Delhi, 170(2010) DLT 577 – SLP PENDING

22. Archna v. Deputy Director of Consolidation, 2015 (111) ALR 63

Week 9: Inheritance under HSA

23. Babu Ram v. Santokh Singh (deceased) through LRs, AIR 2019 SC 1506

24. Revanasiddappa v. Mallikarjun, (2011) 11 SCC 1

25. Ganduri Koteshwarammaand v. Chakiri Yanadiand, AIR 2012 SC 169

26. Danamma @ Suman Surpur v. Amar, (2018) 3 SCC 343 – PARTLY OVERRULED

27. Vineeta Sharma v. Rakesh Sharma, AIR 2020 SC 3717

Week 10: Inheritance under HSA

28. Gurupad Khandappa Magdum v. Hirabai Khandappa Magdum, AIR 1978 SC 1239

29. Uttam v. Saubhag Singh, AIR 2016 SC 1169

30. Radha Bai v. Ram Narayan, 2019 (17) SCALE 64

31. Atma Singh v. Gurmej Kaur (D) and Others, AIR 2017 SC4 604

Additional Reading

- "Some Suggestions for the Amendment of the Indian Succession Act", 1962 (2) SC (J) 62.

Week 11: Inheritance under HSA - Females

32. Bhagat Ram v. Teja Singh, AIR 2002 SC 1
33. Omprakash v. Radhacharan, 2009 (7) SCALE 51
34. Vaddeboyina Tulasamma v. Vaddeboyina Sesha Reddi, AIR 1977 SC 1944
35. Jagannathan Pillai v. Kunjithapadam Pillai, AIR 1987 SC 1493
36. Jupudy Pardha Sarathy v. Pentapati Rama Krishna (2016) 2 SCC 56

Additional Reading

- Suman Gupta, "Status of Women Under Hindu Succession Act, 1956", 2007 AIR (J) 65-72.
- Kusum, "Toward Gender Just Property Law", 2005 JILI 95-101.
- Prakash Chand Jain, "Women's Property Right Under the Traditional Hindu Law", 2003 JILI 509-536.
- "Mother's Share at a Partition under Mitakshara Law", 1963 AIR (J) 67.
- Women's Rights of Inheritance in India, 1973 MLJ
- Poonam Saxena "Reinforcing Patriarchal Dictates through Judicial Mechanism", 2009 JILI 221-236.

Week 12: Inheritance under Muslim law

Week 13:Inheritance under Muslim law

Week 14: Hiba

37. Mussa Miyawalad Mahammed Shaffi v. Kadar Bax, AIR 1928 PC 108
38. Valia Peedikakkandi Katheessa Umma v. Pathakkalan Narayanath Kunhamu, AIR 1964 SC 275
39. Hayatuddin v. Abdul Gani, AIR 1976 Bom. 23
40. Abdul Hafiz Beg v. Sahebbi, AIR 1975 Bom. 165

Week 15: Wasiyat (and Revision)

The cases mentioned above are not exhaustive. Additional cases may be assigned.

STATUTES REFERRED:

1. The Hindu Succession Act, 1956
2. The Indian Succession Act, 1925.
3. The Muslim Personal Law (Shariat) Application Act, 1937
4. The Registration Act, 1908.
5. The Transfer of Property Act, 1882.

CLASSROOM/COURSE ETIQUETTES:

- ATTENDANCE POLICY: As notified by the School of Law
- LATE ASSIGNMENT SUBMISSION POLICY: No late submissions permitted.
- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM: As notified. Strict action will be taken if caught using any unfair means.

ALIGNMENT OF COs TO POs AND PSOs

CO	STATEMENT	Correlation with POs and PSOs								
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
CO1	To understand and distinguish the important principles regarding partition, intestate and testamentary succession, and inheritance	3	3	3	2	1	1	1	1	1

	under the Hindu and Muslim law.								
CO2	To value and critique the *sui generis* role and position of a Karta in a joint Hindu family	3	2	3	1	3	1	1	2	1
CO3	To analyze and apply the process of intestate succession under the Hindu Succession Act, 1956, and the Muslim customary principles.	3	3	3	1	3	1	1	2	2
CO4	To examine and compare the status of women under the Hindu and Muslim personal laws concerning the right to coparcenary property.	2	3	1	1	2	2	1	2	2

CO5	To argue and recommend whether uniformity in personal laws is required.	2	3	1	1	2	2	1	2	2

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

BBA LLB (Hons.) 2020 Batch

Faculty	Dr. Richa Mishra	Year/Semester	2nd/4
Course Name	Human Resource Management	No. of Credits	4
No of Contact Hours	56	Session duration	90 min
Course Code	HRM4704		

ABOUT THE INSTRUCTOR: Dr. Richa Mishra |Associate Professor| School of Management

EMAIL ID: richa.mishra@bmu.edu.in

COURSE OVERVIEW:

The Industrial Revolution 4.0 is upon us, with disruptive technology rapidly changing our personal and professional lives. This puts a big question mark on organizational structure and on human resource allocation in organizations that are strongly leveraging new technologies Furthermore, with the pandemic leading to work-from-home as the new normal, monumental changes are envisaged in the work landscape. It is not clear how organization reorganization will take place, how many layoffs there will be, what kind of upskilling will be required, and there is also haziness over how strategic HRM will pan out in terms of attracting, developing, rewarding and retaining talent in these disruptive times. It is in this context that this course, an introduction to the human resource management (HRM) function, is important not only for human resource managers, but all mangers who deal with internal and external stakeholders. Key functions such as recruitment, selection, development, appraisal, retention, and compensation are explained

COURSE OUTCOMES:

CO1: Employee lifecycle, Understand the HRM functions & role of HR Manager

CO2: Strategically plan for the human resources and apply the manpower planning techniques to identify manpower requirement

CO3: Design a Recruitment and selection process and employee retention measures

CO4: Understand the salary components, incentives and design the benefit plans

CO5: Assess the matters related to grievance, provide a solution based on major regulatory guiding mechanisms to maintain congenial Industrial Relations

CO6: Demonstrate an ability to manage diversity and cross-cultural environment.

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

PO1: Draw on a sound understanding of concepts, principles and theories of private and public law, business laws and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyze and interpret legal issues to solve problems.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues**.**

PSO1: Apply knowledge of and insights from the business management domains to enrich their understanding of the law and legal practice.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

The method of teaching and training would be through

- Lectures/Videos
- In-class experiential exercises
- Assignments/Debates /Discussion
- Case Analysis

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	Course Outcomes
Class Discussions	15%	CO5, CO6
Quiz	30%	CO1, CO2, CO3, CO4, CO5, CO6
Case Analysis| Presentation	20%	CO1, CO2, CO3, CO4, CO5
End Term Examination	35%	CO1, CO2, CO3, CO4, CO5, CO6
Total	100%	

SYLLABUS: Introduction to HRM, Acquiring Human Resources, Performance Appraisal & Compensating Human Resources, Training and Developing Human Resources, Managing Industrial Relations & Contemporary issues in HRM, Introduction to HR Analytics.

TEXTBOOKS:

1. Human Resource Management- Dessler, G. and Varkkey, B. (2016), New Delhi: Pearson

ADDITIONAL READINGS:

1. Human Resource Management, Text and Cases V.S.P. Rao (2013). New Delhi: Excel Books
2. MOOC on Coursera (Students can audit the course)   Preparing to Manage Human Resource offered by University of Minnesota.

LECTURE WISE TOPICS AND READINGS:

Session	Major Topics Covered	1. Cases/Video/Addl. Readings	Textbook
1-10	**Introduction to Human Resource Management** Human Resource Management- Meaning, Significance, Objectives; Evolution and Development of Personnel Management and HRM; Key Roles, Functions and Activities of	2. How Netflix Reinvented HR 3. Anderson, C. (2014). What HR needs to do to get a seat at the table. Harvard Business Review.	Human Resource Management Dessler, G. and Varkkey, B. (2016), New Delhi: Pearson

	HRM; Strategic Human Resource Management.		
11-21	**Acquiring Human Resources** HR Planning, Job Design, Job Analysis, Role Analysis; Recruitment; Selection; Induction, Orientation, Placement and Retention	Breaugh, J. A. (2009). Recruiting and attracting talent: A guide to understanding and managing the recruitment process. SHRM Foundation's Effective Practice Guidelines Series, 1-33	Human Resource Management Dessler, G. and Varkkey, B. (2016), New Delhi: Pearson
22-32	**Performance Appraisal & Compensating Human Resources** Performance Measurement and Reward Systems- Introduction, Performance Drivers, Reward Management, Performance Appraisals: Methods, MBO as Appraisal tool. Job Evaluations, Compensation Administration; Incentive Plans and Fringe Benefits.	Do Something about-He is About to Snap- HBR Case Study	Human Resource Management Dessler, G. and Varkkey, B. (2016), New Delhi: Pearson
33-43	**Learning and Developing Human Resources** Training Human Resources – Phases of Training, Need Assessment, Training Methods and Evaluation, Performance and Potential Appraisal; Career Planning and Development; Succession Planning.	**Group Activity**: You are a HRD Manager in FMCG sector, how will you assess training needs in your organization? Also discuss how will you organize training for sales staff.	Human Resource Management Dessler, G. and Varkkey, B. (2016), New Delhi: Pearson
44-54	**Contempory issues in HRM** Dynamics of Industrial Relations; Discipline and Grievance Management; Collective Bargaining; Trade Unions; Industrial Disputes. Virtual organizations; Work-life Balance, Human Resource Accounting and Audit; HRM and Technology, Introduction to HR Analytics	Grievance Handling in Ranbaxy: A Case Study https://www.aihr.com/blog/what-is-hr-analytics/	Human Resource Management Dessler, G. and Varkkey, B. (2016), New Delhi: Pearson
55-56	Review, Recap and Feedback	-	-

CLASSROOM/COURSE ETIQUETTES:

- ATTENDANCE POLICY:
  Attendance will be taken at the beginning of each class. Students will maintain the attendance, discipline, and demonstrate behavior that creates a positive environment promoting discussion and learning.

- LATE ASSIGNMENT SUBMISSION POLICY:

  Any work submitted after a deadline has passed is considered late, unless an extension has already been agreed upon due to mitigating circumstances. Late submission will be led to penalty of 20% in marks. No submission will be accepted after 12 hours and will be marked zero for that particular component.

  Note: Regardless of attendance, projects and homework assignments must be submitted in no later than the due date

- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM:

  Cheating on assignments, participation exercises, papers, tests, and other academic tasks is a blatant violation of the code, as is sharing information on participation exercises between sections. All written requirements should be reflective of your own efforts. It is prohibited to reveal the contents of a participation exercise to students enrolled in a subsequent course/section that is held on the same day or later.

ALIGNMENT OF COs TO POs AND PSOs

CO	STATEMENT	Bloom's Level	Correlation with POs and PSOs								
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
CO1	Employee lifecycle, Understand the HRM functions & role of HR Manager	2. Understand	1	1		2					
CO2	Strategically plan for the human resources and apply the manpower planning techniques to identify manpower requirement	4. Apply				1				1	
CO3	Design a Recruitment and selection process and employee retention measures	5. Apply								1	
CO4	Understand the salary components, incentives and design the benefit plans	3. Understand				2				1	
CO5	Assess the matters related to grievance, provide a solution based on major regulatory guiding mechanisms to maintain congenial Industrial Relations	4. Analyse					2				
CO6	Demonstrate an ability to manage diversity and cross-cultural environment.	6. Apply				1				1	

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

2020-2025 BA LLB(Hons.)/BBA LLB (Hons.) Batch

Faculty	Dr. Chitrakalpa Sen/Dr. Anusree Paul	Year/Semester	2020-2025/IV
Course Name	International Trade	No. of Credits	4
No of Contact Hours	64	Session duration	One Semester
Course Code	ECO2714		

ABOUT THE INSTRUCTOR:

Dr. Chitrakalpa Sen
Email Id: Chitrakalpa.sen@bml.edu.in

Dr. Anusree Paul, Associate Professor, SOEC, SOM.

Email Id: anusree.paul@bmu.edu.in

COURSE OVERVIEW:

It includes pure trade theory and policies as well as the basic issues relating to international macroeconomics. This course systematically expounds the model, trying to explain the composition, direction and consequences of international trade, as well as the determinants and influence of trade policies.

COURSE OUTCOMES:

CO1	To understand and compare alternative theories of international trade
CO2	Analyze and test international trade models
CO3	To understand and analyze trade policy issues
CO4	Analyze the causes and consequences of the rapid expansion of international financial flows in recent years
CO5	To evaluate real world trade issues.

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES: (copy paste the Pos and the applicable PSOs)

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

PSO1: Apply knowledge of and insights from economics and international trade to enrich their understanding of the law and legal practice.

PSO2: Understand the role and impact of international trade on economy and complexities associated with it.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	Course Outcomes
Quiz	(4 x 5) = 20%	CO1, CO2, CO3, CO4, CO5
Group Video presentation 1	20%	CO3
Group Video presentation 2	20%	CO4
End Term Examination	40%	CO1, CO2, CO3, CO4, CO5
Total	**100**	CO1, CO2, CO3, CO4, CO5

SYLLABUS:

1. **Trade Theory using Demand and Supply – national market with and without trade, free trade equilibrium, effects in the importing and exporting country, gains from trade.**
2. **Why everyone trade? – absolute and comparative advantage, PPC.**
3. **Trade: Factor availability and factor proportions – production and consumption with and without trade, H-O theory, implications of HO theory – SS theorem.**
4. **Scale Economies, Imperfect Competition, and Trade – scale economies, intra-industry trade, monopolistic competition and trade, oligopoly and trade,**
5. **Analysis of a Tariff – effects of tariff on domestic consumer and producers, tariff as govt revenue, TOT and nationally optimal tariff**
6. **Nontariff barriers to import – types, import quota, quota vs tariff**
7. **Argument for and Against Protection – infant industry argument, the politics of protection**
8. **Trade Blocs and Trade Blocks – basic theory: trade creation and diversion, Rules of origin**

9.	Trade and the environment
10.	Introduction to foreign exchange market
11.	International lending and financial crisis

TEXTBOOKS:

International Economics, T. Pugel, **Publisher:** McGraw Hill Publication

ADDITIONAL READINGS:

International Economics, Dominick Salvatore, **Publisher:** Wiley
International Economics, Robert Feenstra; Alan Taylor, **Publisher:** Macmillan learning

LECTURE WISE TOPICS AND READINGS:

TOPIC	NO. OF LECTURES	SESSION OUTCOME	PEDAGOGY	CORRESPONDING CO	MODE OF ASSESSING THE OUTCOME
1	3	Understanding the basic trade theory using demand supply model	Class lecture + case study discussion + group work	CO1, CO2	Graded assignment + ungraded group work + ungraded pop quiz
2	3	Understanding the basis of trade using the concept of comparative advantage	Class lecture + case study discussion + group work	CO1, CO2	Graded assignment + ungraded group work + ungraded pop quiz

4

3	6	Understanding the modern theory of trade – the Heckscher Ohlin fraamework	Class lecture + case study discussion + group work	CO1, CO2, CO3, CO5	Graded assignment + ungraded group work + ungraded pop quiz
4	6	Understanding trade theory based on imperfect competition	Class lecture + case study discussion + group work	CO1, CO2, CO3, CO5	Graded assignment + ungraded group work + ungraded pop quiz
5	6	Understanding the concept and impact of a tariff	Class lecture + case study discussion + group work	CO1, CO2, CO3, CO5	Graded assignment + ungraded group work + ungraded pop quiz
6	4	Understanding non-tariff barriers to trade	Class lecture + case study discussion + group work	CO3, CO5	Graded assignment + ungraded group work + ungraded pop quiz
7	1	Critically understanding the arguments for and against trade protection	Class lecture + case study discussion + group work	CO3, CO5	Graded assignment + ungraded group work +

					ungraded pop quiz
8	2	Understanding the basic theory of trade blocs	Class lecture + case study discussion + group work	CO3, CO5	Graded assignment + ungraded group work + ungraded pop quiz
9	3	Understanding the impact of trade on environment	Class lecture + case study discussion + group work	CO3, CO5	Graded assignment + ungraded group work + ungraded pop quiz
10	3	Understanding the basics of foreign exchange rate determination and different exchange rate regimes	Class lecture + case study discussion + group work	CO3, CO4, CO5	Graded assignment + ungraded group work + ungraded pop quiz
11	3	Understanding the basics of financial crises	Class lecture + case study discussion + group work	CO3, CO4, CO5	Graded assignment + ungraded group work + ungraded pop quiz

CASE LAWS/READINGS:

CLASSROOM/COURSE ETIQUETTES:

- ATTENDANCE POLICY:
- LATE ASSIGNMENT SUBMISSION POLICY:
- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM:

ALIGNMENT OF COs TO POs AND PSOs

CO	STATEMENT	Bloom's Level	Correlation with POs and PSOs								
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2
CO1	To understand and compare alternative theories of international trade	2. Understand		2		3	2		1	3	3
CO2	Analyze and test international trade models	4. Analyze		2		3	2		1	3	3
CO3	To understand and analyze trade policy issues	4. Analyze		3		3	3		2	3	3
CO4	Analyze the causes and consequences of the rapid expansion of international financial flows in recent years	4. Analyze		3		3	2		3	3	3

| CO5 | To evaluate real world trade issues. | 5. Evaluate | | 2 | | 3 | 3 | | 2 | 3 | 3 |

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

BA LLB(Hons.) 2020-2025 Batch

Faculty	Aditya Pratap Singh Rathore	Year/Semester	2nd/IV
Course Name	Jurisprudence	No. of Credits	4
No of Contact Hours	(4 + 1 Tutorial)/week	Session duration	1 semester
Course Code	LAW2706		

ABOUT THE INSTRUCTOR:

EMAIL ID: aditya.rathore@bmu.edu.in

COURSE OVERVIEW:

A good comprehension of legal theory helps students make sense of laws in terms of their genesis and operation. It helps practicing lawyers in thoroughly analyzing the nature and scope of various legal provisions that they are called upon to deal with. Good legal arguments cannot be made based on logic alone. They must be made with an understanding of the legal theory.

However, it is not an easy endeavor to master legal theory. Students are often unable to appreciate the subtleties involved in the discipline and find the teaching/writings on jurisprudence to be abstract and unrelatable. This results in frustration and, consequently, dislike for jurisprudence. This course will make sincere efforts to steer clear of such frustrations. It is divided into three

parts. In the first part, the students will develop an understanding of what is jurisprudence and why do they need to know it. In the second part students will engage with theories of law. A substantial part of it would entail reading Hart in original. The last part deals with the questions of justice and morality; and how they inform law.

COURSE OUTCOMES:

By the end of this course, the students will be able to:

CO1. Exhibit understanding of various theories of law.
CO2. Engage with complex legal texts and judgments.
CO3. Draw connections between different laws/statutes by identifying the underlying legal principles and concepts to make comparisons for legal analysis.
CO4. Apply theories of law in analysis of legal issues.
CO5. Recognize legal theories when reading judgments.

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

Program Outcomes for 5-year Law Programme:

PO1: Draw on a sound understanding of concepts, principles and theories of private and public law, business laws and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyse and interpret legal issues to solve problems.

PO4: Understand the importance of inter-disciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines.

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

Program Specific Outcomes for BA, LLB (Hons.)

By the end of the program the students will be able to:

PSO1: Apply knowledge of and insights from political science and sociology domains to enrich their understanding of the law and legal practice.

PSO2: Understand the role and impact of social and political institutions in legal practice.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

1. Lecture

2. Discussions

3. Demonstration (Case Studies)

4. Classroom Debates

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	Course Outcomes	Programme Outcomes
Classroom Debates	10	CO1 and CO4	PO1, PO2, PO3 and PO5
Assignments (Week 4 and Week 7)	10 X 2 = 20 (pre-mid-term)	CO1, CO2, CO4 and CO5	PO1, PO2, PO3, PO4 and PO5
Mid Semester Examination (Take away)	20	All COs	PO1, PO2, PO3, PO4 and PO5
Response Paper + Presentation (Different questions will be assigned)	10 + 5 =15 (post-mid-term)	CO1, CO2, CO4 and CO5	PO1, PO2, PO3, PO4 and PO5

End Semester Examination	35		All COs		PO1, PO2, PO3, PO4 and PO5
Total	100				

LECTURE WISE TOPICS AND READINGS:

TOPIC	NO. OF LECTU-RES	SESSION OUTCOME	PEDAGOGY	CORRES-PONDING CO	MODE OF ASSESSING THE OUTCOME
Introduction (Week 1)	2 X 2 hr	-Students will be able to place jurisprudence in context of law as a discipline -Students will be able to appreciate the complexity of questions that jurisprudence deals with	Lecture/Discussion	N/A	N/A
Natural Law Theory (Weeks 2 and 3)	4 X 2 hr	-Students will be able to exhibit understanding of natural law theory	Lecture/Discussion/Case Studies	COs 1,2,3,4 and 5	Assignment no. 1 + Mid-term examination + End term examination

Legal Positivism (Weeks 4, 5 6 and 7)	8 X 2 hr	-Students will develop ability to engage with complex legal text in original. -Students will exhibit understanding of legal positivism and its critique	Lecture/Discussion/Case Studies	COs 1,2,3,4 and 5	Assignment no.2 + Mid-term examination + End term examination
Pre-mid-term Revision (Week 8)	2 X 2 hr	N/A	Lecture	N/A	+ Mid-term examination + End term examination
Mid-term Examination					
Critical Legal Studies (Weeks 9 and 10)	4 X 2 hr	-Students will exhibit awareness about diversity of approach in study of law as a discipline .	Lecture/Discussion	COs 1 and 2	Assignment no.3 + End term examination
Justice (Weeks 11, 12 and 13)	6 X 2 hr	-Students will recognize variety of approaches in understanding justice as a concept.	Lecture/Discussion/Case Studies	COs 1, 2 and 4	Assignment no.4 + End term examination

		-Students will develop ability to engage with complex legal text in original.			
Law and Morality (Weeks 14 and 15)	4 X 2 hr	-Students will examine the relationship between law and morality. -Students will learn to separate legal issues from moral considerations in a dispute.	Lecture/Discussion/Case Studies	COs 1, 2 and 4	End term examination
Pre End term Revision (Week 16)	2 X 2 hr	N/A	Lecture	N/A	End term examination
Total hours: 32 X 2 hr + 16 X 1 hr (Tutorials) = 80 hr					

SYLLABUS:

Part I: THE CONTEXT

<u>Week 1</u>

Unit 1: Introduction (4 hours)

What is rule of law? What is the nature of the discipline of law? Why study jurisprudence?

Essential Readings:

- Centre Moves SC To Keep Adultery As A Crime In The Armed Forces, The Wire published Jan 13, 2021 https://thewire.in/law/centre-sc-adultery-crime-armed-forces-patriarchy-gender-rights (last accessed on Dec 06, 2021)

- Erik Ortiz, Gabe Gutierrez and Daniella Silva, "Kim Davis, Kentucky Clerk, Held in Contempt and Ordered to Jail" https://www.nbcnews.com/news/us-news/kentucky-clerk-kim-davis-held-contempt-court-n421126 (last accessed on Dec 06, 2021)

- RS French, "Don't You Know Who I am - Ego and Identity in the Administration of Justice", May 08, 2009, Sydney.
  https://www.hcourt.gov.au/assets/publications/speeches/current-justices/frenchcj/frenchcj8may09.pdf (last accessed on Dec 06, 2021)

Cases:

- *Appeal by Gautam Gambhir Against Test Match Suspension* - Decision by Appeals Commissioner Albie Sachs (Source: ICC website)
- *Pancham Chand* v. *State of Himachal Pradesh* (2008) 7 SCC 117.

Further Readings:

- Brian H. Bix, "Law as an Autonomous Discipline" *in* Peter Cane & Mark Tushnet, *The Oxford Handbook of Legal Studies*, Oxford University Press, 2003, pp. 975 - 987.

- John Gardner, 'Why study jurisprudence?" available at https://johngardnerathome.info/pdfs/whystudyjurisprudence.pdf (last accessed Dec 06, 2021)

- John Gardner, "The Legality of Law" available at https://johngardnerathome.info/pdfs/lundlong.pdf (last accessed Dec 06, 2021)

Part II: THE THEORIES

Unit 2: Natural Law Theory (8 hours)

What is the classic tradition of natural law theory? What is the modern tradition of natural law theory?

Essential Readings:

- John Finnis, "Natural Law: The Classical Tradition" *in* Jules Coleman & Scott Shapiro (Eds.), *The Oxford Handbook of Jurisprudence and Philosophy of Law*, Oxford University Press, Oxford, 2002, pp. 1-45. [4 hours]

- Brian H. Bix, "Natural Law: The Modern Tradition" *in* Jules Coleman & Scott Shapiro (Eds.), *The Oxford Handbook of Jurisprudence and Philosophy of Law*, Oxford University Press, Oxford, 2002, pp. 61-75, 95-100. [4 hours]

Cases:

- *S.R. Batra* v*. Taruna Batra*, (2007) 3 SCC 169.
- *Ashok Rai @ Amit* v. *State,* 2009 SCC OnLine Del 265*.*
- *Mohd. Arif @ Ashfaq v. Registrar, Supreme Court,* (2014) 9 SCC 737.

Weeks 4, 5, 6 and 7

Unit 3: Legal Positivism (16 hours)

What is exclusive legal positivism? What is Hart-Fuller debate? Is there an inner morality of law? What is inclusive legal positivism? How are legal principles different from legal rules?

Essential Readings:

- HLA Hart, *The Concept of Law*, 2nd edn., Oxford University Press, New Delhi, 1961, pp. 1 - 99. [8 hours]

- Lon Fuller, "Positivism and Fidelity to Law - A Response to Professor Hart", 71 Harv. L. Rev. 630 (1958). [2 hours]

- Ronald Dworkin, *Taking Rights Seriously*, Harvard University Press, Cambridge, 1977, pp. 1-45. [4 hours]

- Kenneth Einar Himma, "Legal Positivism", Internet Encyclopedia of Philosophy available at < https://iep.utm.edu/legalpos/> (last accessed on Dec 06, 2021). [2 hours]

Further Readings:

- Andrei Marmor, "Exclusive Legal Positivism" *in* Jules Coleman & Scott Shapiro (Eds.), *The Oxford Handbook of Jurisprudence and Philosophy of Law*, Oxford University Press, Oxford, 2002, pp. 104-124.

- Kenneth Einar Himma, "Inclusive Legal Positivism" *in* Jules Coleman & Scott Shapiro (Eds.), *The Oxford Handbook of Jurisprudence and Philosophy of Law*, Oxford University Press, Oxford, 2002, pp. 125-157.

Weeks 9 and 10

Unit 4: Critical Legal Theory (8 hours)

What is critical legal theory? What is critical legal studies (CLS) movement? How is CLS different from American realism? What is Feminist Legal Theory? What is critical race theory? Do laws codify the intrinsic biases of the society against the marginalized groups?

Essential Readings:

- Raymond Wacks, *A Very Short Introduction: Philosophy of Law,* 1st edn., Oxford University Press, Oxford, 2006, pp. 92-107. [6 hours]

- Iris Marion Young, "Throwing like a Girl: A Phenomenology of Feminine Body Comportment Motility and Spatiality", Human Studies, Vol. 3, No. 2 (1980) [2 hours]

Further Readings:

- Brian Bix, *Jurisprudence: Theory and Context*, 5th ed., Sweet & Maxwell, London, 2009, pp. 231-252.

- Nicola Lacey, Feminist Legal Theories, Oxford Journal of Legal Studies, Vol. 9, No. 3 (1989), pp. 383-394

- Robert A. Williams Jr., "Taking Rights Aggressively: The Perils and Promise of Critical Legal Theory for Peoples of Color", Minnesota Journal of Law & Inequality (1987)

Part III: JUSTICE AND MORALITY

Weeks 11, 12 and 13

Unit 5: Justice (12 hours)

What is Justice? Is there a universal conception of Justice?

Essential Readings:

- John Rawls, *A Theory of Justice*, Oxford University Press, Oxford, 1972, Ch. I (§1-6), Ch. II (§11-14), Ch. III (§20, 24) [4 hours]

- Susan Moller Okin. "Justice and Gender", Philosophy and Public Affairs, 16(1), 1987. [4 hours]

- Amartya Sen, *The Idea of Justice,* Penguin, United Kingdom, 2010, pp.1-27. [4 hours]

Case:

- *Dr. Nikhil D. Dattar* v. *Union of India* (2008) 110 Bom. L.R 3293

Further Readings:

- Brian Bix, *Jurisprudence: Theory and Context*, 5th ed., Sweet & Maxwell, London, 2009, pp. 107-122.

- Thomas Wells, "Sen's Capability Approach", Internet Encyclopedia of Philosophy available at < https://iep.utm.edu/sen-cap/#SH7b > (last accessed on Dec 06, 2021)

- Martha C. Nussbaum, *Creating Capabilities: The Human Development Approach*, Harvard University Press, 2011.

Weeks 14 and 15

Unit 6: Law and Morality (8 hours)

Should morality inform formulation of law? Should morality be considered a mitigating factor in evaluating actions of individuals? What is Hart-Devlin debate?

Essential Readings:

- Martha C. Nussbaum, *Hiding from Humanity: Disgust, Shame, and the Law,* Princeton University Press, Princeton, 2004, pp. 1-18, 71-122 [6 hours]

- Brian Bix, *Jurisprudence: Theory and Context*, 5th ed., Sweet & Maxwell, London, 2009, pp. 165-175. [2 hours]

Cases:

- *Naz Foundation v. Govt. of NCT of Delhi,* 2009 SCC OnLine Del 1762.
- *Suresh Kumar Koushal v. Naz Foundation,* (2014) 1 SCC 1.

CLASSROOM/COURSE ETIQUETTES:
- ATTENDANCE POLICY:
    As notified by School of Law.
- LATE ASSIGNMENT SUBMISSION POLICY:

Late assignments will be marked zero.

- ACADEMIC DISHONESTY/CHEATING/PLAGIARISM:

  Plagiarized assignments will be marked zero.

ALIGNMENT OF COs TO POs AND PSOs

CO	STATEMENT	Bloom's Level	Correlation with POs and PSOs								
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
CO1	Exhibit understanding of various theories of law.	Level 2	3	3	3	2	2	1	2	2	3
CO2	Engage with complex legal texts and judgments.	Level 2	3	3	3	3	3	1	3	2	2
CO3	Draw connections between different laws/statutes … to make comparisons for legal analysis.	Level 4	3	2	3	3	3	1	3	3	2
CO4	Apply theories of law in analysis of legal issues.	Level 5	3	3	3	3	3	1	3	3	2
CO5	Recognize legal theories when reading judgments.	Level 2	3	3	3	2	3	1	2	1	1

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY

SCHOOL OF LAW

B.A. LLB. (Hons.) 2020-25 Batch

Faculty	Ms. Urmi Gupta	Semester	I
Course Name	Sociology I	No. of Credits	4
No. of Contact Hours	4 hours (per week)	Session duration	One semester
Course Code	SCG1701		

Email address of Instructor: urmi.gupta@bmu.edu.in

COURSE OVERVIEW:

This course aims to provide an introduction to sociological study of society. The course has been designed to provide the students with a fair idea of social interaction, institutions and change. They will be able to understand the interplay of individual and society, how society is stable but changing, the causes and consequences of social inequality. The course will cover a fairly wide area: it would introduce students to classical as well as contemporary debates in sociology. Students will recognize that Sociology is not mere common sense knowledge but it is a science: it is creative and simultaneously a disciplined activity.

COURSE OUTCOMES:

CO1: Gain extensive insight into sociological concepts and getting familiar with key texts of Classical Sociological thinkers.

CO2: Develop sound understanding of the relevance of theoretical concepts of sociology into praxis: Looking at culture, family, social structure, and process of socialization, religion, deviance and control.

CO3: Develop an understanding of diverse social processes and the mechanisms of social change with reference to contemporary Indian society.

CO4. Evaluate and critically assess existing scholarship along with analytical, verbal and written communication skills to effectively engage in independent research.

PROGRAM OUTCOMES:

PO1: Draw on a sound understanding of concepts, principles and theories of private and public law, business laws and environmental laws, through a blend of theory and experiential learning including internships.

PO2: Exhibit knowledge and awareness of general issues related to society, economy, politics, legal and business environment, and to be able to communicate effectively.

PO3: Ability to formulate a legal problem, synthesize information, analyze and interpret legal issues to solve problems.

PO4: Understand the importance of interdisciplinary study and develop the skills necessary to use the domain knowledge in one discipline to enrich one's understanding and skills in other disciplines

PO5: Demonstrate inquisitiveness and critical thinking ability to solve legal problems.

PO6: Integrate socio-ethical responsibility, life and professional skills in legal practice.

PO7: Employ creativity for the benefit of organization and society at large, and develop a global and international perspective on domestic issues.

PROGRAM SPECIFIC OUTCOMES: BA, LLB (Hons.)

By the end of the program the students will be able to:
PSO1: Apply knowledge of and insights from political science and sociology domains to enrich their understanding of the law and legal practice.

PSO2: Understand the role and impact of social and political institutions in legal practice.

METHODS OF TEACHING-LEARNING/PEDAGOGY:

(i).   Discussion method

(ii).   Student engagement and participation

(iii).   Demonstrations with PPT's.

(iv).   Group Discussions

(v).   Guest Lectures

(vi).   Online videos and lectures

EVALUATION COMPONENTS:

Components of Course Evaluation	Percentage Distribution	CO	PO
Class Participation and Presentations	10%	1,2,3,4	1,2,4,5,6,7
Classroom Exercises: Debates, Discussion	15%	1,2,3,4	1,2,3,4,5,6,7
Assignments	10%	1,2,3,4,	1,2,3,4,5
Mid Term Examination	20%	1,2,3,4	1,2,4
Research paper [post mid-term]	10%	1,2,3,4	1,2,3,4,5,6,7
End Term Examination	35%	1,2,3,4	1,2,4
Total	100%		

Class Participation: Students must actively engage in debates and discussions in class. Starting from Week 2, each class shall have 2 presentations from students based on the readings mentioned in the Course Outline.Class Participation (5%) and Presentations (5%).

Classroom Exercises: There will be 5 specific classroom exercises (3% each) which will consist of debates, discussions and simulation exercises. In these exercises students will engage in the contemporary debates, analysing films or be asked to watch relevant debates/videos before the lecture. These exercises will be marked and students will be informed beforehand regarding the assessment.

Assignments: Students will be given 1 assignment for the entire semester. Assignments must demonstrate a flow of logical arguments, adequate understanding of theories and their application to current debates.

Mid Term Examination: Mid-term examination will consist of a written exam (20%)

Research paper: Students will be writing a research paper (1500 words) after completing mid semester examination. The topic must be within the scope of the syllabus and should be innovative and creative. Paper shall have two components – Presentation along with peer feedback (2%) and Paper submission (8%).

End Term Examination: End-term examination will consist of a written exam (35%)

CLASSROOM/COURSE ETIQUETTES:

Attendance Policy: Students are expected to attend the classes regularly. Failure to attend the classes regularly and adhere to the expected attendance percentage will result in a reduction of the grade as per the University's grading policy.

Late assignment submission policy: Late submission in assignment is not allowed and any late submission will be awarded "0" marks in that particular assignment.

Academic dishonesty/cheating/plagiarism: Plagiarism and academic dishonesty in any form in any evaluation component will lead to appropriate disciplinary action.

TOPIC	NO. OF LECTURES	SESSION OUTCOME	PEDAGOGY	CORRESPONDING CO	MODE OF ASSESSING THE OUTCOME
An Introduction to Sociology	1	Origin, Evolution and Significance of Sociology.	-Introducing the topic by lecture -Student Presentation and Discussion	CO1, CO2	Continuous Assessment
Central Sociological Concepts	3	- Social Interaction - Social Structure - Social Change	-Lecture -Student Presentation and Discussion	CO1, C02, CO3	Continuous Assessment
Theoretical Perspectives of Sociology	8	Understanding sociological thought and theoretical perspectives.	-Lecture -Student Presentation and Discussion	CO1, C02, CO3	Continuous Assessment
MID-TERM EXAMINATION [20%]					
Society and Culture	4	The interlinkages of society and culture.	-Lecture	CO1, C02	Continuous Assessment

			-Student Presentation and Discussion		
Social Institutions	4	Understanding the role of social institutions – Family, Marriage Kinship	-Lecture -Student Presentation and Discussion	CO1, CO2, C03, C04	Continuous Assessment
Social Stratification	4	How caste, class, race and gender can be analysed within social stratification. - Class - Caste - Gender	-Lecture -Student Presentation and Discussion	C02, C03, C04	Continuous Assessment
Social Movements and Social Change	4	Social movements, its basis, significance and implications.	-Lecture - Student Presentation and Discussion	CO2, CO3, C04	Continuous Assessment
Revision and Make up	2	Revision of topics	Discussion		Continuous Assessment
Total : 64 hours of classes					
END SEMESTER EXAM [35%]					

SYLLABUS

TEXTBOOKS:

5

- George Ritzer: Classical Sociological Theory. New York: McGraw Hill.

- Anthony Giddens: Sociology, Polity Press, Cambridge.

- Satish Deshpande: Contemporary India: A Sociological View, Viking Publishers New Delhi.

- M N Srinivas: Social Change in Modern India. Oxford University Press: New Delhi.

ADDITIONAL REFERENCES:

- Madan and Majumdar, "An Introduction to Social Anthropology", Asia Publishing House.
- MSA Rao, "Social Movements in India, Peasant and Backward Class Movements", Manohar Publishers.
- Craig Calhoun ed. "Classical Sociological Theory", Blackwell Publishing.
- M. Haralambos: Sociology: Themes and Perspectives, Oxford University Press, New Delhi.

WEEK WISE READINGS:

Week 1& 2

Topic : An Introduction to Sociology

- Sociology: Origin, Significance, Concepts, and growth of the discipline
- Relation with other branches of social sciences
- Sociology as a scientific discipline

Essential Readings:

Anthony Giddens, Introduction in 'Sociology" Polity Press. London, 1997

Additional Readings

Alex Inkeles, What is sociology? An Introduction of the Discipline and Profession, Prentice Hall of India, New Delhi.

Topic: Central Sociological Concepts

- Social Interaction
- Social Structure
- Social Change

Essential Readings:

Anthony Giddens (ed.), Ch 2 in Introduction to Sociology, Polity Press. London, 1997

Additional Readings

Week 3 and 4

Topic: Theoretical Perspectives of Sociology

- Development of Sociological thinking
- Introducing Classical Thinkers - Emile Durkheim, Max Weber and Karl Marx
- Karl Marx on Social Change: Materialist Conception of History, Capitalist Mode of Production, Socialist Revolution

Essential Readings:

Ritzer, George (2011), Chapter 2 in "Sociological Theory", Mc Graw Hill.

Additional Readings:

Calhoun, Craig (2007), "Manifesto of the Communist Party by Karl Marx and Friedrich Engels" in *Classical Sociological Theory*, Blackwell Publishing. [class discussion]

Week 5 and 6

Topic: Theoretical Perspectives of Sociology Contd.

- Emile Durkheim: Social Fact, Division of Labor, Suicide, The Elementary Forms of Religious Life
- Max Weber: Rationalization, Fact and Value, Protestant Ethic and Spirit of Capitalism, Science and Disenchantment

Essential Readings:

Ritzer, George (2011), Chapter 3 in "Sociological Theory", Mc Graw Hill
Ritzer, George (2011), Chapter 4 in "Sociological Theory", Mc Graw Hill

Additional Readings

Calhoun, Craig (2007), "Division of Labor in Society by Emile Durkheim" in *Classical Sociological Theory*, Blackwell Publishing [class discussion]
Calhoun, Craig (2007), "Objectivity in Social Science by Max Weber" in *Classical Sociological Theory*, Blackwell Publishing [class discussion]

Week 7 and 8

Topic: Society and Culture

- Individual and Society
- Culture as an important element of society.
- Understanding culture and its relationship with society and its growth.
- Diverse perspectives on socio-cultural linkages

Essential Readings:

Anthony Giddens, Chapter 3 in ' Introduction to Sociology" Polity Press. London, 1997

Additional Readings

T.B Bottomore, "Sociology a guide to problems and literature", Routledge, London, 2010.

Maciver and Page. "Society: An Introductory Analysis, Macmillan India, Pvt. Ltd., New Delhi.

Week 9 and 10

Topic: Social Institutions

- Family, Marriage and Kinship
- Kinship Patterns
- Types of Families and Values

Essential Readings:

Where do our Relatives come from and why do they matter? In Robert H. Lavenda and Emily A. Schultz's 'Anthropology: What does it mean to be human'? NY: Oxford University Press.

Additional Readings

Patricia Uberoi: Family, Kinship and Marriage. Delhi: Oxford University Press.

Madan and Majumdar, "An Introduction to Social Anthropology", Asia Publishing House.

Week 11, 12 and 13

Topic : Social Stratification

- What is social stratification?
- Theoretical understanding of social stratification.
- How caste, class and gender can be analysed within social stratification.

Essential Readings:

Holborn, Martin (2002). Chapter 2 in Sociology: Themes and Perspectives, Oxford University Press, New Delhi (22-32).

Gupta, Dipankar (2004), Chapter 6 in Handbook of Indian Sociology, Oxford University Press.

Ambedkar, B. R. (1968). Annihilation of caste with a reply to Mahatma Gandhi: And Castes in India: their mechanism, genesis, and development. Bheem Patrika Publications.

Kothari, Rajni (1970), Introduction in *Caste in Indian Politics,* Orient Longman

Additional Readings

Andre Beteille: Caste, Class and Power: Changing Patterns of Stratification in a Tanjore Village, University of California Press, Berkeley.

Week 14 and 15

Topic 7: Social Movements and Social Change

- Social movements, its basis, significance and implications.
- Different forms of social movement. Social movements as instruments of social change.
- Peasant Movements, Dalit Movements, Backward Caste/Class Movements, Women's Movements

Essential Readings:

Chapter 2, 3, 4 in Social Movements in India by Ghanshyam Shah.

Additional Readings

MSA Rao, "Social Movements in India, Peasant and Backward Class Movements", Manohar Publishers.

Week 16

Make up Week and Revision Session

ALIGNMENT OF COs TO POs AND PSOs

CO's	Statement	Blooms	Correlation with POs and PSOs								
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO 2
CO1	Gain extensive insight into political thought and key concepts in Sociology.	1,2	3	2	1	2	2	2	2	3	2

CO2	Develop sound understanding of relevance of theoretical concepts of sociology- society, culture family social structure, process of socialization, religion, deviance and control. .	2,3	3	3	1	3	2	3	2	3	3
CO3	Develop an understanding diverse social processes and the mechanisms of social change with reference to contemporary Indian society.	2,3	3	3	1	3	2	3	2	3	3
CO4	Evaluate and critically assess existing scholarship along with analytical, verbal and written communication skills to effectively engage in independent research.	4,5	3	3	3	3	3	3	3	3	3

1= LOW CORRELATION

2 = MODERATE CORRELATION

3= SUBSTANTIAL CORRELATION

BML MUNJAL UNIVERSITY ™

Annexure-22

(MoM: BOS)

School of Law

17th Meeting of Academic Council
BML Munjal University, Gurugram

MINUTES OF THE 06th MEETING OF THE BOARD OF STUDIES OF SCHOOL OF LAW, BML MUNJAL UNIVERSITY HELD ON 14 DECEMBER 2021

The 6th meeting of the Board of Studies for School of Law was held virtually on 14 December 2021 at 2:30 pm. The following members were present:

1. Prof. (Dr.) Pritam Baruah – Dean, School of Law, BML Munjal University - Chairperson
2. Dr. Kavita Chawla, Assistant Dean Academics and Assistant Professor, School of Law, BML Munjal University - Member
3. Prof. (Dr.) Jaskiran Arora, Dean, School of Management, BML Munjal University - Member
4. Prof. (Dr.) Mrinal Satish, Professor, National Law School of India University, Bangalore - Member
5. Prof. (Dr.) Dalip Kumar, Professor, School of Law, Kurukshetra University - Member
6. Mr. Badrinath Durvasula, Managing Director, Legal, Essar Capital Advisory Services, Mumbai - Member

The representative from the student community was absent with prior intimation. Once the quorum was established, the meeting commenced.

The Chairperson welcomed the members to the sixth Board of Studies meeting of the School of Law and conveyed his thanks to the members for attending the virtual meeting. Prof. Baruah detailed the achievements of the law school in the last six months. He also mentioned that the course outlines have been modified to add week-wise readings, which makes it more student-friendly.

The following items on the agenda were taken up for consideration and approval of the Board of Studies:

Agenda 1: To discuss and approve the course structure of the second, fourth, and sixth semesters of B.A., LL.B. (Hons.), and BBA, LL.B. (Hons.).

The course structure was approved with the following suggestions:

- For Alternate Dispute Resolution: as the course will be covered in two semesters, the focus in this semester could be only on the Arbitration and Conciliation Act, 1996, with the next semester covering the hands-on techniques of ADR. This could warrant a change in the nomenclature of the subject establishing the same.

Agenda 2: To discuss and approve the course outcomes of the second, fourth, and sixth semesters of B.A., LL.B. (Hons.), and BBA LL.B. (Hons.).

The course outcomes of the second, fourth, and sixth semesters of B.A., LL.B. (Hons.), and BBA, LL.B. (Hons.) were discussed and approved with the following suggestions:

- For Alternate Dispute Resolution: Considering the above suggestion, CO2 could be removed as the ADR mechanisms except arbitration would be covered in the next semester. Instead, a course outcome on enforcement of the arbitral awards may be added, or it may included as a specific topic.
- For Law of Evidence: Remove CO4 about understanding the role of the higher judiciary through the judgments of the Supreme Court and the High Courts as this may be an outcome of Constitutional law or CrPC course but not of an evidence course. Instead, add an outcome about the application of evidentiary principles for enforcement of rights under the Constitution.
- For Sociology III: Add an outcome regarding how this subject blends criminal law and constitutional law.

The course outcomes for CPC and Public Speaking course could not be presented to the members due to administrative reasons. The outcomes along with the outlines would be sent for comments and approval through circulation.

Agenda 3: To discuss and approve the syllabi of the second, fourth, and sixth semesters of B.A., LL.B. (Hons.), and BBA, LL.B. (Hons.).

The syllabi of the second, fourth, and sixth semesters of B.A., LL.B. (Hons.), and BBA, LL.B. (Hons.) were discussed and approved with the following suggestions:

- For Alternate Dispute Resolution: add the topic of enforcement of arbitral awards in the syllabus.

- For Law of Evidence: CO2 is not reflected in the syllabus. Topics related to the same may be added. Add more secondary material including leading English and India authorities on evidence to justify the claim that theoretical foundations of evidence would be covered. Topics related to CO4 are not visible in the outline. As suggested above, CO4 may be deleted. Add more readings in week 1 and week 2. Add topic related to the critique of the Indian Evidence Act.

- For Law and Economics: Consider adding economic analysis of criminal law as a topic by looking at scholarship that has come out of US law schools, especially Harvard and Yale. Add the topic of compliance of corporate law. Consider sensitizing students to questions of compliance when discussing M&A.

The course outline for CPC and Public Speaking course could not be presented to the members due to administrative reasons. The outline along with the outcomes would be sent for comments and approval through circulation.

Agenda 4: Any other issue with the permission of the Chair.
No other item was presented.

The Chairperson confirmed that the quorum was present throughout the meeting. As there were no other issues raised, the meeting concluded with a vote of thanks to the Chair.

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Annexure-23

New Programme/Specialization
B.Sc (Computer Science) Programme
(Academic Year: 2022-23)

17th Meeting of Academic Council
BML Munjal University, Gurugram

BML MUNJAL UNIVERSITY ™
A **Hero GROUP** INITIATIVE

Proposal for B.Sc. in Computer Science

(Specialization: Data Science and Artificial Intelligence, Cyber Security, and Big Data Analytics
&
Minor: Business Analytics, Financial Technology, and Digital Marketing)

Program Proposal

AY: 2022-23

Executive Summary

It has been a long-felt necessity to align higher education with the emerging needs of the economy to ensure that the graduates of the higher education system have adequate knowledge and skills for employment and entrepreneurship. Therefore, the higher education system must incorporate the requirements of various industries in its curriculum innovatively and flexibly while developing a holistic and well-groomed graduate.

BMU is proposing this new program for aspiring applicants. The program is well-structured to lay a foundation for future academic programmes in Computer Science. The strong foundational concepts of studying B.Sc Computer Science will make aspirants eligible for various roles across industries and aid in understanding new technologies used in industry. The various job profiles are IT project manager, program analyst, software engineer, developer, and programmer. One can work in software development companies, system maintenance centres, the banking sector, consultancies, government agencies and more. The higher education options after B.Sc. Computer Science includes MCA, M.Sc. Computer Science, MS or even management courses such as an MBA or post-graduate diploma.

Hence BML Munjal University is proposing to start a <u>B.Sc.-Computer Science</u> program to provide experiential learning through hands-on training developing problem-solving abilities and analytical skills of the students keeping in view the future technological directions. This would help improve the productivity and knowledge base of the industries and the Human Capital already employed. It would also enable this workforce for their upward mobility in terms of economic growth and social mobility.

B. Sc Computer Science is a 3-year full-time undergraduate degree program with multiple options for core specializations and interdisciplinary minor. The program is divided into six semesters. Each semester lasts for a period of 6 months.

Admission requires the minimum eligibility of a Higher Secondary Certificate (10+2) in science stream with Mathematics as one of the subjects and an aggregate score of 50%.

It is with this background that BML Munjal University is proposing the <u>B.Sc. (Computer Science)</u> Program, starting with the academic year 2022-23

<u>Background of the Program</u>

B.Sc. in Computer Science is a 3-year undergraduate program that equips a candidate with the foundational knowledge and understanding of the core concepts related to the Computer Science, and the most recent related technologies. This program will prepare the students for the ever-growing industry of IT (Information Technology) and IT-enabled sectors heavily dependent on computing.

The university is committed to contribute to the advancement of information technology by providing this curriculum with effective and highly skilled faculty and well-equipped computer laboratories. Students also have the opportunity to work on a project in their final year. As a result, the mix of concepts and software tool training prepares students to adapt to

ever-changing technology. The B.Sc. - Computer Science curriculum is designed to prepare students for higher-level computer science academic programmes.

Rooted in need of computing aptitude for industries, software companies, scientific computing and other R &D sectors for modern scientific investigations and technological developments. The program is intended to provide in-depth theoretical knowledge and practical training in computer science, logical computing and artificial intelligence. On successful completion of the program, graduates will be able to find jobs in software industries across the world and government organizations, etc. To keep the students acquainted with new challenges with cutting-edge technology, the BMU will invite industry personnel for guest lectures, real-time projects, seminar presentations, and possible Practice Schools for students. Students graduating with a BSc. degree in Computer Science will not only be well suited to build flourishing careers in industry and the new entrepreneurial India but also to pursue higher studies in related fields.

B.Sc. in Computer Science is a three-year full-time undergraduate program. The program is divided into six semesters. Each semester lasts for a period of 6 months, and the course admission requires the minimum eligibility of a Higher Secondary Certificate (10+2) with an aggregate score of 50%, and Mathematics must be one of the subjects of it.

National Education Policy 2020

The proposed new structure for the Undergraduate Programs aims to achieve the following key goals enunciated by the National Education Policy 2020:

a. Interdisciplinary Learning
b. Holistic curriculum (including ethics and culture, social and emotional learning, and Co-curricular activities)
c. Skill development (including skills relating to information technology and data analysis)
d. Research may be incorporated into the learning process as a significant component.
e. Using appropriate pedagogies to encourage active student participation in the learning process.
f. Capacity building for both gaining and creating jobs
g. Collaboration between industry and society (e.g., Projects/Internships/Practice Schools).
i. Flexible year-end entry and exit.
j. Offering various diplomas and degrees after exit at the end of each year.

B.Sc. (Bachelor of Science) Program

BML Munjal University [BMU] has been at the forefront of imparting quality higher education in the field of science, engineering, technology, and management since its inception and has introduced flexible and innovative curriculum in higher education. BML Munjal University is engaged in creating, preserving, and imparting internationally benchmarked knowledge and skills to a diverse community of students from across the world. BMU's aim is to nurture ethical leaders who are skilled, knowledgeable and have the life skills needed to lead organisations to success. Within a short span of time, it has developed its School of Engineering and Technology with world-class infrastructure, global international linkages with academic universities and technology partners, highly qualified and experienced faculty

from international and Indian institutes and strong technology and industry orientation for all its programs.

BML Munjal is located amidst a belt of manufacturing industries in diverse areas with a special focus on the Automotive and IT sectors. This includes the areas of Gurugram, Manesar, Dharuhera, Bhiwadi and Neemrana.

The overall structure (vision, mission & goals) of the B.Sc. (Computer Science) Program is planned to be as follows:

● **Vision**: To prepare skilled, ethical graduates with global knowledge and become technology pioneers in the field of computational science.

● **Mission**: To make the School of Engineering & Technology (SOET) the leading school in the country in the field of Computer Science.

The broad aspects of the proposed program are outlined below
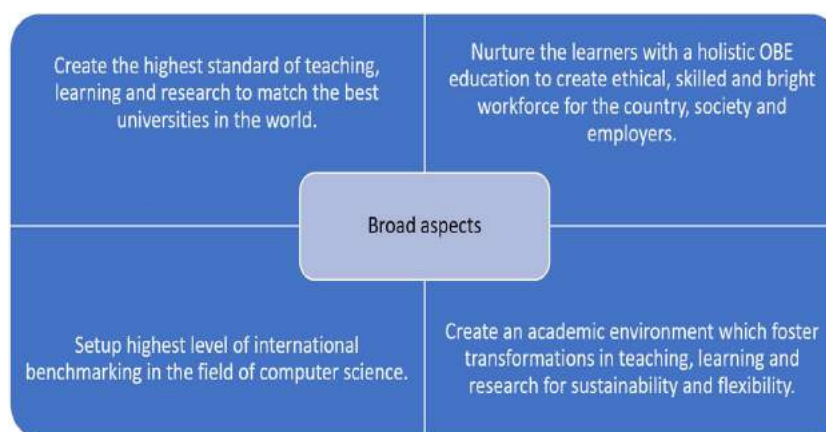
Philosophy of the Curriculum/Program

The following aspects have been considered while designing the proposed curriculum:

- Vision of BMU
- Recommendations of the National Educational Policy -2020
- Choice-based Credit System and Outcome Based Education (OBE)
- Use of available technologies and resources in a more efficient manner through a combination of different learning pedagogies such as, Blended, Flip-classroom, Experiential, Skill-based, Classroom, MOOCs etc.
- Design and Delivery of the Program to ensure alignment with a) requirement of the industry; b) employability and employment of the students; and c) National Skills Qualifications Framework (NSQF).
- Interdisciplinary and futuristic program curriculum with exposure to Artificial Intelligence, Machine Learning etc. all being necessary knowledge areas in the era of the information technology.

Salient Features of the Proposed Program

- The fractional credit system, and hence, the scope for learning through various modes, such as Classroom teaching, MOOCs, Industry engagement, Certification and Training
- Separate pre-defined credits for core specialization and minor electives, Practice School and Project
- Variety of courses (in different categories) to enable holistic learning and personal development opportunities
- Scope for teaching and learning through various modes, such as, Classroom teaching, MOOCs, Industry engagement, Certification and Training.
- Mandatory Practice School to enable relevant industry exposure and practical (hands-on) experience in core areas of interest. Practice School in the 5th semester (duration: 4-months) will additionally provide students with career direction, entrepreneurial motivation, and enhanced understanding of the choice of electives in the final year.
- The program is Industry oriented (mandatory Practice School to be provided on-site in a company).
- Employment Opportunities: The scope of B.Sc. Computer Science is quite broad. There is a wide range of employment opportunities available for graduates in B.Sc. Computer Science, such as Programmer, Web Developer and Designer, Computer Systems Analyst, Database Administrator, Data Analyst

The proposed program offers some unique features which are in perfect alignment with the goals of the University as well as the state in creating skilled professionals who also have developed a holistic personality.

Innovation and Entrepreneurship: An interdisciplinary course that will help students acquire skills relating to creative social and business entrepreneurship and organizational skills.

Leadership and Ethics: An interdisciplinary course encouraging skills and value addition.

Co-curricular: To ensure that students can pursue their passion in the chosen area of interest in terms of participating in various club activities which are an integral part of the campus-life of a student. This is extremely important for a holistic development of an individual.

Course Curriculum

	CORE Discipline Specific Courses [DSC] (20)	Ability Enhancement Compulsory Courses [AECC] (2)	Minor Electives Interdisciplinary Skill Enhancement Courses [SEC] (4)	Specialization Discipline Specific Elective [DSE] (6)	Perspective & Skill Courses (4)	Course with Industry Collaboration (1)	Co-Curricular (2)
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Semester 1	Digital Logic						
	Programming Fundamentals with C						
	Data Structures						
	Discrete Mathematics						
					Leadership and Ethics		
		Communication Skills					
							▯
Semester 2	Design and Analysis of Algorithms						
	Computer Systems Architecture						
	Object Oriented Programming – Java						
	Theory of Computation						
					Technical Report Writing		
			SEC-1				
		Environmental Studies					
Semester 3	Operating Systems						
	Computer Networks						
	Artificial Intelligence						
	Microprocessor						
	Web Programming						
					Critical Reasoning and Systems Thinking		
			SEC-2				

Semester 4	Database Management Systems						
	Software Engineering						
	Machine Learning						
	Mobile Application Development						
	Data Communications and Network Security						
					Innovation and Entrepreneurship		
			SEC-3				
Semester 5							Practice School
	Introduction to Cloud Computing						
	Internet of Things						
				DSE-1			
			SEC-4				
Semester 6				DSE-2			
				DSE-3			
				DSE-4			
				Project			

Credits Distribution:

Total Credits: 120

Core: 58

Specialization (Electives): 15 + Project: 6 = 21

Minor (Electives): 15

Ability Enhancement: 4

Co-curricular: 2

Perspective: 8

Practice School: 12 (4 months)

CORE **Discipline Specific Courses** **(DSC)**	**Total 20 courses** 2 courses with (L-D-P-C: 3-0-2-4) or (L-D-P-C: 2-0-4-4) 14 courses with (L-D-P-C: 2-0-2-3) or (L-D-P-C: 2-1-0-3) 4 courses with (L-D-P-C: 2-0-0-2) or (L-D-P-C: 1-0-2-2)	58 Credits
Ability Enhance Courses (AEC)	AEC-1 (L-D-P-C: 2-0-0-2) AEC-2 (L-D-P-C: 2-0-0-2)	4 Credits
Co-Curricular		2 Credits
Perspective/Skill Courses	(L-D-P-C: 2-0-0-2) (L-D-P-C: 2-0-0-2) (L-D-P-C: 2-0-0-2) (L-D-P-C: 2-0-0-2)	8 Credits
Specialization **Discipline Specific Elective Courses**	DSE-1 (L-D-P-C: 2-0-2-3) DSE-2 (L- D-P-C: 3-0-2-4) DSE-3 (L-D-P-C: 3-0-2-4) DSE-4 (L-D-P-C: 3-0-2-4)	15 Credits / 21 Credits
Project		6 Credits
Minor **(Interdisciplinary)** **Skill Enhancement Elective Courses**	SEC-1 (L-D-P-C: 3-0-2-4) SEC-2 (L-D-P-C: 3-0-2-4) SEC-3 (L-D-P-C: 3-0-2-4) SEC-4 (L-D-P-C: 2-0-2-3)	15 Credits
Practice School		12 Credits

Semester-wise Credits Distribution

	DSC	DSE (Specialization)	SEC (Minor)	Co-Curricular	AECC	Perspective /Skill	Practice School	Project	Credit Distribution
Semester 1	14			1	2	2			**19**
Semester 2	12		4	1	2	2			**21**
Semester 3	14		4			2			**20**
Semester 4	14		4			2			**20**
Semester 5	4	3	3				12		**22**

Semester 6		12						6	18
Credits per Category	58	15	15	2	4	8	12	6	
					TOTAL				120

Specialization

1. Data Science and Artificial Intelligence (Bucket 1)
2. Cyber Security (Bucket 2)
3. Big Data Analytics (Bucket 3)

Minor (Interdisciplinary)
1. Financial Technology (Bucket 1)
2. Business Analytics (Bucket 2)
3. Digital Marketing (Bucket 3)

Infrastructure/Resources availability for the specialization

- Well-equipped Computer Laboratory with required hardware/software.
- Library with excellent collection of books and subscriptions to other academic resources *(e.g. journals, e-books and other e-resources)*.
- Centre for Computational and Complexity Sciences (C³S)
- State-of-the-art infrastructure and computing facility – well equipped computer laboratory, High Performance Computers (HPC) and multiple GPU servers.

Faculty details for the above program

Name	Designation	Area of Expertise
Dr. Anirban Chakraborti	Professor and Dean (SOET) and Dean Research	Data Science, Econophysics, Sociophysics, Complex Systems, Statistical Physics
Dr. Sarabjot Singh	Professor and Director (CSE)	Data Mining and Web Personalization, Machine learning
Dr. Soharab Hossain Shaikh	Associate Professor	Computer Vision, Image Processing, Applied Deep Learning
Dr. Kiran Khatter	Associate Professor	Fuzzy Logic, Optimization and image processing
Dr. Yogesh Gupta	Associate Professor	Data Science, Optimization Techniques, Machine Learning

Dr. Arpit Bharadwaj	Associate Professor	EEG Signal Classification, Genetic Programming
Dr. Satyendr Singh	Assistant Professor	Natural Language Processing
Dr Rajesh Yadav	Assistant Professor	Cyber Security
Dr Pradeep Arya	Assistant Professor	Cloud computing and cyber security
Dr. Devanjali Relan	Assistant Professor	Image Processing, Applied Machine Learning
Dr. Kiran Sharma	Assistant Professor	Computational Finance, Computational Social Science, Informetrics and Bibliometrics
Dr Nitin Varyani	Assistant Professor	Computer networks.
Dr. Hirdesh Kumar Pharasi	Assistant Professor	Data Science, Econophysics, Air Pollution and Traffic
Ms. Nishtha Phutela	Assistant Professor	Data Science, Human-computer Interaction, machine learning.
Mr. Atul Mishra	Assistant Professor	Natural Language Processing, text mining, Machine Learning.

Benchmarking of the program with other Universities/Institutions

a. Closely related programs in Colleges and Universities in the surrounding region.

Following is a list of some of the Colleges/Universities related to B.Sc (Computer Science) across India:

Sr. No	Degree Name	Affiliation	Degree
1	Hansraj College Acharya Narendra Dev College - [ANDC] Deen Dayal Upadhaya College Indraprastha College for Women Kalindi College Aryabhatta College Dyal Singh College College of Vocational Studies	Delhi University	B.Sc(H)- Computer Science
2	Lingayas University, Gurugram	Private University	B.Sc - Computer Science

3	University of Calicut, Kerala	State University	B.Sc - Computer Science
4	Visva-Bharti University, West Bengal	Central University, West Bengal	B.Sc - Computer Science
5	Christ University, Bangalore	(Private) Deemed to be University	Bachelor of Science (BSc) Computer Science, Mathematics, Statistics (CMS)
6	Amity University	Private University	B.Sc (IT)
7	St. Joseph College, Bangalore	Autonomous	B.Sc - Computer Science, Mathematics, Statistics (CMS)

b. Differentiating factors of the proposed program vis a vis other program.

Criteria	B.Sc. Computer Science (Other Universities)	B.Sc. Computer Science at BMU
Curriculum & Learning	Curriculum focused on fundamentals and core courses	Curriculum focused on fundamentals, core; Practical experiential learning through hands-on **Project**; Industry collaboration through **Practice School**, Mandatory core **Specialization** and interdisciplinary **Minor**.
Specialization	No specialization	Core competency development through Specializations
Minor	No such option	Minor in interdisciplinary subjects
Industry Collaboration	No internship/practice-school and no industry induction.	Program design is Industry oriented. Mandatory Practice School for 4-months with an industry.
Flexibility in Curriculum	Not apparent in the curriculum. *However, every institution is putting effort to align their curriculum with recommendation by NEP 2020.*	Multiple exit options with certificate/diploma/degree etc.
Project *(one of the assessment components)*	Offered as an Elective course	Practical and hands-on, problem solving through a mandatory Project component.

Holistic Development of the Student	Not so prominent	Holistic development of the student through Co-curricular, Perspective and Skill courses.

Key student outcomes of the specialization

- ❖ Ability to provide computational solutions to real-world problems
- ❖ Core competency in the domain of Specialization
- ❖ Interdisciplinary skill development through Minor
- ❖ Skilled, employable, responsible, and ethical graduates

Employment Opportunities

On successful completion of the program, graduates will be able to find jobs in

Software Industries: There is a wide range of employment opportunities available for graduates in B.Sc. Computer Science in the Software Industries such as in System Engineer, Programmer, Web Developer and Designer, Computer Systems Analyst, Database engineer, Data Engineer.

Pursue higher studies and research in India and abroad: Students can also opt for higher studies pursuing Masters (M. Sc) and choose a research/academic career in India and abroad. Students may get placed in Government organizations and R&D organizations e.g., DRDO, ISRO, CSIR etc. after due deliberation.
In addition, the students who are already employed would be able to move faster within their organisations and help improve productivity and bring about innovation in their organisations.

Eligibility Criteria

Schools affiliated under boards recognized by **Council of Boards of School Education (COBSE)** or National or International Boards recognized by the **Association of Indian Universities (AIU)** are eligible to apply.

- Candidates studying under Indian Boards should have a minimum **aggregate of 60% marks** (or equivalent scores) in four subjects, viz. Physics, Mathematics, English and any one subject out of Chemistry, Biology, and Technical Vocational subjects.
- The candidate must have **Mathematics** as one of the compulsory subjects.
- **BMU-SAT/SAT/ JEE (Main)/ BITSAT/ VITEEE**
  [JEE (Main) is <u>NOT compulsory</u>]

Selection Process
BML Munjal University uses a holistic approach to evaluate students for each of its undergraduate programmes. For the <u>B.Sc - Computer Science program</u>, a student is shortlisted based on:

1. Submission of online application forms.

2. Shortlisting of the candidates based on credentials (Class 10, Class 11, and Class 12 final examination scores/grades).
3. Entrance Test to be conducted by BMU or result of BMU-SAT/SAT/ JEE (Main)/ BITSAT/ VITEEE (candidates will be selected for PI based on the merit list).

Introduction to Specialization

The ever-growing use of technology in business, education, healthcare, and other commercial sectors has brought out a wide range of different career options for the computing graduates. In terms of the job opportunities and salaries, the IT sector is well ahead of most of the other industrial and commercial sectors. There has always been a shortage of skilled professionals in the IT-industry. Many recent surveys found that most of the fresh graduates are not employable due to skill-gaps.

B.Sc.-Computer Science program of BMU has been designed to develop strong analytical, programming, and problem-solving skills of the students so that they can think critically and provide computational solutions to real-world problems. The innovative and futuristic curriculum provides specializations to build core technical competency at the same time giving emphasis on interdisciplinary learning opportunities, holistic development and practical hands-on learning through industry internship/practice-school and project.

Specializations are essential for skill development. It also enhances the employability quotient. The B.Sc Computer Science program offers the following in terms of specializations options:

Specialization

This program offers many options for the students to specialize in the fields related to Computer Science having high market demand. Students will be given options to choose from a bucket of three core specializations – Data Science and Artificial Intelligence, Cyber Security and Big Data Analytics. Developing competency and skills in these domains of specializations will give the students edge over others in terms of employability and further career growth.

Minor

Minors open-up the possibility for a student to learn interdisciplinary courses and develop skills in these domains. This program offers a bucket of three different minors – Business Analytics, Financial Technology, and Digital Marketing.

The objective of introducing the core specializations and minor is to let the students learn the skills (both the core area of studies and in interdisciplinary areas) required to be successful in the future life. The students will be able to learn skills that will make the B.SC Computer Science graduates employable.

Program Educational Objectives (PEO)

PEO1: Apply knowledge to analyze a given problem and provide solutions with computational methods.

PEO2: Achieve professional development through self-learning to adapt to the changes in the field of technology and computing.

PEO3: Engage in life-long learning, advanced education and other pursuits of computer science and computational methods

PEO4: Accomplish leadership roles by imbibing ethics and professionalism with an emphasis on transforming the society and contributing to the lives of citizens

Program Specific Outcomes (PSO)

Graduates will be able to:

PSO1: Understand and apply fundamental principles and methods of Computer Science to a wide range of applications.

PSO2: Design and develop efficient computational solutions to real-world problems keeping in perspective the professional, ethical, legal, security, social issues, and responsibilities.

PSO3: Identify appropriate tools and techniques related to data science practice such as data collection, cleaning, analyzing, modelling and evaluation for deriving hidden and meaningful patterns from data useful for developing intelligent computational models for solving various real-world problems in domains like healthcare, transportation, finance, etc., by using Artificial Intelligence techniques.

PSO4: Understand the foundational concepts and techniques to protect computing systems against constantly evolving cyber security threats and analyze security breaches and violations of cyber systems and networks to provide appropriate solutions.

PSO5: Develop applications to store and process the massive volume of data collected from heterogeneous sources and recognize meaningful patterns from the data leading to actionable insights.

PSO6: Develop interdisciplinary and life-skills and prepare for continued professional development.

Program Outcomes (PO)

Graduates will be able to:

PO1: Apply the foundational concepts of computer sciences to develop unique solutions to complicated real-world computing challenges.

PO2: Identify, formulate, review literature, and analyze complicated computing problems to establish substantiated conclusions and derive a coherent logic that can be implemented using computer systems.

PO3: Design analytical and computational models for solving complex computing problems while considering public health and safety, cultural and societal constraints, and environmental considerations.

PO4: Use research-based knowledge, methods, tools, and techniques for data collection, designing software and computational systems, analyzing and interpreting the results to provide substantiated conclusions.

PO5: Use appropriate tools to model complex computing problems, identify the limitations and create solutions to predict the real-world phenomena

PO6: Use appropriate contextual knowledge of computer science to review and assess societal, health, legal, cultural, safety and contemporary issues and rationalize the ensuing responsibilities towards the society.

PO7: Adopt computer science principles and practices in congruence with societal need, understand the working practices and their impact on natural resources for sustainable development.

PO8: Use ethical principles to pursue excellence in developing computing solutions, while appropriately taking care of interests, responsibilities and values of others concerned

PO9: Accepts responsibility as an individual, as a team member and place common team goals above individual interests and work successfully towards the development of computing solutions and lead the organization to success.

PO10: Communicate effectively by capturing user's software requirements for preparation of specification documents, write clear and concise report such as laboratory files, research papers, thesis, and presentation materials.

PO11: Demonstrate knowledge of computer software and management principles for the completion of individual or group projects in multidisciplinary environments.

PO12: Recognize the evolving technological changes and engage as an independent and lifelong learner in both computing and non-computing fields.

Program Structure

Sem	Category	Sub-Category	Course Title	Credits
1	Co-Curricular			1
1	Ability Enhancement Course	School	Communication Skills	2
1	Perspective Course	Perspective	Leadership and Ethics	2
1	Core - DSC	Department Specific	Digital Logic	3
1	Core -DSC	Department Specific	Programming Fundamentals with C	4
1	Core - DSC	Department Specific	Data Structures	4
1	Core -DSC	Department Specific	Discrete Mathematics	3
			Semester Total	**19**
2	Co-Curricular			1
2	Skill Enhancement Course	School	Technical Report Writing	2
2	Ability Enhancement Course	School	Environmental Studies	2
2	Core - DSC	Department Specific	Object Oriented Programming with Java	3

Sem	Category	Sub-Category	Course Title	Credits
2	Core -DSC	Department Specific	Design and Analysis of Algorithms	3
2	Core - DSC	Department Specific	Computer Systems Architecture	3
2	Core - DSC	Department Specific	Theory of Computation	3
2	Elective-SEC	Minor	**Bucket-1/Bucket-2/Bucket-3 course**	4
			Semester Total	**21**
3	Perspective	School	Critical Reasoning and Systems Thinking	2
3	Core - DSC	Department Specific	Operating Systems	3
3	Core - DSC	Department Specific	Computer Networks	3
3	Core -DSC	Department Specific	Artificial Intelligence	3
3	Core - DSC	Department Specific	Microprocessor	3
3	Core - DSC	Department Specific	Web Programming	2
3	Elective - SEC	Minor	**Bucket-1/Bucket-2/Bucket-3 course**	4
			Semester Total	**20**
4	Perspective	School	Innovation and Entrepreneurship	2
4	Core - DSC	Department Specific	Database Management Systems	3
4	Core - DSC	Department Specific	Software Engineering	3
4	Core - DSC	Department Specific	Machine Learning	3
4	Core - DSC	Department Specific	Mobile Application Development	2
4	Core - DSC	Department Specific	Data Communications and Network Security	3
4	Elective - SEC	Minor	**Bucket-1/Bucket-2/Bucket-3 course**	4
			Semester Total	**20**
5	Practice School	School	Practice School (4 Months)	12

Sem	Category	Sub-Category	Course Title	Credits
5	Core - DSC	Department Specific	Introduction to Cloud Computing	2
5	Core - DSC	Department Specific	Internet of Things	2
5	Discipline Specific Elective	Specialization	**Bucket-1/Bucket-2/Bucket-3 course**	3
5	Elective - SEC	Minor	**Bucket-1/Bucket-2/Bucket-3 course**	3
			Semester Total	**22**
6	Discipline Specific Elective	Specialization	**Bucket-1/Bucket-2/Bucket-3 course**	4
6	Discipline Specific Elective	Specialization	**Bucket-1/Bucket-2/Bucket-3 course**	4
6	Discipline Specific Elective	Specialization	**Bucket-1/Bucket-2/Bucket-3 course**	4
6	Discipline Specific Elective	Specialization	Project	6
			Semester Total	**18**
		Program Total		**120**

Credits distribution for the courses are as follows

Category		No. of Courses	Total Credits
Core Discipline Specific Courses (DSC)		20	58
Co-curricular		2	2
Ability Enhancement Courses (AEC)		2	4
Perspective/Skill		4	8
Specialization	Discipline Specific Elective (DSE)	4	15
	Project	1	6
Minor Interdisciplinary Skill Enhancement Courses (SEC)		4	15

Practice School	1	12
Total Credits		**120**

Course Baskets

A. Discipline Specific Core Courses

Courses	L-D-P-C
Digital Logic	(2-0-2-3)
Programming Fundamentals with C	(2-0-4-4)
Data Structures	(3-0-2-4)
Discrete Mathematics	(3-0-0-3)
Object Oriented Programming with Java	(2-0-2-3)
Design and Analysis of Algorithms	(2-0-2-3)
Computer Systems Architecture	(2-0-2-3)
Theory of Computation	(2-1-0-3)
Operating Systems	(2-0-2-3)
Computer Networks	(2-0-2-3)
Artificial Intelligence	(2-0-2-3)
Microprocessor	(2-0-2-3)
Web Programming	(1-0-2-2)
Database Management Systems	(2-0-2-3)
Software Engineering	(3-0-0-3)
Machine Learning	(2-0-2-3)
Mobile Application Development	(1-0-2-2)
Data Communications and Network Security	(3-0-0-3)
Introduction to Cloud Computing	(2-0-0-2)

Internet of Things	(2-0-0-2)

B. Ability Enhancement Courses

Courses	L-D-P-C
Communication Skills	(2-0-0-2)
Environmental Studies	(2-0-0-2)

C. Perspective/Skill Enhancement Courses

Courses	L-D-P-C
Technical Report Writing	(2-0-0-2)
Leadership and Ethics	(2-0-0-2)
Critical Reasoning and Systems Thinking	(2-0-0-2)
Innovation and Entrepreneurship	(2-0-0-2)

D. Discipline Specific Elective(s) leading to Specialization:

Courses	Credits
Data Science and Artificial Intelligence	
Fundamentals of Data Science	3
Applied Data Science	4
Data Science and Complex Systems	4
Digital Image Processing	4
Computer Vision	4
Biomedical Image Analysis	4
Deep Learning	4
Natural Language Processing and Text Analytics	4
Information Retrieval and Recommender Systems	4

Audio and Speech Processing	4
Computational Linguistics	4
Optimization Techniques	3
Soft Computing	4
Reinforcement Learning	4
Robotics	4
Semantic Web/Knowledge Graphs	4
Multi-agent Systems	4
Cyber Security	
Cryptography	3
Security Attack and Defence	3
Vulnerability Assessment and Penetration Testing	4
Cyber Forensics	4
Malware Analysis	4
Cloud Security	4
IOT Security	4
Security Audit	4
Cyber Threat Intelligence	4
Big Data Analytics	
Introduction to Bigdata Analytics	3
Data Analysis and Visualization	3
Data Science Methods	3
Big Data Integration and Processing	4
Computational Thinking and Big Data	4
Machine Learning with Big Data	4
Big Data Analytics using Spark	4

IoT Programming and Big Data	4
Knowledge Management and Big Data in Business	4

E. Interdisciplinary Skill Enhancement Elective(s) leading to Minor:

Business Analytics		
Semester	**Course Name**	**Credits**
Semester 2	Descriptive Business Analytics	4
Semester 3	Advanced Business Research	4
	Synthesizing and Analyzing data	4
	Problem Solving with MS Excel	4
Semester 4	Business Intelligence using Tableau	4
	Predictive Business Analytics	4
	Business Process Automation using MS Excel	4
	Web and Social Media Analytics	4
Semester 5	Business Intelligence using Power BI	3
	Prescriptive Business Analytics	3
	NLP and Text Analytics	3

Financial Technology		
Semester	**Course Name**	**Credits**
Semester 2	Descriptive Business Analytics	4
Semester 3	Digital Disruptions in Financial Services	4
	Technology in Fintech and Banking	4
Semester 4	Blockchain Technology & Design Principles	4

	Auditing and Assurance	4
Semester 5	Cryptocurrency and Smart Contract	3

Digital Marketing		
Semester	**Course Name**	**Credits**
Semester 2	Marketing Management	4
Semester 3	Bringing Ideas to Market	4
	Social Media Organic & Content Planning	4
	Website Planning and Development	4
Semester 4	Search Engine Optimization and Search Engine Marketing	4
	Social Media Advertising	4
	Ecommerce Marketing & Management	4
Semester 5	Digital and Social Media Marketing	3
	Brand Analysis & Consumer Behaviour	3
	Media Planning & Buying	3

**BML MUNJAL
UNIVERSITY** ™

Annexure-24

Revision in Syllabus for B.Tech: Computer Science Engineering, Electronics & Computer Engineering and Mechanical Engineering Programmes

17th Meeting of Academic Council
BML Munjal University, Gurugram

ANNEXURE -III /BOS Meeting

BML MUNJAL UNIVERSITY ™

A **Hero GROUP** INITIATIVE

Program Curriculum

for

B. Tech. –Computer Science & Engineering
[B. Tech. - CSE]
10th BOS Meeting

17 February 2022

Preamble

Our objective at BML Munjal University [BMU] is to prepare ethical, knowledgeable and skilled individuals, who are employable and have the potential to lead their organizations to success in future. Efforts in this regard require, transformation of higher education by adopting innovative (and practically oriented) teaching, learning, and research environment that stands as equal among best global standards.

Recent developments in technology have changed the way of education at all levels. Higher education has also evolved considerably as technology has enabled, in terms of
– Increased flexibility
– Personalized learning experience
– Freedom to aspire, approach, and achieve personal goals (learning paths) by choice.

Further, increasing presence of technology in education and industry, demands awareness regarding several inter-disciplinary practical applications of concepts/principles such as, Sustainable Development, Artificial Intelligence and Machine Learning, Data Analytics, Cloud Computing, Internet of Things, Robotics, Automation, etc.

Evolving education scenario has also sown seeds of doubt among students across the country, regarding quality and relevance of academic programs in context of their perceived (and available) career options, thus, leading to low academic motivation and limited career choices for uninitiated students. To address these concerns of the students, academic regulations recommend that curriculum for undergraduate degrees in engineering and technology must have reduced credits (contact hours), increased inter-disciplinary engagements, and be futuristic in approach, design, and delivery.

Considering above mentioned, we realize that the best way forward to achieve BMU's objectives is to design and deliver education programs which make best use of the available technologies to improve learning experience, thus, enhancing quality and employability of the students.

Accordingly, a new curriculum is being proposed for undergraduate courses offered by the School of Engineering and Technology at BMU. Philosophy behind the new curriculum, salient features, and program structures of B. Tech. programs offered are discussed below:

Philosophy of the New Curriculum

The following important aspects have been considered while designing the proposed curriculum:
- Vision of BMU
- Choice-based credit system
- Philosophy of regulatory bodies (AICTE model Curriculum – 2018 and National Education Policy - 2020)
- Use of available technologies and resources in a more efficient manner through a combination of different learning schemes, such as, Blended, Flip, Experiential, Skill based, Classroom, etc.
- Interdisciplinary and futuristic program curriculum with emphasis on sustainability, AI and machine learning, and automation, etc. all being necessary knowledge areas in the era of Industry 4.0

Some salient features of the proposed curriculum
- Fractional credit system *[Details in next section]*
- Option for branch change at the end of 1st semester
- Option for specializations in core programs
- Option for additional inter-disciplinary minor programs
- Provision of honor degree by earning 12 additional credits
- Multiple- entry-exit options
- Variety of courses (in different categories) to enable holistic learning and personal development opportunities *[Course category wise credit distribution is given on next page]*
- Separate pre-defined credits for core labs, seminar/case-studies, and major project
- Scope for teaching and learning through various modes, such as, Classroom teaching, MOOCs, Industry engagement, Certification and Training
- Practice schools [PS] to enable relevant industry exposure and practical (hands-on) experience in core areas of interest. PS - III in 6th semester [Duration: Full semester] will additionally provide students with career direction, entrepreneurial motivation, and enhanced understanding of choice of electives in Final year.

Fractional Credit System

Fractional Credit system

Proposed curriculum makes use of what is called fractional credit system to enable delivery as per the design philosophy. The fractional credit system divides each semester into eight (08) segments of equal duration wherein each segment may be assigned ½ (0.5) credit equivalent [or remain unassigned]. Accordingly, course credits range from 0.5 to 4.0 [in multiples of 0.5, so course credits may be: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0].

Fractional credit scheme has been judiciously used to prepare course category wise credit distribution across semester, which has further been expanded to prepare program structure for all the programs offered to the incoming (2021-2025) batch of students, by School of Engineering and Technology at BMU *[Program structures are reported in next section]*

Some salient features and advantages of the Fractional credit system are as following:
– Scheduling and student contact hours across semester: Depending on course credits, any course may be scheduled to begin and end across different segments of the semester (continuous, non-continuous, or discrete segments), thus enabling scattered scheduling and promoting efficient use of resources and time.
– Scattered scheduling provides scope for incorporation of course delivery through industry professionals in the classrooms, who otherwise are typically not available for semester long engagements.
– Flexibility to incorporate range of courses enabling both breadth and depth of knowledge as per students' choice
– Scope for combining education, training and certification for earning credits, along with seamless inclusion of available quality online learning courses
– Enhanced scope for continuous assessment as course may complete in 1-2 segments also, leading to innovations in evaluation and grading process
– Enhanced scope for blended learning as student may come prepared to class using course material available online or provided by the course instructor. Hence, classrooms will become discussion rooms, teachers will play the role of mentors / local course coordinators [Thus, also addressing the issue of shortage of quality faculty]

Scheduling of the 1st year courses explains the features, advantages, and practice of the fractional credit system. *[reported in later sections of this document].* Some highlights of the same are following:
– Joy of Engineering courses [06 (03+03) -credits], to be implemented across 2 semesters.
– Continuous scheduling of 01 and 02 credit courses [e.g. Communication Skills, Technical Report Writing]
– Different begin and end segments for different course, enabling regularization of contact hours for the students
– Multi-disciplinary and Multi-courses Project based learning
– Different credits and scheduling for program specific courses, course ranging from 0.5 to 04 credits

Curriculum - Course category-wise credit distribution	
Course Category	**Credits**
Perspective Courses	**16**
- School	- 13
- Student Specific	- 3
Skill Courses	**6**
- School	- 6
Foundation Courses	**35**
- School	- 11
- Program Specific	- 24
Core Courses	**42**
- Classroom	- 40
- Seminar / Case Studies	- 2
Core Elective Courses [Student Specific]	**24**
- Classroom	- 12
- Project	- 12
Open Elective Courses [Student Specific]	**9**
- Classroom / Lab	- 9
Practice School	**18**
- PS – I	- Audit
- PS – II	- 4
- PS – III	- 14
Co-Curricular	**5**
Program Total Credits	**155**

%age Credit Distribution among Different Course Categories

Perspective — 10.32%
Skill — 3.87%
Foundation — 22.58%
Core — 27.10%
Core Elective — 15.48%
Open Elective — 5.81%
Practice School — 11.61%
Co-curricular — 3.23%

2021-2025 Program Structure

Course category wise credit distribution across semesters

Semester	Course Category	Credits	
		Category	Semester
Sem – I	Co-Curricular	1	
	Perspective - School	3	
	Skill - School	2	21
	Foundation – School	8	
	Foundation - Program Specific	7	
Sem – II	Co-Curricular	1	
	Perspective - School	5	
	Skill - School	2	
	Foundation - School	3	19
	Foundation - Program Specific	6	
	Core – Classroom	2	
ST-I	Practice School - I	Audit	-
Sem - III	Co-Curricular	1	
	Skill - School	2	
	Foundation - Program Specific	8	20
	Core - Classroom	8	
	Core – Project	1	
Sem - IV	Co-Curricular	1	
	Perspective - School	2	
	Foundation - Program Specific	3	19
	Core - Classroom	10	
	Core – Project	3	
ST-II	Practice School – II	4	4
Sem – V	Co-Curricular	1	
	Perspective - Student Specific	2	
	Core – Classroom	8	
	Foundation – School	3	23
	Foundation - Classroom	4	
	Core Elective - Classroom	3	
	Core - Seminar / Case Studies	2	
Sem - VI	Practice School – III	14	14
Sem - VII	Perspective - Student Specific	1	
	Core - Classroom	8	
	Core Elective - Classroom	3	19
	Core - Project	4	
	Open Elective - Classroom / Lab	3	
Sem - VIII	Core Elective – Classroom	6	
	Core - Project	4	16
	Open Elective - Classroom / Lab	6	

B. Tech. - Computer Science & Engineering [CSE]

Sem	Category	Sub-Category	Course Title	Credits	L-D-P
1	Co-Curricular			1	1-0-0
1	Perspective	School	Joy of Engineering – I	3	2-0-2
1	Skill	School	Communication Skills	1	1-0-0
1		School	Engineering Ethics	1	1-0-0
1	Foundation	School	Basic Electrical and Electronics Engineering	3	2-0-2
1		School	Mathematics for Engineers – I	2	2-0-0
		School	Engineering Chemistry	1	1-0-0
		School	Physics for Engineers	2	2-0-0
1		Program Specific	Fundamentals of Data Science	3	2-0-2
1		Program Specific	Object Oriented Programming using C++	4	2-0-4
			Semester Total	**21**	
Sem	Category	Sub-Category	Course Title	Credits	L-D-P
2	Co-Curricular			1	1-0-0
2	Perspective	School	Joy of Engineering – II	3	1-0-4
2		School	Environmental Studies	2	2-0-0
2	Skill	School	Technical Report Writing	2	2-0-0
2	Foundation	School	Mathematics for Engineers – II	3	2-0-2
2	Foundation	Program Specific	Fundamentals of Digital Logic	3	2-0-2
2		Program Specific	Data Structures and Algorithms	3	2-0-2
	Core	Classroom	Applied Data Science	2	1-0-2
			Semester Total	**19**	
ST1	Practice School		Practice School –I	Audit	

Sem	Category	Sub-Category	Course Title	Credits	L-D-P
3	Co-Curricular			1	1-0-0
3	Skill	School	Etiquettes and Conversational Skills	2	2-0-0
3	Foundation	Program Specific	Software Engineering	2	1-0-2
3		Program Specific	Design and Analysis of Algorithms	3	2-0-2
3		Program Specific	Database Management System	3	2-0-2
3	Core	Classroom	Web Programming	2	1-0-2
3		Classroom	Java Programing	3	2-0-2
3		Classroom	Operating Systems	3	2-0-2
3	Core		Project I	1	
			Semester Total	20	
Sem	Category	Sub-Category	Course Title	Credits	L-D-P
4	Co-Curricular			1	1-0-0
4	Perspective	School	Global Energy: Politics, Markets and Policy	1	1-0-0
4		School	Innovation and Entrepreneurship	1	1-0-0
4	Foundation	Program Specific	Machine Learning	3	2-0-2
4	Core	Classroom	Computer Organization & Architecture	3	2-1-0
4		Classroom	Data Communications & Computer Networks	3	2-0-2
4		Classroom	Mobile Application Development	2	2-0-0
4		Classroom	Human Computer Interaction	2	2-0-0
4	Core		Project II (MAD/Web Programming/HCI/ML)	3	
			Semester Total	19	
ST2	Practice School		Practice School –II	4	

Sem	Category	Sub-Category	Course Title	Credits	L-D-P
5	Co-Curricular			1	1-0-0
5	Perspective	Student Specific		2	
5	Core	Classroom	Digital Image Processing	4	3-0-2
		Classroom	Artificial Intelligence	3	3-0-0
5	Foundation	School	Discrete Mathematics	3	2-1-0
5		Classroom	Network Security	3	3-0-0
5		Classroom	IoT Sensors, Peripherals and Processors	2	1-0-2
5	Core Elective	Classroom	Elective-I (Specialization Specific)	3	
5	Core	Seminar / Case Studies		2	
			Semester Total	**23**	
Sem	Category	Sub-Category	Course Title	Credits	
6	Practice School		Practice School-III	14	
			Semester Total	**14**	
Sem	Category	Sub-Category	Course Title	Credits	L-D-P
7	Perspective	Student Specific		1	
7	Core	Classroom	Theory of Computation	3	2-1-0
		Classroom	IoT Networks, Architectures and Applications	3	3-0-0
		Classroom	Cryptography	2	2-0-0
7	Core Elective	Classroom	Elective II (Specialization Specific)	3	
7	Core	Project-III		4	
7	Open Elective	Classroom / Lab		3	
			Semester Total	**19**	
Sem	Category	Sub-Category	Course Title	Credits	L-D-P
8	Core Elective	Classroom	Elective III (Specialization Specific)	3	
8		Classroom	Elective IV (Specialization Specific)	3	
8	Core	Project IV		4	
8	Open Elective	Classroom / Lab		3	
8		Classroom / Lab		3	
			Semester Total	**16**	
			Program Total	**155**	

Course Baskets

[1]. Foundation Courses

School Courses	Credits	Program Specific Courses
Basic Electrical and Electronics Engineering	3	Fundamentals of Data Science
Mathematics for Engineers – I	2	Object Oriented Programming using C++
Discrete Mathematics	3	Fundamentals of Digital Logic
Mathematics for Engineers - II	3	Data Structures and Algorithms
		Database Management Systems
		Software Engineering
		Design and analysis of Algorithms
		Machine Learning

[2]. Skill Courses

School Courses	Credits	Student Specific Courses
Communication Skills	1	Business Correspondence and Report Writing
Technical Report Writing	2	Problem Solving and Consulting Skills
Engineering Ethics	2	Quantitative and Analytical Skills
Etiquettes and conversational skills	2	Writing Skills
		Resume Writing and Career Skills
		Selling, Negotiating and Persuading Skills
		Technical Communication
		Theatre Studies

[3]. Perspective Courses

School Courses	Credits	Student Specific Courses
Joy of Engineering- I	3	Geo-politics and Geo-economics
Joy of Engineering - II	3	Good Citizenry
Environmental Studies	2	Human Geography
Global Energy: Politics, markets and Policy	1	Indian Political System
Innovation and Entrepreneurship	1	Intellectual Property Laws
		International Human Rights
		Living Arts and Literature
		Public Administration
		Right to Information
		Science, Technology and Public Policy
		Systems Approach
		World Civilizations
		Philosophy and Logic
		Principles of Management
		Understanding Business

[4]. Specialization Courses [Elective]

Specialization: Data Science and Artificial Intelligence [DS & AI]

1	NLP and Text Analysis
2	Semantic Web/Knowledge Graphs
3	Computational Linguistics
4	Audio and Speech Processing
5	Information Retrieval and Recommender Systems
6	Computer Vision
7	Reinforcement Learning
8	Robotics
9	Multi-agent Systems
10	Deep Learning
11	Emerging Life Sciences/ Basic Biology
12	Soft Computing
13	Biomedical Image Analysis
14	Biomedical Signal Processing
15	Data Science and Complex System
16	Any other course on recent development

Specialization: Cyber Security [CS]

1	Cloud Computing
2	Cyber Forensics
3	Cloud Security
4	Mobile Security
5	IoT Security
6	E Business Security
7	Information Security
8	Information Assurance
9	Vulnerability Assessment and Penetration Testing
10	Malware Analysis
11	Cyber resilience
12	Cyberspace Operations and Design
13	Security Attack and Defense
14	Online Social network and Security
15	Security Audit
16	Cyber Threat Intelligence
17	Security Risk Analysis
18	Information Retrieval
19	Blockchain and Cryptocurrency Technologies
20	Applied Cryptography
21	Any other course on recent development

Specialization: Internet of Things [IoT]

1	Embedded System
2	Sensor, Actuators and Programming in IoT
3	Wearable and Body Area Network
4	IoT Using RFID and microcontroller
5	Applications of IoT in Robotics
6	Communications and Networking Technologies for IoT
7	IoT in Big Data
8	Industrial and Medical IoT
9	5G and IoT
10	IoT in healthcare
11	IoT architecture and technologies
12	IoT interface design and protocols Architecting smart IoT devices
13	Security in IoT
14	IoT Testbed
15	Google Cloud IoT platform
16	IoT automation
17	Processors and Peripherals
18	IoT Architecture and Protocols
19	Mobile Application Development for IoT
20	Data Management in IoT
21	Any other course on recent development

[5]. [Basic] Core Electives Courses

1	Research Methodology
2	Paper Writing and Story Telling
3	Paper Reading and Concluding, Referencing, Latex introduction, Mendeley
4	Microprocessor Based System Design
5	Computer Graphics
6	Graph Theory
7	Compiler Design
8	Theory of Computation
9	Cloud Computing
10	Fog Computing
11	Advanced Database Management Systems
12	PCB Design
13	Robotics
14	Any other course on recent development

Syllabus

of

B. Tech. - Computer Science & Engineering

Joy of Engineering–I **L D P [2-0-2]**

This course is spread over two semesters. The aim of JOE-I is to get the students to experience the joy of creativity within engineering. Learning will be evaluated through development of innovative solutions by students, mentored by faculty. Students will be exposed to emerging technologies such as Artificial Intelligence, Machine Learning, Internet of Things, Robotics and Augmented Reality through invited lectures and lectures by faculty. However, the focus will be on design for purpose, providing students with opportunities to create innovative solutions to given theme problems. Students have to ensure that their final choice of outcome of their project is demonstrable and is functioning i.e. a working physical prototype of a product or a working software solution or working mobile app etc. Students will be expected to choose their projects during Semester 1. The instructor will propose the themes for student projects. The themes are representing broad areas. It is for the students to create concrete proposals through interactions with mentor faculty within the themes. Develop Ideas and Design Concepts: The students will be given the opportunity to work in teams to develop ideas and design concepts and propose solutions for specific design theme projects.

Communication Skills **L D P [1-0-0]**

What is communication? Understanding the process/cycle of Communication; Verbal and Non-Verbal communication; Barriers of communication; Fundamentals of Effective Speaking1 (Style); Fundamentals of Effective Speaking 2 (Tone); Building Advanced Vocabulary; Effective Presentation Strategies /Dynamics of Professional Presentations; Techniques of Reading Comprehension; Basics/Techniques of writing.

Engineering Ethics **L D P [1-0-0]**

Ethical theories, Geo-engineering, bio-engineering, genetic engineering, environmental ethics, Kohlberg Theory, Heinz's Dilemma, Ethics and Programming, Ethics of Social Media platforms, Ethics of data collection and data sharing, Ethics and AI, Industrial Revolution 4.0, Future of AI and Technological unemployment.

Basic Electrical and Electronics Engineering **L D P [2-0-2]**

DC Circuits: Electric charge and current, active and passive two terminal elements, Ohm's laws, series and parallel reduction of resistive circuits, star-delta transformation, current and voltage independent and dependent sources, voltage division rule and current division rule, source transformation, Kirchhoff's laws – KCL and KVL, Mesh (Loop) analysis and Nodal analysis. DC Network Theorems: Superposition Theorem, Thevenin's Theorem, Norton's theorem, Maximum Power Transfer theorem. AC Circuits: Introduction to alternating quantities – average and effective or rms values, form and peak factors, phasor representation of sinusoidal quantity, AC series circuit containing R, L, C, R-L, R-C, and R-L-C elements, impedance triangle, Instantaneous power, apparent power, power factor, power triangle, Series-Parallel R-L-C circuits. Introduction to Semiconductor devices: P-N junction, forward and reverse biasing, volt ampere characteristics of p-n junction, Zener diode, Schottky diode, applications of diode: rectifiers, clippers and clampers, other types of diodes, BJT as a switch. OP-AMP: Inverting, Non-inverting amplifier, adder, subtractor, integrator, differentiator. Design of active filters Low pass, High Pass and Band Pass. Introduction: Bipolar Junction Transistors (BJT) and DC Biasing: Familiar with Transistor fundamentals- Basic Operation and symbol Representation, Transistor configuration (CE, CB, CC), Transistor characteristics.

Mathematics for Engineers- I **L D P [2-0-0]**

Function of several variables, Limits & Continuity in higher dimension, Partial derivatives, Applications of Partial derivatives in Maxima and Minima, Lagrange's method, Taylor's expansion for functions of two variables, Double

and triple integrals: Change of order of integration, change of coordinates, Cylindrical coordinates and Spherical polar coordinates, Change of variables, Jacobian of transformation. Matrices, Row Reduced Echelon form of a matrix, Linear equations and their solutions, Vector spaces, subspaces, linear dependence and independence of vectors, basis and dimension of a vector space, null space, range spaces, finite dimensional vector space and its applications, Linear transformation, Diagonalization, Eigen values and Eigen vectors, its applications in Markov chain and dynamical systems.

Engineering Chemistry L D P [1-0-0]

Chemical kinetics: Reaction rates and rate law, reaction in liquid solutions, catalysis, adsorption of gases on solids; Quantum Theory-Basics: Schrodinger Equation, Particle in a 1D box, UV-Vis spectroscopy; Polymer chemistry: Free radical chain growth polymerization, Emulsion Polymerization, Cationic polymerization, Anionic polymerization, Insertion polymerization, characterization of polymers

Physics for Engineers L D P [2-0-0]

Engineering Optics: Basics of Interference, Diffraction and Polarization
Lasers and characteristics, Einstein's coefficients, He-Ne laser, semiconductor lasers, Applications of Lasers, Optical fibres; Numerical aperture, Classification of optical fibres, fibre Losses, fibre manufacturing, Applications of optical fibre in industry and communication.
Quantum Mechanics: Basics of quantum mechanics, De-Broglie's hypothesis, Uncertainty principle, Probability and Wave function, Postulates of quantum mechanics, Time dependent and Time-independent Schrodinger wave equation, Particle in a box.
Solid State Physics: Space Lattice, unit cell and translation vectors; Miller indices, Simple and close-packed crystal structures with examples, Origin of energy bands, Kronig Penney Model (qualitative), E-K diagram, Brillouin Zones, Concept of effective mass and holes, Classification into metals, Semiconductors and insulators, Liquid crystals, Hall effect.

Fundamentals of Data Science L D P [2-0-2]

Fundamentals of Data Science: What is data science, Various types and levels of data, Data science life cycle, etc.Data Science Toolbox: Introduction to RStudio- Econometrics with R or Python-Jupyter Notebook, Pandas, and NumPy, version control and Github. Data Handling and Statistics: Data collection and preparation, Missing value handling, Data scrubbing, Data transformation, Feature Engineering, Population and sample, Moments and generating functions- bias and variance, Measure of Variability, Hypothesis Testing, Probability Distributions- Uniform, Normal Poisson. Basic and Specialized Visualization Tools: Matplotlib (area plot, scatter plot, line plot, histogram, bar charts, box plot, heat map, faceting, pairplot), seaborn, ggplot2. Exploratory Data Analytics: Dimension reduction- PCA, Factor analysis, LDA, MDS. Regression Linear Model: Linear regression, logistic regressionProject in Data Science: Model Definition and Training, Model Evaluation, Model Deployment, Final presentation.

Object Oriented Programming using C++   L D P [2-0-4]

Evolution of Programming methodologies, Introduction to OOP and its basic features, Basic components of a Program and program structure, Compiling and Executing, Selection control statements. Data types, Expression and control statements, Iteration statements, Introduction to Arrays, Multidimensional Arrays, Strings and String related Library Functions, Standard input and output operations. Functions, Structures, this Pointer, Friend Functions and Classes, Static variable and functions. Constructors and Destructors, Static variables and Functions in classOperator Overloading, Overloading Unary Operators, Overloading binary operators. Inheritance, Types of Inheritance, Virtual Functions, Overriding, Abstract classes. Pointers, Objects and Pointers, Command Line Arguments.File handling, Exception handling.

Joy of Engineering - II   L D P [1-0-4]

In continuation of the selected projects in the first semester, the students will perform the following:Product Development Process: Students will be given the space to enhance creativity and experience fundamental aspects of the product development process, including determining needs, brainstorming, estimation, sketching, sketch modelling, concept development, design aesthetics, detailed design, prototyping and manufacturing. The course shall also provide a platform to develop written, visual, and oral communication as teams will be required to present their ideas and product to "stakeholders". Prototype Creation: Students will work on at least one idea from each theme and in the fabrication stage they will work on any one idea of their choice.

Environmental Studies   L D P [2-0-0]

Introduction to Environmental Studies, Biodiversity, Ecological footprint, wetlands, Field trip to Yamuna Bio-diversity park, Food-chains, Alternate energy scenario in India, Water Pollution, Sewage treatment, Air pollution, CO2 emission, Green-house effects, UNFCCC, Clean Air act, Global Warming, Environmental policy making, Race to bottom, Pollution Haven, Global South, Air pollution in emerging economies like India and China, Disaster Management, SDGs.

Technical Report Writing   L D P [2-0-0]

What is Technical Communication; Difference between General and Technical Communication; Types of Motivation in writing Technical documents; Fundamentals of Effective Writing 1 (Style); Fundamentals of Effective Writing 2 (Tone); Building Advanced Vocabulary; Effective Writing Strategies; Office Correspondence; Memo, Agenda and Minutes of meeting, Circular and Notice; Writing a Technical Proposal; Fundamentals of Technical Report Writing; Writing a Technical Report; Dynamics of Professional Report Presentations.

Mathematics for Engineers - II   L D P [2-0-2]

Sample Space, Dependent and Independent Events, Conditional Probability, Bayes' Rule; Random Variables, discrete and continuous random variables, Probability distribution functions, Joint probability distribution, Conditional probability distribution, Marginal probability distribution, Statistical independence, Mathematical Expectation, Variance, covariance, Mean/expected value of a random variable, Bernoulli, Binomial, Geometric, Poisson, Uniform, Normal distributions, Random sampling, estimation of population parameters, confidence interval, prediction interval and tolerance interval, testing of hypotheses, t- Distribution, F-Distribution.

Fundamentals of Digital Logic L D P [2-0-2]

Introduction to Digital Systems: Number Systems, Real Number Representation, Conversions, Complement of Number, Binary Arithmetic, Binary Codes. Boolean Algebra: Introduction, Basic Theorems, Properties of Boolean Algebra, Boolean Functions, Canonical forms, Standard forms, DeMorgan's Theorem, Principle of Duality, Sum of Minterms and Product of Maxterms. Logic Gates and Gate level Minimization: Binary logic, Digital Logic Gates, Universal Gates: NAND Gate, NOR Gate, Exclusive OR (XOR) Gate, Exclusive NOR (XNOR) Gate, Sum of Products, Product of Sums, Universal Buildings blocks and Karnaugh Map: Two variable, Three variable, Four Variable, Don't Care Conditions. Combinational Logic: Introduction, Combinational Circuits, Analysis Procedure, Design Procedure, Adder Circuits, Subtractor Circuits, Multiplexer, Types of Multiplexers, Demultiplexer and its types, Decoders (2 to 4, 3 to 8), Encoders (Octal to binary, Decimal to BCD). Flip Flops: Introduction, RS Flip Flop, Clocked Flip Flops, D Flip Flop, JK Flip Flop, Master Slave JK Flip Flop, T Flip Flop and Applications of Flip Flop, Conversion. Counters: Introduction, Types of Counters. Synchronous Sequential Circuits: Introduction, Classification of Sequential circuits, Analysis of Synchronous Circuits. Introduction of Asynchronous Sequential Circuits, Modes of Asynchronous Sequential circuits.

Data Structures and Algorithms L D P [2-0-2]

Introduction: Elementary Data types, Abstract data types (ADT), Basic concepts and Definition of data structures, The need for data structures, classification of data structures. Brief idea of algorithms: Asymptotic notations and algorithm analysis; notion of time and space complexity; worst case, average case, best case. ADT array: Multi-Dimensional Arrays, Row-major and column-major indexing, Address calculations. Basic operations in array – linear search, binary search. Main memory and comparison based elementary sorting: Bubble sort, Selection sort, Insertion sort. Performance analysis of sorting algorithms, Notion of non-comparison-based sorting. Asymptotically Faster Sorting Techniques - quick sort, merge sort, Performance analysis of sorting algorithms. ADT Sparse matrix: representation, various operations. ADT List: singly, doubly, circular, doubly circular linked list, various operations on linked list, applications of linked lists in polynomial representation, sparse matrices representation, etc. ADT Stack: Implementations using array and linked list, various operations, applications. ADT Queue: Implementations using array and linked list, various operations, applications. ADT binary tree and ADT binary search tree: various terms, representation using array and linked list, various operations, traversal, applications. Binary heap, heap sort. Balanced binary search trees - AVL Trees, operations, applications. B-trees and its variations, operations, applications. ADT Graphs: Basic terminology, modeling with graph, graph representation in computer, various operations, traversal, applications. ADT Dictionary: Implementation, Hash Tables, hash function, properties of good hash functions, Hashing techniques, collision resolution techniques, insertions, deletions, and searching operations in a Hash table, Brief idea of perfect hash function, re-hashing and double hashing, applications of hashing.

Applied Data Science L D P [1-0-2]

Identify DataSet and UseCase: Any domain specific data like GIS and spatial data, Social good, Images, video, speech, text, etc.Time Series Analysis: Frequency and time domain, Correlation and autocorrelation, Stationarity, ARIMA, VAR ARCH, GARCH models, non-stationary time series, R/S analysis and Hurst exponent, Detrended fluctuation analysisSocial Network Analysis: Basics of networks, Network measures, Centrality measures, Network architecture: random, small world and scale free, Community detectionAdvanced Visualizations and Geospatial Data: Waffle Charts, Word Clouds, Seaborn and Regression Plots, Introduction to Folium, Maps with Markers, Choropleth Maps, PlotlyProject in Data Science: Model Definition and Training, Model Evaluation, Model Deployment, Final presentation.

Etiquettes and Conversational Skills   **L D P [2-0-0]**

Understand why good speaking skills are important to be a good professional. Learn strong, professional social skills. Effective introductions. Creating a good first impression. Attitude and team building. Minimize nervousness in social situations. Enumerate the 4 levels of conversation. Physical grooming and body language. Understand place settings, napkin etiquette & basic table manners Master professional office conduct including: etiquette in relation to open plan & cubicle environments Do's and don'ts in meetings. Acquire telephone and E mail etiquette skills. Learn how to dress for success. Gain valuable insight into international etiquette. Interview facing skills.

Software Engineering   **L D P [1-0-2]**

Introduction and overview of SE: Concepts about Software, SE activities, Issues of professional responsibility, key challenges facing SW engineering, Software Engineering methods Software Development Life Cycle (SDLC): Process Models – their advantages and disadvantages, Agile development, Requirement Phase: Elicitation, Analysis, Specification and Validation, Studying feasibility of requirements – operational, technical and economic, Requirements Prioritization. Design Phase: Differences between requirement analysis and design Activities, important desirable characteristics of a good software design, Coding and Testing: Coding standards and coding guidelines, code reviews and inspections, various types of testing Software Project Management: Software project monitoring and control, critical Path, PERT Chart, Gantt Chart Software Quality and Reliability: Software Quality control and Quality assurance, Reliability issues and metrics Software Maintenance: Necessity of software maintenance, the types of software maintenance, software reverse engineering.

Design and Analysis of Algorithms   **L D P [2-0-2]**

Preliminaries: Algorithms, Analyzing algorithms - problems and instances; efficiency-average and worst-case analysis; elementary operations. Complexity of algorithms, Growth of functions and Asymptotic notations, Performance measurements, pseudo code, RAM model Quick Review of Data Structures: Stack, Queue, Linked List, BST, Disjoint-set data structures. Concept of Heap and Heap sort, Comparison of sorting algorithms, Sorting in linear time.

Divide and Conquer: Recurrence relations, Masters method, Merge sort, Quick sort, Matrix multiplication. Decrease and conquer – Binary search. Greedy Methods: Introduction to greedy algorithms – examples such as Fractional Knapsack problem, Minimum Spanning Trees – Prim's and Kruskal's algorithms, Single source shortest paths - Dijkstra's algorithm, Huffman coding. Dynamic Programming: Matrix-chain multiplication problem; Longest common subsequence problem; 0/1-Kanpsack problem, Single source shortest paths - Bellman Ford algorithm. All pair shortest paths – Floyd-Warshall algorithm. String/Pattern Matching: Brute force method for string matching, Boyer-Moore algorithm, KMP algorithm Correctness of Algorithms: Loop invariant technique and induction. Intractable problems - Backtracking with examples such as N-Queens problem, Branch and Bound. Introduction to Non-deterministic algorithms, NP-Completeness and NP-Hard problems with discussions on Travelling Salesman problem, 3-SAT, Graph Coloring, Hamiltonian Cycles and Sum of Subsets, Cook's Theorem. Undecidable problem: Halting problem.

Database Management System   **L D P [2-0-2]**

Introduction: Understand the application of DBMS, difference between traditional file systems and DBMS, Views of DBMS and data Independence. Architecture of database: (2-Tier and 3-Tier Architecture) and users of database. Designing the conceptual model i.e. E-R Model (Entity set, attributes and their types), relationship constraints (participation constraints and cardinality ratio). Various keys: Primary key, foreign key, super key, candidate key etc.

and constraints used in relational database model including integrity constraints. Relational algebra: Relational operators (projection, selection, union, intersection, division, cross product etc.). Apply the concepts using MySQL. Join operators: Inner join, outer join, natural join, equi-join, self-join, complete set of relational algebra operations. Normalization: Normalizing the data and applying functional dependencies like fully functional dependency, partial FD, trivial and non-trivial FD, normalization: 1NF, 2NF, 3NF, BCNF, 4NF and 5NF, Denormalization. Stored procedures, triggers and query optimization. Hashing: Methods to generate hash functions, collision and how to resolve collision, indexing and type of indexes and B-Tree with examples. Transaction processing: ACID Properties, Problems associated with concurrency (Inconsistent Read, Lost Update Problem etc.). Concurrency control mechanisms: Serializability (Conflict and view), two phase locking protocol (Strict and rigorous 2 phase locking, basic concept of deadlock (detection, recovery etc.). Database back-up and Recovery mechanisms: Log and check point-based recovery. Overview of Distributed database system.

Web Programming   L D P [1-0-2]

Introduction to CSS, Basic selectors, formatting, integrating CSS , In-line Styles, Embedded Style sheets, Imported Style Sheet, Classes, Ids. JavaScript: Data Types, Primitive Types, Statements, Keywords, Operators, JavaScript Conditional Statements Function, Parameters, Function Return Types, Arrays, JavaScript Objects, Window Objects, Document Object, Object Creation, Adding Methods of Objects, JavaScript Loops & Iteration, Adding Properties of Objects, Event Handling, Enumerating Properties, Callbacks, JSON. Building scalable Web Apps with Server-Side JavaScript: generating dynamic content on the server using Node.js (creating the HTTP server, handlebars, template engines); storing and retrieving data in MongoDB

Java Programming   L D P [2-0-2]

Introduction to object oriented concepts - objects - classes - abstraction and encapsulation - inheritance - polymorphism. Comparison between Procedure Oriented Programming and Object Oriented Programming. Applications of Object Oriented Programming. Introduction to Java language: JVM, JRE, Constant, variable, data types; operators and expressions; decision making, branching and looping. Object Oriented concepts using Java: access specifiers—default, private and public, Methods - invoking methods, Passing parameters to methods, Returning values from methods, Method overloading, methods with variable arguments, Classes and Objects, Constructors, Abstraction and Encapsulation, static members, nesting of methods, constructor Overloading, Garbage Collection, Finalize Method Command line arguments, Array, String, StringBuffer, StringBuilder, StringTokenizer classes Inheritance – single and multi-level inheritance, protected access specifier, multiple inheritance – defining and extending and implementing interface; final variable, method and class; abstract methods and classes; Method overriding and runtime polymorphism, polymorphism in multilevel inheritance hierarchy Package – putting classes together, creating and accessing packages, adding class to a package, hiding classes Managing Errors and Exceptions: Exception handling for managing runtime errors – try and catch blocks, finally block, Throwing an exception, Throws clause, Rethrowing an exception, Checked and unchecked exception, User defined exceptions I/O Files in Java: Concept of streams, Stream classes, Byte stream and Character stream classes, other I/O classes, reading/writing bytes and characters. Handling primitive data types, Random Access files, Serialization and deserialization. Multithreaded Programming: Creating a thread-Thread class and Runnable Interface, Life-cycle of a thread, Thread priority, Synchronization.

Global Energy: Politics, Markets and Policy   L D P [1-0-0]

Overview of Energy Issues; Fundamentals of Energy Systems; brief history of Global Energy; Role of Technology in energy transformation; Stakeholders in Energy Regimes; Energy Economics; Oil politics in Middle-East; Geo-politics

of Asian Energy: Russia, China, Koreas, India; Selected National Strategies: Japan, China, India, Australia; Future of Energy and SDGs.

Innovation and Entrepreneurship   L D P [1-0-0]

Introduction to Innovation & Entrepreneurship, Business environment, quality assessment tools, Forming the base of entrepreneurship, Strategy management and planning, Financial Management, Business Management: Empowering employees to satisfy customers, Handling Conflicts and changes, How to portray the project in front of investors, New ways of marketing, Government schemes for entrepreneurs.

Operating System   L D P [2-0-2]

Introduction to Operating Systems, Concept of batch-processing, multi-programming, time sharing, real time operations, Process Management : Scheduling, Threads, concept of semaphore, Process Synchronization, Deadlock; Memory management: partitioning, fragmentation, paging segmentation, swapping, virtual memory, demand paging, page size, page table, page replacement algorithms; File Management, disk , Protection and Security; Case Studies.

Machine Learning   L D P [2-0-2]

Introduction: Goals and applications of machine learning. Aspects of developing a learning system: training data, concept representation, function approximation. Regression and goodness of fit test. *Supervised classification:* SVM, Decision Tree classifier, Ensemble techniques – Random Forest, Bagging, Boosting. *Clustering and Unsupervised Learning:* Learning from unclassified data. Clustering. Hierarchical Agglomerative Clustering. k-means partitional clustering. Mixture of Gaussians, Expectation maximization (EM) for soft clustering. Semi-supervised learning with EM using labeled and unlabeled data. Dimension reduction with PCA, LDA, MDS. *Reinforcement Learning:* Fundamentals (Learning Agents, Dynamic Systems, Systemic Machine Learning (Model, Behind Math's, impact Function, Adaptive Learning, Multi-perspective Learning, Whole System Learning, Knowledge Representation, Building your own system *Neural Network and Perceptron Learning:* Motivation of Neural Networks, Multi-Layer Perceptron (MLP), MLP as Approximator, Autoencoder, Artificial Neural Network, Recurrent Neural Networks, Long short-term memory (LSTM). *Experimental Evaluation of Learning Algorithms:* Measuring the accuracy of learned hypotheses. Comparing learning algorithms: Over and Under -fitting, Cross-Validation, learning curves, and statistical hypothesis testing.

Computer Organization & Architecture   L D P [2-1-0]

Module 1- Introduction: Function and structure of a computer, Functional components of a computer, Interconnection of components, Performance of a computer. Number representation: fixed and floating-point number representation, IEEE standard for floating point representation.
Module 2- Instruction Set Architecture: Representation of Instructions: Machine instructions, Operands, Addressing modes, Instruction formats, Instruction sets: Register, bus and memory transfer, Instruction set architectures - CISC and RISC architectures (Difference).
Module 3- Processing Unit: Addition and subtraction of signed numbers, look ahead carry adders. Multiplication: Signed operand multiplication, Booths algorithm and array multiplier. Division and logic operations. Floating point arithmetic operation. Organization of a processor - Registers, ALU and Control unit, Data path in a CPU, Instruction cycle, Organization of a control unit - Operations of a control unit, Hardwired control unit, Microprogrammed control unit, Introduction to parallel processing systems, Flynn's classifications, pipeline processing, Instruction pipelining, pipeline stages and Pipeline hazards.

Module 4- Memory Subsystem: Semiconductor memories, RAM Memory cells - SRAM and DRAM cells, Internal Organization of a memory chip, Organization of a memory unit, Error correction memories, Interleaved memories, Cache memory unit - Concept of cache memory, Mapping methods, Organization of a cache memory unit, Fetch and write mechanisms, Memory management unit - Concept of virtual memory, Address translation, Hardware support for memory management.

Data Communications & Computer Networks   L D P [2-0-2]

Basic concepts of networking: Internet; network edge; network core; packet vs. circuit switching; delay, loss and throughput; protocol layers; network security Application layer: basic principles of network applications; web and HTTP; Electronic Mail, DNS, Peer-to-Peer applications; Video streaming, content distribution networks

Transport layer: services of transport layer; multiplexing and demultiplexing; connectionless transport using UDP; principles of reliable data transfer; connection-oriented transport using TCP; principles of congestion control; TCP congestion control Network layer: overview of forwarding, routing and network service models; router in detail; internet protocol (IP), Ipv4 and IPv6 addressing; network address translation (NAT); forwarding in SDN; routing algorithms; OSPF; BGP; SDN control plane; ICMP protocol; Network management and SNMP protocol Link layer: services of link layer; error-detection and correction techniques; multiple access links and protocols; switched local area networks; link virtualization; data center networking Wireless and mobile networks: wireless network characteristics; 802.11 wireless LANs, cellular internet access, mobility management, mobile IP. Network security: cryptography; digital signatures; authentication protocols, secure e-mails, secure TCP connections; IPsec; VPNs; secure wireless LAN; Firewalls; Intrusion Detection Multimedia networking: types and properties of multimedia network applications; stored video streaming; voice-over-IP; RTP protocol; SIP protocol; Quality-of-Service (QoS).

Mobile Application Development   L D P [2-0-0]

Introduction: What is Android, Android versions and its feature set, Android Development Environment - System Requirements, Android SDK, Installing Java, Creating Android Virtual Devices (AVDs) Android Runtime - Dalvik Virtual Machine, Android Runtime –Core Libraries, Creating an Activity, Running the Application in the AVD, Stopping a Running Application, Modifying the Example Application, Reviewing the Layout and Resource Files, Intent Overview, Implicit Intents, Creating the Implicit Intent Example Project, Explicit Intents, Creating the Explicit Intent Example Application, Intents with Activities, Designing for Different Android Devices, Views and View Groups, Android Layout Managers, Programming the display, Keyboard/ touch, accessing camera, multimedia (Audio and Video), on device sensors, Sending SMS, Sending WhatsApp, Sending email, Dialing a number, Introduction to location based service, configuring the Android Emulator for Location Based Services, Geocoding and Map-Based Activities, Recycler View

Development of application using Firebase database, Testing and deploying these applications on SDK and on the device.

Human Computer Interaction   L D P [2-0-0]

Understand the foundation elements of human computer interaction, Understand the design process and various design issues, Common practices used in HCI, Creating user personas, Gather, analyze, and present data for interaction design, Using qualitative and quantitative methods in HCI research, Contextual inquiry Importance of users / talking to users, Task analysis, Prototyping (Low and high fidelity), Understanding cognitive frameworks - Mental Model, Practical processes involved in interaction design and Evaluation, Usability evaluation: think aloud, observing users, testing and modeling users, expert evaluations, Information Visualization, The pros and cons of carrying out studies in the lab versus in the field and in the wild.

Program Curriculum

for

B. Tech. - Electronics and Computer Engineering
[B. Tech. - ECOM]

10th BOS Meeting

17-February-2022

Preamble

Our objective at BML Munjal University [BMU] is to prepare ethical, knowledgeable and skilled individuals, who are employable and have the potential to lead their organizations to success in future. Efforts in this regard require, transformation of higher education by adopting innovative (and practically oriented) teaching, learning, and research environment that stands as equal among best global standards.

Recent developments in technology have changed the way of education at all levels. Higher education has also evolved considerably as technology has enabled, in terms of

– Increased flexibility
– Personalized learning experience
– Freedom to aspire, approach, and achieve personal goals (learning paths) by choice.

Further, increasing presence of technology in education and industry, demands awareness regarding several inter-disciplinary practical applications of concepts/principles such as, Sustainable Development, Artificial Intelligence and Machine Learning, Data Analytics, Cloud Computing, Internet of Things, Robotics, Automation, etc.

Evolving education scenario has also sown seeds of doubt among students across the country, regarding quality and relevance of academic programs in context of their perceived (and available) career options, thus, leading to low academic motivation and limited career choices for uninitiated students. To address these concerns of the students, academic regulations recommend that curriculum for undergraduate degrees in engineering and technology must have reduced credits (contact hours), increased inter-disciplinary engagements, and be futuristic in approach, design, and delivery.

Considering above mentioned, we realize that the best way forward to achieve BMU's objectives is to design and deliver education programs which make best use of the available technologies to improve learning experience, thus, enhancing quality and employability of the students.

Accordingly, a new program is being proposed for undergraduate courses offered by the School of Engineering and Technology at BMU. Philosophy behind the new curriculum, salient features, and program structures of B. Tech. programs offered are discussed below:

Philosophy of the New Curriculum

The following important aspects have been considered while designing the proposed curriculum:
– Vision of BMU
– Choice-based credit system
– Philosophy of regulatory bodies (AICTE model Curriculum – 2018)
– Use of available technologies and resources in a more efficient manner through a combination of different learning schemes, such as, Blended, Flip, Experiential, Skill based, Classroom, etc.
– Interdisciplinary and futuristic program curriculum with emphasis on sustainability, AI and machine learning, and automation, etc. all being necessary knowledge areas in the era of Industry 4.0

Some salient features of the proposed curriculum
– Fractional credit system *[Details in next section]*
– *Multiple entries multiple exit*
– Option for branch change at the end of 1st semester
– Option for specializations in core programs
– Option for additional inter-disciplinary minor programs
– Provision for Honour's degree by earning additional 12 credits
– Variety of courses (in different categories) to enable holistic learning and personal development opportunities *[Course category wise credit distribution is given on next page]*
– Separate pre-defined credits for core labs, seminar/case-studies, and major project
– Scope for teaching and learning through various modes, such as, Classroom teaching, MOOCs, Industry engagement, Certification and Training
– Practice schools [PS] to enable relevant industry exposure and practical (hands-on) experience in core areas of interest. PS - III in 6th semester [Duration: Full semester] will additionally provide students with career direction, entrepreneurial motivation, and enhanced understanding of choice of electives in Final year.

Bachelor of Technology in Electronics and Computer Engineering [B. Tech. - ECom] Program

The B. Tech in Electronics and Computer Engineering course offered at BML Munjal University is designed to equip students with a unique blend of skill sets that include:
– *Strong theoretical foundation with innovating teaching pedagogy*
– *Predominant practice-oriented approach with access to well-equipped laboratory facilities and supervised internship via the Practice Schools*
– *Hands-on technical training with suitable practical assignments, projects and experiential learning components*
– *The Program equips the students with the knowledge and skills in Electronics and Computer Engineering, transgressing the traditional silos between them. The program combines foundational knowledge in these two domains and in-depth understanding one technology domain, along with application of knowledge in one business domain.*
– *Life skills orientation with emphasis on communication and writing skills, reasoning, selling and negotiation skills etc.*
– *Business perspective along with emphasis on innovation and entrepreneurship*
– *Specialized courses on par with the recent industry demands –sensors, IoT, VLSI design, embedded systems & Robotics, AI/ML, smart automated systems etc.*
The course promotes a holistic and multi-dimensional approach to education.

Curriculum - Course category-wise credit distribution

Course Category	Credits
Perspective Courses - School - Student Specific	**13** - 11 - 2
Skill Courses - School - Student Specific	**8** - 7 - 1
Foundation [Basic and Engineering Science] Courses - Program Specific	**39** - 39
Core Courses	**41**
Core Elective Courses	**15**
Project	**7**
Open Elective Courses	**9**
Practice School - PS – I - PS – II - PS – III	**18** - Audit - 4 - 14
Co-Curricular	**5**
Program Total Credits	**155**

% Credit Distribution- Course Categories

Category	%
Foundation	25.8
Core	25.8
Practice School	11.6
Core Elective	9.7
Project	4.5
Open Elective	5.8
Co-Curricular	3.2
Perspective	8.4
Skill	5.2

Fractional Credit System

Proposed curriculum makes use of what is called fractional credit system to enable delivery as per the design philosophy. The fractional credit system divides each semester into eight (08) segments of equal duration wherein each segment may be assigned ½ (0.5) credit equivalent [or remain unassigned]. Accordingly, course credits range from 0.5 to 4.0 [in multiples of 0.5, so course credits may be: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0].

Fractional credit scheme has been judiciously used to prepare course category wise credit distribution across semester, which has further been expanded to prepare program structure for all the programs offered to the incoming (2021-2025) batch of students, by School of Engineering and Technology at BMU *[Program structures are reported in next section]*

Some salient features and advantages of the Fractional credit system are as following:

– Scheduling and student contact hours across semester: Depending on course credits, any course may be scheduled to begin and end across different segments of the semester (continuous, non-continuous, or discrete segments), thus enabling scattered scheduling and promoting efficient use of resources and time.

– Scattered scheduling provides scope for incorporation of course delivery through industry professionals in the classrooms, who otherwise are typically not available for semester long engagements.

– Flexibility to incorporate range of courses enabling both breadth and depth of knowledge as per students' choice

– Scope for combining education, training and certification for earning credits, along with seamless inclusion of available quality online learning courses

– Enhanced scope for continuous assessment as course may complete in 1-2 segments also, leading to innovations in evaluation and grading process

– Enhanced scope for blended learning as student may come prepared to class using course material available online or provided by the course instructor. Hence, classrooms will become discussion rooms, teachers will play the role of mentors / local course coordinators [Thus, also addressing the issue of shortage of quality faculty]

Scheduling of the 1st year courses explains the features, advantages, and practice of the fractional credit system. *[reported in later sections of this document].* Some highlights of the same are following:

– Non-continuous scheduling for Joy of Engineering course [02-credits], to be implemented across total 04 segments [segments 1-2 and 5-6]

– Continuous scheduling of 01 and 02 credit courses [e.g. Communication Skills, Technical Report Writing]

– Different begin and end segments for different course, enabling regularization of contact hours for the students

– Provision for conducting separate labs for any of the courses [e.g. computer programming]

– Increase in number of courses conducted across the semester hence increased breadth of knowledge (even with reduced semester credits)

– Different credits and scheduling for department specific courses, course ranging from 0.5 to 02 credits

– Multi-disciplinary and Multi-courses Project based learning

– Different credits and scheduling for program specific courses, course ranging from 0.5 to 04 credits

2021-25 Program Structure

Course category wise credit distribution across semesters

Semester	Course Category	Credits	
		Category	Semester
Sem – I	Co-Curricular	1	
	Perspective - School	3	21
	Skill - School	2	
	Foundation - Program Specific	15	
Sem – II	Co-Curricular	1	
	Perspective - School	5	19
	Skill - Student Specific	2	
	Foundation - Program Specific	11	
ST-I	Practice School - I	Audit	-
Sem – III	Co-Curricular	1	
	Skill - School	2	
	Perspective - School	1	20
	Foundation - Program Specific	6	
	Core - Classroom	9	
	Project	1	
Sem – IV	Co-Curricular	1	
	Perspective - School	2	
	Skill - Student Specific	1	19
	Foundation - Program Specific	4	
	Core - Classroom	10	
	Project	1	
ST-II	Practice School – II	4	4
Sem – V	Co-Curricular	1	
	Perspective - Student Specific	1	22
	Core – Classroom	20	
Sem – VI	Practice School – III	14	14
Sem – VII	Perspective - Student Specific	1	
	Skill- Seminar / Case Studies	1	
	Core - Classroom	3	19
	Core Elective - Classroom	9	
	Core Elective - Major Project	2	
	Open Elective - Classroom	3	
Sem – VIII	Core - Classroom	2	
	Core Elective – Classroom	6	17
	Core Elective - Major Project	3	
	Open Elective - Classroom	6	

B. Tech. - Electronics and Computer Engineering [ECom]

Sem	Category	Sub-Category	Course Title	Credits	L-D-P
1	Co-Curricular			1	1-0-0
1	Perspective	School	Joy of Engineering-I	3	1-0-4
1	Skill	School	Communication Skills	1	1-0-0
1		School	Engineering Ethics	1	1-0-0
1	Foundation	Program Specific	Calculus for Engineers	2	2-0-0
1		Program Specific	Ordinary Differential Equations	2	2-0-0
1		Program Specific	Electromagnestism	2	2-0-0
		Program Specific	Engineering Chemistry	1	1-0-0
1		Program Specific	Basic Electrical and Electronics Engineering	3	2-0-2
1		Program Specific	Computer Programming using C	3	2-0-2
1		Program Specific	Fundamentals of Data Science	2	1-0-2
			Semester Total	**21**	
2	Co-Curricular			1	1-0-0
2	Perspective	School	Joy of Engineering-II	3	1-0-4
2		School	Environmental Studies	2	2-0-0
2	Skill	School	Technical Report Writing	2	2-0-0
2	Foundation	Program Specific	PCB Design	1	0-0-2
2		Program Specific	Introduction to Sensors and IoT	2	1-0-2
2		Program Specific	Signals and Systems	2	2-0-0
2		Program Specific	Matlab Programming	1	0-0-2
2		Program Specific	Linear Algebra	2	2-0-0
2		Program Specific	Digital Logic Design	3	2-0-2
			Semester Total	**19**	
ST1	Practice School		Practice School -I	Audit	
3	Co-Curricular			1	1-0-0
3	Skill	School	Etiquettes and Conversational Skills	2	1-2-0
3	Perspective	School	Critical Reasoning and Design Thinking	1	1-0-0
3	Foundation	Program Specific	Discrete Mathematics	2	2-0-0
3		Program Specific	Semiconductor Physics	2	2-0-0
3		Program Specific	Python Programming	2	1-0-2
3	Core	Classroom	Data Structure and Algorithm	3	2-0-2

Sem	Category	Sub-Category	Course Title	Credits	L-D-P
		Classroom	Computer Network	2	2-0-0
		Classroom	Computer Organization and Architecture	2	2-0-0
3		Classroom	Circuit Analysis and Synthesis	2	2-0-0
3	Project	Project	Project -1	1	0-0-2
			Semester Total	**20**	
4	Co-Curricular			1	
4	Perspective	School	Global Energy: Politics, Markets and Policy	1	1-0-0
4		School	Innovation and Entrepreneurship	1	1-0-0
4	Skill	Student Specific	-	1	
4	Foundation	Program Specific	Operating Systems	2	2-0-0
4		Program Specific	Probability and Statistics	2	2-0-0
4	Core	Classroom	Digital Signal Processing	2	2-0-0
4		Classroom	Microprocessor based System Design	2	1-0-2
4		Classroom	Machine Learning	2	2-0-0
4		Classroom	Design and verification of digital circuits	2	1-0-2
4		Classroom	Web Programming	2	2-0-0
4	Project	Project	Project 2	1	0-0-2
			Semester Total	**19**	
ST2	Practice School		Practice School -II	4	
5	Co-Curricular			1	1-0-0
5	Perspective	Student Specific		1	1-0-0
5	Core	Classroom	VLSI Design	3	3-0-0
5		Classroom	Embedded Systems and Robotics	3	2-0-2
5		Classroom	Data Base Management Systems	3	2-0-2
5		Classroom	Big Data Analytics	3	3-0-0
5		Classroom	Internet of Things (IoT)	3	2-0-2
5		Classroom	Digital Communication Systems	3	3-0-0
		Classroom	Theory of Computation	2	2-0-0
			Semester Total	**22**	
6	Practice School		Practice School-III	14	

Sem	Category	Sub-Category	Course Title	Credits	L-D-P
			Semester Total	**14**	
7	Perspective	Student Specific		1	
7	Skill	Seminar / Case Studies		1	1-0-0
7	Core Elective	Classroom	Elective	3	
7		Classroom	Elective	3	
7		Classroom	Elective	3	
	Core	Classroom	Analog Circuit Design	3	3-0-0
7	Project	Major Project		2	
7	Open Elective	Classroom		3	
			Semester Total	**19**	
8	Core Elective	Classroom	Elective	3	
8		Classroom	Elective	3	
	Core	Classroom	Compiler Design	2	2-0-0
8	Project	Major Project		3	
8	Open Elective	Classroom		3	
8		Classroom		3	
			Semester Total	**17**	
		Program Total		**155**	

Course Baskets

[1]. Foundation Courses

School Courses	Credits	Department Specific Courses
Basic Electrical Engineering	2	Advanced Computer Programming
Calculus for Engineers	2	Analytical Chemistry
Computer Programming	2	Basic Electronics Engineering
Programming Lab	1	Complex Variable Analysis
Engineering Chemistry	1	Data Structures and Algorithms
Fundamentals of Data Science	2	Data Structures and Algorithms Lab
Data Science Lab	1	Discrete Mathematics
Ordinary Differential Equations	2	Electricity and Magnetism
Physics for Engineers	2	Elements of Manufacturing Process
Engineering Graphics	2	Emerging Life Sciences
Introduction to Sensors and IoT	2	Engineering Analysis and Design
Electrochemistry and Energy Storage	1	Engineering Mechanics
Automation and Industry 4.0	1	Environmental Engineering and Sustainability
		Fluid Mechanics
		Geo-spatial Science
		Industrial Automation
		Inorganic Chemistry
		Instrumentation and Measurements
		Integral Transforms
		Material Science
		Mechanics and Waves
		Modelling and Simulation
		Numerical Methods
		Operations Research
		Organic Chemistry
		Partial Differential Equations
		Physical Chemistry
		Probability and Statistics
		Python Programming
		Python Programming Lab
		Regression and Predictive Modelling
		Statistical Decision Theory
		Units and Measurements
		Web Programming

[2]. Skill Courses

School Courses	Credits	Student Specific Courses
Communication Skills	1	Business Correspondence and Report Writing
Technical Report Writing	2	Cross Cultural Communication Skills
Coding Skills	2	Problem Solving and Consulting Skills
Etiquettes and Conversational Skills	2	Quantitative and Analytical Skills
		Resume Writing and Career Skills
		Selling, Negotiating and Persuading Skills
		Technical Communication
		Theatre Studies
		Writing Skills

[3]. Perspective Courses

School Courses	Credits	Student Specific Courses
Joy of Engineering	2	Geo-politics and Geo-economics
Engineering Ethics	2	Good Citizenry
Environmental Studies	2	Human Geography
Critical Reasoning and Design Thinking	2	Indian Political System
Global Energy: Politics, Markets and Policy	1	Intellectual Property Laws
Innovation and Entrepreneurship	1	International Human Rights
		Living Arts and Literature
		Public Administration
		Right to Information
		Science, Technology and Public Policy
		Systems Approach
		World Civilizations
		Philosophy and Logic
		Principles of Management
		Understanding Business

[4]. [Basic] Core Electives Courses

2	Design for Testability
3	Low Power CMOS VLSI Circuit Design
4	Fundamentals of Nano-Electronics
5	System on Chip (SoC) Design
6	ARM controller based embedded systems
7	Adaptive control in engineering applications
8	Solar Energy Management Systems
9	Network Architecture and Protocols
11	AI in Signal & Image Processing.
12	Real-time DSP
13	Computer Vision
14	Power Electronics
15	Electrical Machines
16	Advanced Control Systems
17	Analysis of Electric Drives
18	Renewable Energy Systems
19	High Performance Computing
20	Language design and automata theory
21	Advance Computer architecture

[5]. Core Specialization Courses [Elective]

Specialization: Data Science and Artificial Intelligence [DS & AI]

1	Audio and Speech Processing
2	Data Mining
3	Computer Vision
4	Deep Learning
5	Image Processing
6	Information Retrieval
7	Natural Language Processing and Text Analytics
8	Soft Computing
9	Advanced Machine Learning
10	Time Series Analysis
11	Modelling and Data processing for Biomedical Engineering
12	Data Visualization
13	Social Network Analysis
14	Pattern Recognition
15	R Programming
16	Robotics, Autonomy and Connected Systems
17	Interaction Design
18	Machine learning for modeling of dynamical system
19	Big Data Analytics

Specialization: Cyber Security [CS]

1	Application Security testing
2	Cloud Security
3	Cyber Forensics
4	Vulnerability Assessment and Penetration Testing
5	Blockchain
6	Information Security
7	Malware Analysis
8	Network Security
9	Security Audit
10	Cyber security tools and cyber attacks
11	Hardware security
12	International cyber conflicts
13	Privacy and Security in Social Media
14	Threat Intelligence
15	Network Anonymity and Privacy
16	IoT Security
17	Cyber Laws and Governance
18	Secure Coding
19	Information Theory coding & Cryptography

Specialization: Internet of Things [IoT]

1	Big Data Analytics
2	Cloud Computing and App Development
3	Embedded Systems and Architecture Programming
4	Embedded Testing
5	Information Security
6	Machine Learning and AI
7	Network on Chip
8	Real Time Operating Systems +Lab
9	Sensors and Networking
10	System on Chip Design
11	IoT Protocols
12	IoT Architecture
13	IoT Applications and Testbeds
14	IoT Security
15	Industrial IoT
16	Data Management in IoT
17	Software Programming in IoT
18	Communication and Network Technologies in IoT

Specialization: Automobile Engineering [AE]

1	Automotive Chassis and Suspension
2	Automotive Components and Assembly Drawing
3	Automotive Control Engineering
4	Automotive Electrical and Electronics System
5	Automotive Pollution Control and Alternative Fuels
6	Automotive Structures and Design
7	Automotive Transmission Systems
8	Electric and Hybrid Vehicles
9	Vehicle Body Engineering and Aerodynamics
10	Vehicle Dynamics
11	Automotive Materials and Processes
12	Design for Manufacture
13	Design for Vehicle Safety
14	Design for Vehicle Comfort
15	Fuel Cells and Energy Storage

Specialization: Robotics & Automation [R&A]

1	Drives and Control Systems for Robots
2	Human Machine Interface
3	Hydraulic and Pneumatic Systems
4	Industrial Automation
5	Introduction to Robotics
6	Kinematics and Dynamics of Robots
7	Mechatronic Systems
8	Sensors and IOT
9	Advanced Robotics
10	Automation and Robotics
11	Electromechanical System Design
12	Quality Systems
13	Simulation of Operations

[6]. Minor Program Courses [Elective]

Minor Program: Computational Linguistics

1	Formal languages and automata theory
2	Grammar and Parsing
3	Text processing
4	Speech and Audio Processing
5	Lexical Semantics and Computational Discourse

Minor Program: Cyber Physical Systems

1	IT fundamentals of Cyber Physical Systems
2	Cyber Physical Systems: Modelling and Simulation
2	Embedded Hardware and Operating System
3	Web Connectivity and Security in Embedded System
4	Design and Analyze Secure Networked System
5	Real Time Cyber Threat Detection and Mitigation

Minor Program: Computational Mathematics

1	Advanced Numerical methods/ Numerical Linear Algebra
2	Computational Geometry
3	Design and Analysis of Experiments
4	Industrial Statistics
5	Mathematical Finance
6	Mathematical Modelling in Industry
7	Number Theory and Cryptography
8	Numerical solution of PDE's
9	Probability theory and Monte Carlo simulation
10	Time Series Analysis and Dynamical Modelling

Minor Program: Energy Harvesting and Storage

1	Biofuels
2	Characterization Techniques for Energy Materials and Devices
3	Fuel Cell, Li- ion Battery and Supercapacitors
4	Hydrogen Energy
5	Renewable and Non-renewable Energy
6	Solar Energy

Minor Program: Functional English

1	Critical Reasoning, Writing and Presentation
2	Culture and Civilization
3	Introduction to Theatre Studies
4	Landmarks in English Literature
5	Media Studies
6	Methodology Functional Language

Minor Program: Liberal Arts

1	Cultures of Computing
2	Geo-politics and Geo-economics
3	Indian Political System
4	Living Arts and Literature
5	Public Administration
6	Science, Technology and Public Policy

Minor Program: Material Science

1	Computational Materials Science
2	Energy Materials
3	Engineering Materials
4	Materials Characterization
5	Science and Engineering of Composite Materials
6	Science and Engineering of Light Weight materials for Transportation applications
7	Surface Engineering

Minor Program: Nanotechnology

1	Applications of Nanotechnology
2	Bio Nanomaterials
3	Computational Materials Science
4	Micro and Nano systems
5	Nano Metrology
6	Synthesis and Fabrication of Nano Materials

Minor Program: VLSI Design

1	Advanced VLSI Design
2	Analog CMOS Design
3	Design for Testability
4	Hardware Software Co-Design
5	IC Technology
6	Low Power CMOS VLSI Circuit Design
7	Micro-Electro-Mechanical Systems (MEMS)
8	RF Microelectronics
9	System on Chip Design
10	VLSI Digital Signal Processing System

Syllabus

of

B. Tech. – Electronics and Computer Engineering

Joy of Engineering – I   **L D P [1-0-4]**

This course is spread over two semesters. The aim of JOE-I is to get the students to experience the joy of creativity within engineering. Learning will be evaluated through development of innovative solutions by students, mentored by faculty. Students will be exposed to emerging technologies such as Artificial Intelligence, Machine Learning, Internet of Things, Robotics and Augmented Reality through invited lectures and lectures by faculty. However, the focus will be on design for purpose, providing students with opportunities to create innovative solutions to given theme problems. Students have to ensure that their final choice of outcome of their project is demonstrable and is functioning i.e. a working physical prototype of a product or a working software solution or working mobile app etc. Students will be expected to choose their projects during Semester 1. The instructor will propose the themes for student projects. The themes are representing broad areas. It is for the students to create concrete proposals through interactions with mentor faculty within the themes. Develop Ideas and Design Concepts: The students will be given the opportunity to work in teams to develop ideas and design concepts and propose solutions for specific design theme projects.

Communication Skills   **L D P [1-0-0]**

What is communication? Understanding the process/cycle of Communication; Verbal and Non-Verbal communication; Barriers of communication; Fundamentals of Effective Speaking1 (Style); Fundamentals of Effective Speaking 2 (Tone); Building Advanced Vocabulary; Effective Presentation Strategies /Dynamics of Professional Presentations; Techniques of Reading Comprehension; Basics/Techniques of writing.

Engineering Ethics   **L D P [1-0-0]**

Ethical theories, Geo-engineering, bio-engineering, genetic engineering, environmental ethics, Kohlberg Theory, Heinz's Dilemma, Ethics and Programming, Ethics of Social Media platforms, Ethics of data collection and data sharing, Ethics and AI, Industrial Revolution 4.0, Future of AI and Technological unemployment.

Calculus for Engineers   **L D P [2-0-0]**

Functions and their Graphs, Applications of derivative, application of Integrals to find volume of a solid, area of a surface of revolution, center of mass, Maclaurin and Taylor series expansions of functions of one variable, Sequence and Series, infinite series, tests for convergence, integral test, comparison test, D'Alembert's Ratio test, Cauchy's root test, alternating series, Leibnitz test, absolute convergence, Limits & Continuity in higher dimension, Partial derivatives, Applications of Partial derivatives in Maxima and Minima, Lagrange's method, Taylor's expansion for functions of two variables, Double and triple integrals: Change of order of integration, Change of coordinates, Cylindrical co-ordinates and Spherical polar co-ordinates, Change of variables, Jacobian of transformation.

Ordinary Differential equations   **L D P [2-0-0]**

First order ordinary differential equations: Exact, linear and Bernoulli's equations, Euler's equations, Equations not of first degree: equations solvable for p, equations solvable for y, equations solvable for x and Clairaut's type. Applications of differential equations of first order, Orthogonal trajectories, Ordinary differential equations of higher order, Second order linear differential equations with variable coefficients, method of variation of parameters, Cauchy-Euler equation; Legendre's linear equations, Applications of linear differential equations in engineering, Introduction to Power series solutions of differential equations.

Electromagnetism   **L D P [2-0-0]**

Electrostatics: electric charge and electric field electric potential, electric dipole Gauss law for electric field on integral form. Capacitors, electrostatic energy. Coordinate Systems, Vector fields, Gradient,

Divergence, Curl, Coulomb's Law, Surface and Volume charges, Potential Gradient, Gauss's Law,

Maxwell's First Law, Laplace's Equation, Poisson's Equations, Electric Dipole-Dipole Moment, Potential

and EFI due to Electric Dipole, Torque on an Electric Dipole in an Electric Field.

Magneto-statics: Static Magnetic Fields, Biot-Savart Law, Magnetic Field Intensity (MFI) due to a

Straight, Circular & Solenoid Current-Carrying Wire, Maxwell's Second Equation, Ampere's Circuital Law and its Applications, Point Form of Ampere's Circuital Law, Maxwell's Third Equation, Magnetic Force, Lorentz Force Equation, Force on Current Element in a Magnetic Field, Force on a Straight and Long Current-Carrying Conductor in a Magnetic Field, Magnetic Dipole and Dipole moment, Torque on a Current Loop Placed in a Magnetic Field.

Time varying fields: Faraday's Law of Electromagnetic Induction, Maxwell's Fourth Equation. Statically and Dynamically Induced E.M.F's, Modified Maxwell's Equations for Time-Varying Fields, Displacement Current. Wave Equations, Uniform Plane Wave Motion in Free Space, Conductors and Dielectrics, Velocity, Wave Length, Intrinsic Impedance and Skin Depth, Poynting Theorem, Poynting Vector and its Significance.

Engineering Chemistry   **L D P [1-0-0]**

Chemical kinetics: Reaction rates and rate law, reaction in liquid solutions, catalysis, adsorption of gases on solids; *Quantum Theory-Basics:* Schrodinger Equation, Particle in a 1D box, UV-Vis spectroscopy; *Polymer chemistry:* Free radical chain growth polymerization, Emulsion Polymerization, Cationic polymerization, Anionic polymerization, Insertion polymerization, characterization of polymers.

Basic Electrical and Electronics Engineering   **L D P [2-0-2]**

DC Circuits: Electric charge and current, active and passive two terminal elements, Ohm's laws, series and parallel reduction of resistive circuits, star-delta transformation, current and voltage independent and dependent sources, voltage division rule and current division rule, source transformation, Kirchhoff's laws – KCL and KVL, Mesh (Loop) analysis and Nodal analysis. DC Network Theorems: Superposition Theorem, Thevenin's Theorem, Norton's theorem, Maximum Power Transfer theorem. AC Circuits: Introduction to alternating quantities – average and effective or rms values, form and peak factors, phasor representation of sinusoidal quantity, AC series circuit containing R, L, C, R-L, R-C, and R-L-C elements, impedance triangle, Instantaneous power, apparent power, power factor, power triangle, Series-Parallel R-L-C circuits. Introduction to Semiconductor devices: P-N junction, forward and reverse biasing, volt ampere characteristics of p-n junction, Zener diode, Schottky diode, applications of diode: rectifiers, clippers and clampers, other types of diodes, BJT as a switch. OP-AMP: Inverting, Non-inverting amplifier, adder, subtractor, integrator, differentiator. Design of active filters Low pass, High Pass and Band Pass. Introduction:

Bipolar Junction Transistors (BJT) and DC Biasing: Familiar with Transistor fundamentals- Basic Operation and symbol Representation, Transistor configuration (CE, CB, CC), Transistor characteristics.

Computer Programming using C   L D P [2-0-2]

Syntax and semantics of programming languages, Functions of a compiler, Interpreted vs compiled code, Languages and translation, Data representation, Types, operators, variables, constants, Strings. Operators and expressions using arithmetic and relational operators, mixed operands, type conversion, logical operators, assignment operator, operator precedence and associativity; Designing the solution of a problem using Flow Charts, developing pseudo-code, Stepwise refinements, Workflow Control Constructs (using sequence, Selection, Repetition, Unconditional Branching). Sequence, Selection, Nested Branches, Iteration, Nested Loops. Methods: Parameter passing, Variable lifetime and scope, returning value, calling method.

Composite Data Type: Defining, accessing the members, distinction between primitive and composite data types. Understanding arrays and array bounds, Single dimensional arrays, two-dimensional arrays, reading array elements.

Some Basic Algorithms: Summation, counting, reverse, numeric operations, swapping, maximum, minimum, developing basic calculator, prime number, palindrome number, factorial of a number, Fibonacci series, even or odd numbers, simple array manipulation, operations on matrix.

Fundamentals of Data Science   L D P [1-0-2]

What is data science, Various types and levels of data, Data science life cycle, etc. Data Science Toolbox: Introduction to RStudio- Econometrics with R or Python-Jupyter Notebook, Pandas, and NumPy, version control and Github. Data Handling and Statistics: Data collection and preparation, Missing value handling, Data scrubbing, Data transformation, Feature Engineering, Population and sample, Moments and generating functions- bias and variance, Measure of Variability, Hypothesis Testing, Probability Distributions- Uniform, Normal Poisson. Basic and Specialized Visualization Tools: Matplotlib (area plot, scatter plot, line plot, histogram, bar charts, box plot, heat map, faceting, pairplot), seaborn, ggplot2. Exploratory Data Analytics: Dimension reduction- PCA, Factor analysis, LDA, MDS. Regression Linear Model: Linear regression, logistic regression Project in Data Science: Model Definition and Training, Model Evaluation, Model Deployment, Final presentation.

Joy of Engineering - II   L D P [1-0-4]

In continuation of the selected projects in the first semester, the students will perform the following: Product Development Process: Students will be given the space to enhance creativity and experience fundamental aspects of the product development process, including determining needs, brainstorming, estimation, sketching, sketch modelling, concept development, design aesthetics, detailed design, prototyping and manufacturing. The course shall also provide a platform to develop written, visual, and oral communication as teams will be required to present their ideas and product to "stakeholders". Prototype Creation: Students will work on at least one idea from each theme and in the fabrication stage they will work on any one idea of their choice.

Environmental Studies   L D P [2-0-0]

Introduction to Environmental Studies, Biodiversity, Ecological footprint, wetlands, Field trip to Yamuna Bio-diversity park, Food-chains, Alternate energy scenario in India, Water Pollution, Sewage treatment, Air pollution, CO_2 emission, Green-house effects, UNFCCC, Clean Air act, Global Warming, Environmental policy making, Race to bottom, Pollution Haven, Global South, Air pollution in emerging economies like India and China, Disaster Management, SDGs.

Technical Report Writing   **L D P [2-0-0]**

What is Technical Communication; Difference between General and Technical Communication; Types of Motivation in writing Technical documents; Fundamentals of Effective Writing 1 (Style); Fundamentals of Effective Writing 2 (Tone); Building Advanced Vocabulary; Effective Writing Strategies; Office Correspondence; Memo, Agenda and Minutes of meeting, Circular and Notice; Writing a Technical Proposal; Fundamentals of Technical Report Writing; Writing a Technical Report; Dynamics of Professional Report Presentations.

PCB Design   **L D P [0-0-2]**

Introduction to PCB designing concepts Introduction & Brief History. Difference between PWB and PCB. Types of PCBs: Single Sided (Single Layer), Multi-Layer (Double Layer), PCB Materials introduction to Electronic design Automation (EDA), Brief History of EDA, latest Trends in Market how it helps and why it requires, different EDA tools. Component introduction and their categories Types of Components: Active Components such as diode, transistor, MOSFET, LED, SCR, Integrated Circuits (ICs). Passive Components such as resistor, capacitor, inductor, transformer, speaker/buzzer component. Introduction to Development Tools, Introduction to PCB Design using OrCAD tool, Introduction to PCB Design using PROTEUS tool, Detailed description and practical of PCB designing PCB Designing Flow Chart, schematic entry, net listing, PCB layout designing, prototype designing, design rule check (DRC), design for manufacturing (DFM), PCB Making, printing, etching, drilling, assembly of components description of PCB layers, electrical layers, top layer, mid layer, bottom layer, mechanical layers, board outlines and cut-outs, drill details.

Introduction to Sensors and IoT   **L D P [1-0-2]**

Measurement errors: Gross and systematic errors, absolute and relative errors, Accuracy, precision and significant errors. Laboratory power supplies: unregulated power supply, DC voltage regulators, output current limiting, power supply performance and application, and DC power supply use. Power supply testing and a brief introduction to operational amplifiers.

Introduction to various types of sensors: Strain and pressure sensor, position, direction, distance, and motion sensors. Light and associated radiation sensors, temperature sensors and thermal transducers, sound infrasound, and ultrasound sensors. Solid, liquid and gas sensors.

Sensor signal conditioning: Basics and types of signal conditioning e.g. Analog signal conditioning (amplification, level shifting, filtering, current to voltage conversion and vice versa, clipping, and clamping) and Digital signal conditioning (removing noise, analog to digital conversion isolation using opto-couplers).

Introduction to Internet of Things: Genesis internet of things (IoT), impact of IoT, and IoT challenges. IoT network architecture and design: Drivers behind network architecture, comparing IoT architecture e.g. machine to machine (M2M) IOT architecture, IoT world forum standardize architecture etc. Layers of IoT architecture. The things in IoT e.g. sensors actuators and MEMS, smart objects, trends in smart objects. Wireless sensor networks, communication protocols for wireless sensor networks.

Signals and Systems   **L D P [2-0-0]**

Signals, Systems and Signal Processing : Continuous Time Signals, Classification of CT and DT Signals, Classification of Systems – Static and Dynamic, Continuous Time LTI Systems, Modelling the LTI system via System Transfer function (basics of Laplace Transform), Impulse response, The Convolution Integral, Properties of Convolution Integral, Discrete Time LTI Systems: The Convolution Sum, Convolution of Finite Length Signals,

Properties of Convolution Sum, Dirichlet Conditions, Properties of CTFS, Discrete Time Fourier Series (DTFS), Fourier Spectra, Properties of DTFS, CT Fourier Transform (CTFT) and Discrete Time Fourier Transform (DTFT), Properties of CTFT and DTFT, Energy Spectral Density ESD, Power Spectral Density PSD, Relation of ESD and PSD to Autocorrelation. Laplace Transform: Bilateral and Unilateral Laplace Transform, Inverse Laplace Transform, Region of Convergence (ROC) for Laplace Transforms, s- Plane, Poles and Zeros. Properties of ROC, Properties of Laplace Transform, Analysis and Characterization of LTI Systems using LT, Solution of Differential and Integro-Differential Equations with Boundary Conditions using Unilateral LT. Z Transform: Unilateral & Bilateral Z transforms – properties. ROC, Inverse Z transform: Partial Fraction Expansion. Analysis and Characterization of DT system using Z transform.

Matlab Programming   L D P [0-0-2]

MATLAB Fundamentals: Use of MATLAB, Key Features, Command Window, Work Space Window, Command History, Basic Commands, Assigning Variables, Operation With Variables, Arithmetic and Logical Operators, Solving arithmetic equations, Creating Rows and Column Matrix, Matrix Operation, Finding Transpose, Determinant and Inverse, Solving Matrix, Trigonometric functions and Complex numbers, Function plotting, Selection Statements and Loop Statements. Application of MATLAB programming to Numerical Inteegration in 1D, 2D, 3D and solving ODE's.

Introduction to Simulink: Simulink Environment and Interface, Study of Simulink Library, Circuit oriented Design , Equation oriented Design, Model Subsystem Design, Connect Call back to Sub System, Simulink Based Design and Applications

Linear Algebra   L D P [2-0-0]

Matrices, Row reduced echelon form of a matrix, Linear equations and their solvability, applications of system of liner equations in engineering problems, Vector spaces, subspaces, linear dependence and independence of vectors, basis and dimension of a vector space, null space, range spaces, finite dimensional vector space and it's applications, Linear transformation, matrix of linear transformation, applications of linear transformations in different physical/engineering phenomena, characteristic polynomials and Caley-Hamilton theorem, diagonalization, eigen values and eigen vectors, applications of eigen values and eigen vector to solve differential equations arising in electric circuit, dynamical systems.

Digital Logic Design   L D P [2-0-2]

Number systems and Boolean algebra: Introduction to number system and Boolean algebra; Boolean identities, basic logic functions, standard forms of logic expressions, simplification of logic expressions.
Combinational logic: Arithmetic circuits, decoders, encoders, multiplexers, de-multiplexers, and their use in logic synthesis; Hazards in combinational circuits
Sequential logic circuits: Latches and Flip Flops (SR, D, JK, T); Timing in sequential circuits; Shift register; Counters – synchronous, asynchronous.
Finite state machines: Basic concepts and design; Moore and Mealy machines examples; State minimization/reduction, state assignment; Finite state machine design case studies and FSM circuit design.
Logic families: Brief overview of Transistor as a switch; Logic gate characteristics – propagation delay, speed, noise margin, fan-out and power dissipation; Standard TTL and static CMOS gates.

Data Structures and Algorithms   L D P [2-0-2]

Introduction: Elementary Data types, Abstract data types (ADT), Basic concepts and Definition of data structures, The need for data structures, classification of data structures. Brief idea of algorithms: Asymptotic notations and algorithm analysis; notion of time and space complexity; worst case, average case, best case. ADT array: Multi-Dimensional Arrays, Row-major and column-major indexing, Address calculations. Basic operations in array – linear search, binary search. Main memory and comparison based elementary sorting: Bubble sort, Selection sort, Insertion sort. Performance analysis of sorting algorithms, Notion of non-comparison-based sorting. Asymptotically Faster Sorting Techniques - quick sort, merge sort, Performance analysis of sorting algorithms. ADT Sparse matrix: representation, various operations. ADT List: singly, doubly, circular, doubly circular linked list, various operations on linked list, applications of linked lists in polynomial representation, sparse matrices representation, etc. ADT Stack: Implementations using array and linked list, various operations, applications. ADT Queue: Implementations using array and linked list, various operations, applications. ADT binary tree and ADT binary search tree: various terms, representation using array and linked list, various operations, traversal, applications. Binary heap, heap sort. Balanced binary search trees - AVL Trees, operations, applications. B-trees and its variations, operations, applications. ADT Graphs: Basic terminology, modeling with graph, graph representation in computer, various operations, traversal, applications. ADT Dictionary: Implementation, Hash Tables, hash function, properties of good hash functions, Hashing techniques, collision resolution techniques, insertions, deletions, and searching operations in a Hash table, Brief idea of perfect hash function, re-hashing and double hashing, applications of hashing.

Etiquettes and Conversational Skills   L D P [2-0-0]

Understand why good speaking skills are important to be a good professional. Learn strong, professional social skills. Effective introductions. Creating a good first impression. Attitude and team building. Minimize nervousness in social situations. Enumerate the 4 levels of conversation. Physical grooming and body language. Understand place settings, napkin etiquette & basic table manners Master professional office conduct including: etiquette in relation to open plan & cubicle environments Do's and don'ts in meetings. Acquire telephone and E mail etiquette skills. Learn how to dress for success. Gain valuable insight into international etiquette. Interview facing skills.

Critical Reasoning and Design Thinking   L D P [1-0-0]

Critical and Creative Thinking: Each student should be able to analyze and identify key issues relevant to this course, develop a perspective supported by relevant information and creative thinking to assess the business situation and draw conclusions. Interpersonal Communication and Working in Teams: each student will demonstrate his ability to appreciate peer group member viewpoint and work in team environment, exhibiting a clear understanding of individual roles and tasks, ability to identify and resolve interpersonal conflicts and contribute to achieving team goals.

Discrete Mathematics   L D P [2-0-0]

Sets, Relations and Functions: Operations and Laws of Sets, Cartesian Products, Binary Relation, Partial Ordering Relation, Equivalence Relation, Image of a Set, Sum and Product of Functions, Bijective functions, Inverse and Composite Function, Size of a Set, Finite and infinite Sets, Countable and uncountable Sets, The Power Set theorem, Schroeder-Bernstein theorem. Mathematical Induction: Weak and strong mathematical induction. The Well-Ordering Principle, Recursive definition, Recurrence Relation & Generating function. Number Theory: The Division algorithm: Prime Numbers, The Greatest Common Divisor: Euclidean Algorithm, The Fundamental Theorem of Arithmetic, Chinese remainder theorem. Propositional Logic: Basic Connectives and Truth Tables, Logical Equivalence: The Laws of Logic, Logical Implication, Rules of Inference, Validity of Arguments, The use of Quantifiers, Predicate Logic, Arguments in Predicate Logic Proof Techniques: Some Terminology, Proof Methods

and Strategies, Forward Proof, Proof by Contradiction, Proof by Contraposition, Proof of Necessity and Sufficiency. Combinatorics: Counting Principles, Permutations and Combinations, Pigeonhole principle

Semiconductor Physics L D P [2-0-0]

Semiconductors: Energy Band and Charge Carriers: Energy bands in semiconductors, Types of semiconductors, Charge carriers, Intrinsic and extrinsic materials. Carrier concentration: Fermi Level, Electron and hole concentration equilibrium, Temperature dependence of carrier concentration, Compensation and charge neutrality. Conductivity and mobility, Effect of temperature, Doping and high electric field. Optical Excitation in Semiconductor: Optical absorption, carrier generation, Carrier lifetime, diffusion length and photo conductivity, Direct and indirect recombination and trapping, Photoconductive devices. Diffusion of carriers, Einstein relation, Continuity equation, Carrier injection, Diffusion length. Haynes-Shockley experiment. Junctions: p-n junction and contact potential, Fermi levels, Space charge, Reverse and Forward bias, Zener and Avalanche breakdown. Capacitance of p-n junction, Schottky barriers; Schottky barrier height, I-V characteristics, current flow across Schottky barrier: thermionic emission, Rectifying contact and Ohmic contact. Bipolar Junction Transistors (BJT): Fundamentals of BJT operation. Minority carrier distribution, Solution of diffusion equation in base

region, Terminal current, Current transfer ratio, Ebers-Moll equations, Charge control analysis. BJT switching: Cut off, Saturation, Switching cycle. Field Effect Transistors: JEFT amplifying and switching, Pinch off and saturation, Gate control, I-V characteristics. MOSFET, Operation, MOS capacitor, Debye screening length, Effect of real surfaces; Work function difference, Interface charge, Threshold voltage and its control, MOS C-V analysis and time dependent capacitance. Output and transfer characteristics of MOSFET. Photonics: LED: Radiative transition, Emission spectra, Luminous efficiency and LED materials, Solar cell and photodetectors: Ideal conversion efficiency, Fill factor, Equivalent circuit, Voc, Isc and Load resistance, Spectral response. Reverse saturation current in photodetector.

Python Programming L D P [1-0-2]

Number systems and Boolean algebra: Introduction to number system and Boolean algebra; Boolean identities, basic logic functions, standard forms of logic expressions, simplification of logic expressions.
Combinational logic: Arithmetic circuits, decoders, encoders, multiplexers, de-multiplexers, and their use in logic synthesis; Hazards in combinational circuits. Sequential logic circuits: Latches and Flip Flops (SR, D, JK, T); Timing in sequential circuits; Shift register; Counters – synchronous, asynchronous. Finite state machines: Basic concepts and design; Moore and Mealy machines examples; State minimization/reduction, state assignment; Finite state machine design case studies and FSM circuit design. Logic families: Brief overview of Transistor as a switch; Logic gate characteristics – propagation delay, speed, noise margin, fan-out and power dissipation; Standard TTL and static CMOS gates.

Data Structures and Algorithms L D P [2-0-2]

Introduction: Elementary Data types, Abstract data types (ADT), Basic concepts and Definition of data structures, The need for data structures, classification of data structures. Brief idea of algorithms: Asymptotic notations and algorithm analysis; notion of time and space complexity; worst case, average case, best case. ADT array: Multi-Dimensional Arrays, Row-major and column-major indexing, Address calculations. Basic operations in array – linear search, binary search. Main memory and comparison based elementary sorting: Bubble sort, Selection sort, Insertion sort. Performance analysis of sorting algorithms, Notion of non-comparison-based sorting. Asymptotically Faster Sorting Techniques - quick sort, merge sort, Performance analysis of sorting algorithms. ADT Sparse matrix: representation, various operations. ADT List: singly, doubly, circular, doubly circular linked list, various operations on linked list, applications of linked lists in polynomial representation, sparse matrices representation, etc. ADT Stack:

Implementations using array and linked list, various operations, applications. ADT Queue: Implementations using array and linked list, various operations, applications. ADT binary tree and ADT binary search tree: various terms, representation using array and linked list, various operations, traversal, applications. Binary heap, heap sort. Balanced binary search trees - AVL Trees, operations, applications. B-trees and its variations, operations, applications. ADT Graphs: Basic terminology, modeling with graph, graph representation in computer, various operations, traversal, applications. ADT Dictionary: Implementation, Hash Tables, hash function, properties of good hash functions, Hashing techniques, collision resolution techniques, insertions, deletions, and searching operations in a Hash table, Brief idea of perfect hash function, re-hashing and double hashing, applications of hashing.

Computer Network   L D P [2-0-0]

Basic concepts of networking: Internet; network edge; network core; packet vs. circuit switching; delay, loss and throughput; protocol layers; network security, Application layer: basic principles of network applications; web and HTTP; Electronic Mail, DNS, Peer-to-Peer applications; Video streaming, content distribution networks, Transport layer: services of transport layer; multiplexing and demultiplexing; connectionless transport using UDP; principles of reliable data transfer; connection-oriented transport using TCP; principles of congestion control; TCP congestion control Network layer: overview of forwarding, routing and network service models; router in detail; internet protocol (IP), Ipv4 and IPv6 addressing; network address translation (NAT); forwarding in SDN; routing algorithms; OSPF; BGP; SDN control plane; ICMP protocol; Network management and SNMP protocol

Link layer: services of link layer; error-detection and correction techniques; multiple access links and protocols; switched local area networks; link virtualization; data center networking Wireless and mobile networks: wireless network characteristics; 802.11 wireless LANs, cellular internet access, mobility management, mobile IP Network security: cryptography; digital signatures; authentication protocols, secure e-mails, secure TCP connections; IPsec; VPNs; secure wireless LAN; Firewalls; Intrusion Detection Multimedia networking: types and properties of multimedia network applications; stored video streaming; voice-over-IP; RTP protocol; SIP protocol; Quality- of-Service (QoS).

Computer Organization and Architecture   L D P [2-0-0]

Introduction: Function and structure of a computer, Functional components of a computer, Interconnection of components, Performance of a computer. Number representation: fixed and floating-point number representation, IEEE standard for floating point representation. Instruction Set Architecture: Representation of Instructions: Machine instructions, Operands, Addressing modes, Instruction formats, Instruction sets: Register, bus and memory transfer, Instruction set architectures - CISC and RISC architectures. Processing Unit: Addition and subtraction of signed numbers, look ahead carry adders. Multiplication: Signed operand multiplication, Booths algorithm and array multiplier. Division and logic operations. Floating point arithmetic operation. Organization of a processor - Registers, ALU and Control unit, Data path in a CPU, Instruction cycle, Organization of a control unit - Operations of a control unit, Hardwired control unit, Microprogrammed control unit, Introduction to parallel processing systems, Flynn's classifications, pipeline processing, Instruction pipelining, pipeline stages and Pipeline hazards. Memory and Input/Output: Semiconductor memories, RAM Memory cells - SRAM and DRAM cells, Memory organization. Internal Organization of a memory chip, Organization of a memory unit, Cache memory, Mapping methods, Memory management unit, Virtual memory, Address translation, Hardware support for memory management. I/O and interrupts, Interrupt controlled I/O, and DMA controlled I/O.

Circuit Analysis and Synthesis   L D P [2-0-0]

Network Theorems: Review of Thevenin's theorem, Norton's theorem, Superposition theorem and Maximum power transfer theorem; Compensation theorem, Reciprocity theorem and Tellegen's theorem. Network Topology: Network graph, Tree, Co tree, Link, Cut set, Node incidence matrix, Loop incidence matrix, Cut set incidence matrix, Primitive

network, Bus impedance/admittance matrix, Branch impedance/admittance matrix, Loop impedance/admittance matrix. Transient Circuit Analysis: Natural response of series and parallel RL, RC and RLC circuits, Forced functions (unit step, impulse and ramp inputs) of series and parallel RL, RC and RLC circuits through Laplace method and Matlab Analysis. Two Port Networks: Open circuit impedance, Short circuit admittance, Hybrid parameters, Transmission parameters, Series and parallel connection of networks, T network & Π network representation. Network Synthesis: Positive real function and its properties, Hurwitz polynomials, Foster forms and Cauer forms.

Global Energy: Politics, Markets and Policy   L D P [1-0-0]

Overview of Energy Issues; Fundamentals of Energy Systems; brief history of Global Energy; Role of Technology in energy transformation; Stakeholders in Energy Regimes; Energy Economics; Oil politics in Middle-East; Geo-politics of Asian Energy: Russia, China, Koreas, India; Selected National Strategies: Japan, China, India, Australia; Future of Energy and SDGs.

Innovation and Entrepreneurship   L D P [1-0-0]

Introduction to Innovation & Entrepreneurship, Business environment, quality assessment tools, Forming the base of entrepreneurship, Strategy management and planning, Financial Management, Business Management: Empowering employees to satisfy customers, Handling Conflicts and changes, How to portray the project in front of investors, New ways of marketing, Government schemes for entrepreneurs.

Operating Systems   L D P [2-0-0]

Introduction to Operating Systems, Concept of batch-processing, multi-programming, time sharing, real time operations, Process Management : Scheduling, Threads, concept of semaphore, Process Synchronization, Deadlock; Memory management: partitioning, fragmentation, paging segmentation, swapping, virtual memory, demand paging, page size, page table, page replacement algorithms; File Management, disk , Protection and Security; Case Studies.

Probability and Statistics   L D P [2-0-0]

Probability: Sample Space, Dependent and Independent Events, Conditional Probability, Bayes' Rule, Random Variables and Probability, Distributions, Mathematical Expectation, Binomial Distributions, Poisson Distribution, Normal Distribution, Chi-Squared Distribution, Sampling Distributions and Data Descriptions, t- Distribution, F-Distribution, One-Sample Tests of Hypotheses.

Digital Signal Processing   L D P [2-0-0]

Analog to Digital Conversion: Sampling, Mathematical Modelling of the Sampling Process, Mathematical and Time-Frequency Diagram/Graphical Convolution Methods of Derivation of the Sampling Theorem for Low Pass Signals, Nyquist Rate of Sampling, Aliasing, Sampling Techniques: Ideal, Natural, Flat Top, Data Reconstruction: Ideal Reconstruction Filter. Digital to Analog Construction, Zero Order Hold, Low Pass Filter, Basics of DAC Sinc and its compensation. Transition from continuous-time to Discrete-time Frequency Domain Analysis: Discrete Time Fourier Transform, Discrete Fourier Series, Discrete Fourier Transform. Relation between the Discrete Fourier Transform of a finite set of samples and the continuous Fourier transform of the original signal. Sampling in Time and Frequency domain. Relation between the DFT and Circular convolution. Different windowing functions and their basic necessity. Convolution/Deconvolution techniques using DFT and otherwise overlap-add/save. Effect of interpolation and decimation on the frequency spectrum of discrete-time signals. Discrete Time Network Structures: Feedforward, Feedback, combination and lattice structures for implementing different transfer functions in the s- and z-domain

(esp). Frequency Response and Poles and Zeros of such structures. FIR and IIR transfer functions and structures. stability criteria and assessment of relative stability. FIR & IIR filter design: Linear Phase FIR filter design. Phase delay and Group delay concepts applied. Delay distortion in non-linear phase filters. Application of windowing functions to Filter design. Design of IIR filters from the corresponding continuous analog systems and transfer functions. Butterwort, elliptic etc filter design. All pass and minimum phase systems. Efficient Computation of the DFT: Efficient computation of DFT via FFT algorithm. In-Place computation, bit-reversal etc. Overview of Cooley-Tuckey, Vinograd etc Algorithms. Goertzel Algorithm for computation of DFT coefficients at selected frequencies it time permits. Basics of Spectrum Estimation: Windowed DFT averaged over several such windows of incoming signal over magnitude spectra of various windows. The reason and importance of windowing. Rectangular, triangular, Hamming, Hanning, Blackman-Harris etc. windows. PSD estimation. Basics of effects of coefficient quantization on output of FIR/IIR Structures: Error estimation, Stability Studies, Limit Cycles etc.

Microprocessor based System Design   L D P [1-0-2]

Introduction to microprocessors: Number system, what is computing systems and its applications? Components of a computer system, Types of memories and memory interfacing problems, what are registers and how they are implemented, basic internal architecture of a microprocessor processor, difference between microcontroller and microprocessor. Introduction to 8085 Microprocessor: Architecture, Pin diagram and its operation, quick discussion on instruction set and its use in assembly programming. Instruction classification: Assembly language instructions, Instruction data format and storage, How to write, assemble and execute a simple program, addressing modes, Counters, calculations of time delays, understanding stacks and subroutines. 8086 processor: Introduction to 8086 microprocessor, Architecture and pin diagram. Addressing modes. Instruction set of 8086: Data transfer and arithmetic instructions. Control/Branch Instructions, Illustration of these instructions with example programs. Logical Instructions, String manipulation instructions, Flag manipulation and Processor control instructions, Illustration of these instructions with example programs. Assembler Directives and Operators, Assembly Language Programming and example programs. Interrupts of 8085 and 8086: Memory interfacing, Memory address decoding, Memory banks, I/O address decoding. Interrupts of 8085, Interfacing of 8085 with RAM, ROM, 8255, 8254, 8279, 8259, 8251. Hands on experiment on designing simple applications using peripheral chips and 8085 and 8086 microprocessors. 8086 Bus Configuration and Timings: Physical memory Organization, General Bus operation cycle, I/O addressing capability, Special processor activities, Minimum mode 8086 system and Timing diagrams, Maximum and Minimum Mode 8086 system and Timing diagrams

Machine Learning   L D P [2-0-0]

Machine Learning basics: Overview and Types, Applications, Essential Libraries and Tools, Role of Statistics. Regression: Multi Linear and Logistic regression. Supervised Learning: Nearest neighbor classifiers, Support vector Machine – hard & soft margin, Gradient Descent (GD), Linear Regression using GD, Logistic Regression using GD, Decision Trees, Ensemble learning, Bagging, Boosting, Random Forest, Introduction to Neural Networks: Perceptron, Motivation of Neural Networks, Training and Learning using Tensor flow, Multi-Layer Perceptron (MLP), MLP as Approximator, Backpropagation, Artificial neural Network. Unsupervised Learning: Clustering and its Types, Clustering – K- Means, DBSCAN. Testing and validating: Performance, Cross validation. Dimensionality Reduction - Subset Selection, Principal Component Analysis..

Design and verification of digital circuits   L D P [1-0-2]

Modeling concepts. Levels of abstraction. Design methodologies. Basic concepts. Module, module header format. Lexical conventions: comments, identifiers, numbers, strings. Data types: nets, registers, vectors, arrays. Parameter

types. Operators. Operator types, precedence. Sequential and parallel blocks. Comparison of sequential and parallel blocks. Basic compiler directives. Behavioral modeling. Behavioral modeling blocks: always block, event-based timing control, branch statements, case, casex, casez. Procedural assignments: blocking and nonblocking. Data flow modeling. Assign statements. Delays. Implicit net declaration. Regular, implicit continuous assignment and net declaration delay. Logic statement implementation. The conditional operator. Gate level modeling. Gate types: and/or, buf/not gates, bufif/notif gates. Gate truth tables. Gate delays. Specify block. UDP. Ports. Port connection rules: by order and name. Switch level modeling. Primitives. Use of trireg. Testbench creation. Initial block. Delay-based timing control. System tasks. Monitoring a simulation. Looping constructs: while loop, for loop, repeat, forever loop. VCS simulation examples. VCD file fragment. Tasks and functions. Differences between tasks and functions. Behavioral and Structural implementation of logic circuits in verilog : Combinational Circuit Design, Multiplexers, Decoders, Encoders, Code Comparators, Adders, Subtractors, Multipliers, , Boolean function implementation using Verilog, Timing Analysis, Hazard Detection and Elimination, Synchronous Sequential Circuits Design, Mapping Algorithm, Synchronous StateMachines, ASM Charts, Asynchronous Sequential Circuit Design, Races, Multi-level minimization and optimization, Memory design.

Web Programming	**L D P [2-0-0]**

Introduction to Python: Installation and Working with Python, Understanding variables, basic Operators. Data Types: Declaring and using Numeric data types: int, float, complex, using string data type and string operations, defining list and list slicing, Use of Tuple data type, Program Flow Control: Conditional blocks and loops, loops using ranges, string, list and dictionaries. Loop manipulation using pass, continue, break and else. Functions, Modules and Packages, Lambda function. Numerical and Scientific computing and plotting with Python, Standard libraries. String, List and Dictionary Manipulations: Programming using string, list and dictionary. File Operations: Understanding read functions, read(), readline() and readlines(), Understanding write functions, write() and writelines(), Manipulating file pointer using seek Programming using file operations. Classes, Objects, Polymorphism, Operator Overloading, Inheritance, Exception Handling, Multithreading.

Program Curriculum

for

B. Tech. – Mechanical Engineering
[B. Tech. - ME]
10th BOS Meeting

17-February-2022

Preamble

Our objective at BML Munjal University [BMU] is to prepare ethical, knowledgeable and skilled individuals, who are employable and have the potential to lead their organizations to success in future. Efforts in this regard require, transformation of higher education by adopting innovative (and practically oriented) teaching, learning, and research environment that stands as equal among best global standards.

Recent developments in technology have changed the way of education at all levels. Higher education has also evolved considerably as technology has enabled, in terms of
 – Increased flexibility
 – Personalized learning experience
 – Freedom to aspire, approach, and achieve personal goals (learning paths) by choice.

Further, increasing presence of technology in education and industry, demands awareness regarding several inter-disciplinary practical applications of concepts/principles such as, Sustainable Development, Artificial Intelligence and Machine Learning, Data Analytics, Cloud Computing, Internet of Things, Robotics, Automation, etc.

Evolving education scenario has also sown seeds of doubt among students across the country, regarding quality and relevance of academic programs in context of their perceived (and available) career options, thus, leading to low academic motivation and limited career choices for uninitiated students. To address these concerns of the students, academic regulations recommend that curriculum for undergraduate degrees in engineering and technology must have reduced credits (contact hours), increased inter-disciplinary engagements, and be futuristic in approach, design, and delivery.

Considering above mentioned, we realize that the best way forward to achieve BMU's objectives is to design and deliver education programs which make best use of the available technologies to improve learning experience, thus, enhancing quality and employability of the students.

Accordingly, a new curriculum is being proposed for undergraduate courses offered by the School of Engineering and Technology at BMU. Philosophy behind the new curriculum, salient features, and program structures of B. Tech. programs offered are discussed below:

Philosophy of the New Curriculum

The following important aspects have been considered while designing the proposed curriculum:
- Vision of BMU
- Choice-based credit system
- Philosophy of regulatory bodies (AICTE model Curriculum – 2018 and National Education Policy - 2020)
- Use of available technologies and resources in a more efficient manner through a combination of different learning schemes, such as, Blended, Flip, Experiential, Skill based, Classroom, etc.
- Interdisciplinary and futuristic program curriculum with emphasis on sustainability, AI and machine learning, and automation, etc. all being necessary knowledge areas in the era of Industry 4.0

Some salient features of the proposed curriculum
- Fractional credit system *[Details in next section]*
- Option for branch change at the end of 1st semester
- Option for specializations in core programs
- Option for additional inter-disciplinary minor programs
- Provision of honor degree by earning 12 additional credits
- Multiple- entry-exit options
- Variety of courses (in different categories) to enable holistic learning and personal development opportunities *[Course category wise credit distribution is given on next page]*
- Separate pre-defined credits for core labs, seminar/case-studies, and major project
- Scope for teaching and learning through various modes, such as, Classroom teaching, MOOCs, Industry engagement, Certification and Training
- Practice schools [PS] to enable relevant industry exposure and practical (hands-on) experience in core areas of interest. PS - III in 6th semester [Duration: Full semester] will additionally provide students with career direction, entrepreneurial motivation, and enhanced understanding of choice of electives in Final year.

Fractional Credit system

Proposed curriculum makes use of what is called fractional credit system to enable delivery as per the design philosophy. The fractional credit system divides each semester into eight (08) segments of equal duration wherein each segment may be assigned ½ (0.5) credit equivalent [or remain unassigned]. Accordingly, course credits range from 0.5 to 4.0 [in multiples of 0.5, so course credits may be: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0].

Fractional credit scheme has been judiciously used to prepare course category wise credit distribution across semester, which has further been expanded to prepare program structure for all the programs offered to the incoming (2021-2025) batch of students, by School of Engineering and Technology at BMU *[Program structures are reported in next section]*

Some salient features and advantages of the Fractional credit system are as following:

– Scheduling and student contact hours across semester: Depending on course credits, any course may be scheduled to begin and end across different segments of the semester (continuous, non-continuous, or discrete segments), thus enabling scattered scheduling and promoting efficient use of resources and time.

– Scattered scheduling provides scope for incorporation of course delivery through industry professionals in the classrooms, who otherwise are typically not available for semester long engagements.

– Flexibility to incorporate range of courses enabling both breadth and depth of knowledge as per students' choice

– Scope for combining education, training and certification for earning credits, along with seamless inclusion of available quality online learning courses

– Enhanced scope for continuous assessment as course may complete in 1-2 segments also, leading to innovations in evaluation and grading process

– Enhanced scope for blended learning as student may come prepared to class using course material available online or provided by the course instructor. Hence, classrooms will become discussion rooms, teachers will play the role of mentors / local course coordinators [Thus, also addressing the issue of shortage of quality faculty]
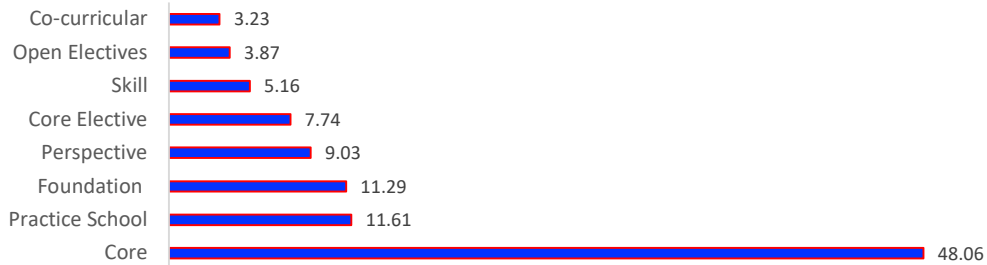
Scheduling of the 1st year courses explains the features, advantages, and practice of the fractional credit system. *[reported in later sections of this document].* Some highlights of the same are following:

– Joy of Engineering courses [06 (03+03) -credits], to be implemented across 2 semesters.

– Continuous scheduling of 01 and 02 credit courses [e.g. Communication Skills, Technical Report Writing]

– Different begin and end segments for different course, enabling regularization of contact hours for the students

– Multi-disciplinary and Multi-courses Project based learning

– Different credits and scheduling for program specific courses, course ranging from 0.5 to 04 credits

Curriculum - Course category-wise credit distribution	
Course Category	**Credits**

Perspective Courses	**14**
- School	- 14
Skill Courses	**8**
- School	- 6
- Department Specific	- 2
Foundation Courses	**17.5**
- School	- 8
- Program Specific	- 9.5
Core Courses	**74.5**
- Classroom	- 72.5
- Seminar / Case Studies	- 2
Core Elective Courses [Student Specific]	**12**
- Classroom	- 10
- Project	- 2
Open Elective Courses [Student Specific]	**6**
- Classroom / Lab	- 6
Practice School	**18**
- PS – I	- Audit
- PS – II	- 4
- PS – III	- 14
Co-Curricular	**5**
Program Total Credits	**155**

%age Credit Distribution among Different Course Categories

Category	Value
Co-curricular	3.23
Open Electives	3.87
Skill	5.16
Core Elective	7.74
Perspective	9.03
Foundation	11.29
Practice School	11.61
Core	48.06

2021-2025 Program Structure

Course category wise credit distribution across semesters

Semester	Course Category	Credits	
		Category	Semester
Sem – I	Co-Curricular	1	
	Perspective - School	3	
	Skill - School	2	20.5
	Foundation – School	8	
	Foundation - Program Specific	2	
	Core	4.5	
Sem – II	Co-Curricular	1	
	Perspective - School	5	
	Skill - School	2	18.5
	Foundation - Program Specific	3.5	
	Core	7	
ST-I	Practice School - I	Audit	-
Sem - III	Co-Curricular	1	
	Skill - School	2	20.5
	Foundation - Program Specific	4	
	Core - Classroom	13.5	
Sem - IV	Co-Curricular	1	
	Perspective - School	2	19
	Skill-Program Specific	2	
	Core -	14	
ST-II	Practice School – II	4	4
Audit	Audit course	Audit	-
Sem – V	Co-Curricular	1	
	Perspective - Student Specific	4	22.5
	Core	17.5	
Sem - VI	Practice School – III	14	14
Sem - VII	Core	16	
	Core Elective	2	20
	Open Elective	2	
Sem - VIII	Core	2	
	Core Elective	10	16
	Open Elective	4	

B. Tech. - Mechanical Engineering [ME]

Sem	Category	Sub-Category	Course Title	Credits	L-D-P
1	Co-Curricular			1	1-0-0
1	Perspective	School	Joy of Engineering-1	3	1-0-4
1	Skill	School	Engineering Ethics	1	1-0-0
1		School	Communication Skills	1	1-0-0
1	Foundation	School	Mathematics-1 (calculus & differential equation)	2	2-0-0
1		School	Physics for Engineers	2	1-0-2
1		School	Computer Programming	2	1-0-2
1		School	Introduction to Sensors, Actuators & IoT	2	1-0-2
		Program Specific	Matlab	2	1-0-2
1	Core	Program Specific	Engineering Graphics	2	1-0-2
1		Program Specific	Engineering Materials-1	2	2-0-0
1		Lab	Material Testing Lab-1	0.5	0-0-1
			Semester Total	**20.5**	
Sem	Category	Sub-Category	Course Title	Credits	L-D-P
2	Co-Curricular			1	1-0-0
2	Perspective	School	Joy of Engineering – II	3	1-0-4
2		School	Environmental Studies	2	2-0-0
2	Skill	School	Technical Report Writing	2	2-0-0
2	Foundation	Program Specific	Basics of Electrical Engineering	1	1-0-0
2		Program Specific	Basics of Electronics Engineering	1.5	2-0-0
2	Core	Program Specific	Elements of Manufacturing	1.5	2-0-0
2		Program Specific	Engineering Thermodynamics	2	2-0-0
2		Program Specific	Engineering Mechanics	3	2-1-0
2	Core	Lab	Manufacturing Lab-1	0.5	0-0-1
2	Foundation	Program Specific	Basics of Electrical Engineering Lab	0.5	0-0-1
2		Program Specific	Basics of Electronics Engineering Lab	0.5	0-0-1
			Semester Total	**18.5**	
ST1	Practice School		Practice School –I	Audit	

Sem	Category	Sub-Category	Course Title	Credits	L-D-P

Sem	Category	Sub-Category	Course Title	Credits	L-D-P
3	Co-Curricular			1	1-0-0
3	Skill	School	Etiquettes and Conversational Skills	2	2-0-0
3	Foundation	Program Specific	Mathematics-II (Probability & Statistics)	2	2-0-0
3		Program Specific	Data Structures and Algorithms	2	2-0-0
3	Core	Classroom	Strength of Materials-1	2	2-0-0
3		Classroom	Applied Engineering Thermodynamics	1.5	2-0-0
3		Classroom	Kinematics of Machines	2	2-0-0
3		Classroom	Computer Aided Design (CAD)	2	2-0-0
3		Classroom	Machine Drawing	2	2-0-0
3		Classroom	Fluid Mechanics	2	2-0-0
3	Core	Lab	Fluid Mechanics Lab	0.5	0-0-1
3		Lab	Kinematics of Machines Lab	0.5	0-0-1
3		Lab	CAD Lab	1	0-0-2
			Semester Total	**20.5**	
Sem	**Category**	**Sub-Category**	Course Title	**Credits**	**L-D-P**
4	Co-Curricular			1	1-0-0
4	Perspective	School	Global Energy: Politics, Markets and Policy	1	**1-0-0**
		School	Innovation and Entrepreneurship	1	1-0-0
	Skill	Program Specific	Magic in Mechanical Engg. – Product Development	2	0-1-2
	Core	Classroom	Dynamics of Machines	2	2-0-0
4		Classroom	Casting & welding of Metals	3	2-0-2
4		Classroom	Metrology & Measurements	2	2-0-0
4		Classroom	Strength of Materials-2	2	2-0-0
4		Classroom	Operations Research	2	2-0-0
4		Classroom	Fluid Machines	2	2-0-0
4	Core	Lab	Fluid Machines Lab	0.5	0-0-1
4		Lab	Dynamics of Machines Lab	0.5	0-0-1
			Semester Total	19	
			(Audit course) Python	**2**	**0-0-2**
ST1	Practice School		Practice School –II	4	

Sem	Category	Sub-Category	Course Title	Credits	L-D-P
5	Co-Curricular			1	1-0-0
5	Perspective	Student Specific	Seminar/ case study	2	2-0-0
		Student Specific	Perspective	2	2-0-0
	Core	Classroom	Machine Design-1	2	**2-0-0**
		Classroom	Machine Design-2	2	2-0-0
		Classroom	Industrial Engineering	2	2-0-0
		Classroom	Heat Transfer	2.5	3-0-0
5		Classroom	Metal Cutting & Forming	2	2-0-0
5		Classroom	Engineering Materials-2	1	2-0-0
5		Classroom	Internal Combustion Engines	1.5	2-0-0
5	Core	Lab	Finite Element Analysis Lab	1	0-0-2
5		Lab	Hydraulics & Pneumatics Lab	0.5	0-0-1
5		Lab	Thermal Engineering Lab	1	0-0-2
5		Lab	Manufacturing Lab-2	1.5	0-0-3
5		Lab	Material Testing Lab-2	0.5	0-0-1
			Semester Total	**22.5**	
Sem	Category	Sub-Category	**Course Title**	**Credits**	
6	Practice School		**Practice School-III**	**14**	
			Semester Total	**14**	
Sem	Category	Sub-Category	**Course Title**	**Credits**	L-D-P
7	Core	Classroom	Refrigeration & Air conditioning	3	3-0-0
7		Classroom	Hybrid & Electrical Automobiles	3	3-0-0
7		Classroom	Mechatronics	2	2-0-0
7		Classroom	Robotics	2	2-0-0
7		Classroom	Production Planning & Control	2	2-0-0
7		Classroom	Quality Control & Reliability	2	2-0-0
7		Classroom	Computer Aided Manufacturing	2	2-0-0
7	Core Elective	Classroom	Core Elective-1 (Specialization specific)	2	2-0-0
	Open Elective	Classroom	Open Elective-2	2	2-0-0

Sem	Category	Sub-Category	Course Title	Credits	L-D-P
			Semester Total	**20**	
Sem	Category	Sub-Category	**Course Title**	**Credits**	L-D-P
8	Core Elective	Classroom	Core Elective-1 (Specialization specific)	2	2-0-0
8		Classroom	Core Elective-2(Specialization specific)	2	2-0-0
8		Classroom	Core Elective-3(Specialization specific)	2	2-0-0
8		Classroom	Core Elective-4(Specialization specific)	2	2-0-0
8		Classroom	Core Elective-5(Specialization specific)	2	2-0-0
	Core		Automation with PLC	2	1-0-2
	Open Elective	Classroom	Open Elective-1	2	2-0-0
			Open Elective-2	2	2-0-0
			Semester Total	**16**	
			Program Total	**155**	

Course Baskets

[6]. Foundation Courses

School Courses	Credits	Program Specific Courses
Mathematics-1 (calculus & differential equation)	2	Matlab
Physics for Engineers	2	Basics of Electrical Engineering
Computer Programming	2	Basics of Electronics Engineering
Introduction to Sensors, Actuators & IoT	2	Basics of Electrical Engineering Lab
		Basics of Electronics Engineering Lab
		Mathematics-II (Probability & Statistics)
		Data Structures and Algorithms
		Advanced Computer Programming
		Analytical Chemistry
		Basic Electronics Engineering
		Complex Variable Analysis
		Data Structures and Algorithms
		Data Structures and Algorithms Lab
		Discrete Mathematics
		Inorganic Chemistry
		Instrumentation and Measurements
		Integral Transforms
		Linear Algebra
		Material Science
		Mechanics and Waves
		Modelling and Simulation
		Numerical Methods
		Operations Research
		Organic Chemistry
		Partial Differential Equations
		Physical Chemistry
		Probability and Statistics
		Python Programming
		Python Programming Lab
		Regression and Predictive Modelling
		Statistical Decision Theory
		Units and Measurements
		Web Programming

[2] **Skill Courses**

School Courses	Credits	Student Specific Courses
Engineering Ethics	1	Business Correspondence and Report Writing
Communication Skills	1	Cross Cultural Communication Skills
Technical Report Writing	2	Problem Solving and Consulting Skills
Etiquettes and Conversational Skills	2	Quantitative and Analytical Skills
		Resume Writing and Career Skills
		Selling, Negotiating and Persuading Skills
		Technical Communication
		Theatre Studies
		Writing Skills
		Magic in Mechanical Engineering-Product Development

[3] Perspective Courses

School Courses	Credits	Student Specific Courses
Joy of Engineering-1	3	Seminar/ case study
Joy of Engineering – II	3	Good Citizenry
Environmental Studies	2	Human Geography
Global Energy: Politics, Markets and Policy	1	Indian Political System
Innovation and Entrepreneurship	1	Intellectual Property Laws
		International Human Rights
		Living Arts and Literature
		Public Administration
		Right to Information
		Science, Technology and Public Policy
		Systems Approach
		World Civilizations
		Philosophy and Logic
		Principles of Management
		Understanding Business

[4] [Basic] Core Electives Courses

1   Additive Manufacturing

The department offers Major Specialization in following areas:

1. Automobile Engineering [AE]
2. Robotics & Automation [R&A]
3. Data Science and Artificial Intelligence [DS & AI]
4. Cyber Security [CS]
5. Internet of Things [IoT]

Course Baskets for Major Specialization (elective course baskets)

Automobile Engineering [AE]

1. Automotive Chassis and Suspension
2. Automotive Components and Assembly Drawing
3. Automotive Control Engineering
4. Automotive Electrical and Electronics System
5. Automotive Pollution Control and Alternative Fuels
6. Automotive Structures and Design
7. Automotive Transmission Systems
8. Battery Engineering
9. Vehicle Body Engineering and Aerodynamics
10. Vehicle Dynamics
11. Automotive Materials and Processes
12. Design for Manufacture
13. Design for Vehicle Safety
14. Design for Vehicle Comfort
15. Fuel Cells and Energy Storage

Robotics & Automation [R&A]

1. Drives and Control Systems for Robots
2. Human Machine Interface
3. Hydraulic and Pneumatic Systems
4. Industrial Automation
5. Kinematics and Dynamics of Robots
6. Mechatronic Systems Design
7. Advanced Robotics
8. Automation and Robotics
9. Electromechanical System Design
10. Digital System Design
11. Simulation of Operations
12. Control Theory

Data Science and Artificial Intelligence [DS & AI]

1. Audio and Speech Processing
2. Data Mining
3. Computer Vision
4. Deep Learning
5. Image Processing
6. Information Retrieval
7. Natural Language Processing and Text Analytics
8. Soft Computing
9. Advanced Machine Learning
10. Time Series Analysis
11. Modelling and Data processing for Biomedical Engineering
12. Data Visualization
13. Social Network Analysis
14. Pattern Recognition
15. R Programming
16. Robotics, Autonomy and Connected Systems
17. Interaction Design
18. Machine learning for modeling of dynamical system
19. Big Data Analytics

Cyber Security [CS]

1. Application Security testing
2. Cloud Security
3. Cyber Forensics
4. Vulnerability Assessment and Penetration Testing
5. Blockchain
6. Information Security
7. Malware Analysis
8. Network Security
9. Security Audit
10. Cyber security tools and cyber attacks
11. Hardware security
12. International cyber conflicts
13. Privacy and Security in social media
14. Threat Intelligence
15. Network Anonymity and Privacy
16. IoT Security
17. Cyber Laws and Governance
18. Secure Coding

Internet of Things [IoT]

1. Big Data Analytics
2. Cloud Computing and App Development
3. Embedded Systems and Architecture Programming
4. Embedded Testing
5. Information Security

The department offers Minor Specialization in following areas:

1. Computational Linguistics
2. Cyber Physical Systems
3. Computational Mathematics
4. Energy Harvesting and Storage
5. Functional English
6. Liberal Arts
7. Material Science
8. Nanotechnology
9. VLSI Design

Course Baskets for Minor Specialization (elective course baskets)

Minor Program: Computational Linguistics

1	Formal languages and automata theory
2	Grammar and Parsing
3	Text processing
4	Speech and Audio Processing
5	Lexical Semantics and Computational Discourse

Minor Program: Cyber Physical Systems

1	IT fundamentals of Cyber Physical Systems
2	Cyber Physical Systems: Modelling and Simulation
2	Embedded Hardware and Operating System
3	Web Connectivity and Security in Embedded System
4	Design and Analyze Secure Networked System
5	Real Time Cyber Threat Detection and Mitigation

Minor Program: Computational Mathematics

1	Advanced Numerical methods/ Numerical Linear Algebra
2	Computational Geometry
3	Design and Analysis of Experiments
4	Industrial Statistics
5	Mathematical Finance
6	Mathematical Modelling in Industry
7	Number Theory and Cryptography
8	Numerical solution of PDE's
9	Probability theory and Monte Carlo simulation
10	Time Series Analysis and Dynamical Modelling

Minor Program: Energy Harvesting and Storage

1	Biofuels
2	Characterization Techniques for Energy Materials and Devices
3	Fuel Cell, Li- ion Battery and Supercapacitors
4	Hydrogen Energy
5	Renewable and Non-renewable Energy

6   Solar Energy

Minor Program: Functional English

1	Critical Reasoning, Writing and Presentation
2	Culture and Civilization
3	Introduction to Theatre Studies
4	Landmarks in English Literature
5	Media Studies
6	Methodology Functional Language

Minor Program: Liberal Arts

1	Cultures of Computing
2	Geo-politics and Geo-economics
3	Indian Political System
4	Living Arts and Literature
5	Public Administration
6	Science, Technology and Public Policy

Minor Program: Material Science

1	Computational Materials Science
2	Energy Materials
3	Engineering Materials
4	Materials Characterization
5	Science and Engineering of Composite Materials
6	Science and Engineering of Light Weight materials for Transportation applications
7	Surface Engineering

Minor Program: Nanotechnology

1	Applications of Nanotechnology
2	Bio Nanomaterials
3	Computational Materials Science
4	Micro and Nano systems
5	Nano Metrology
6	Synthesis and Fabrication of Nano Materials

Minor Program: VLSI Design

1	Advanced VLSI Design
2	Analog CMOS Design
3	Design for Testability
4	Hardware Software Co-Design
5	IC Technology
6	Low Power CMOS VLSI Circuit Design
7	Micro-Electro-Mechanical Systems (MEMS)
8	RF Microelectronics
9	System on Chip Design
10	VLSI Digital Signal Processing System

Syllabus

of

B. Tech. - Mechanical Engineering

JOY OF MECHANICAL ENGINEERING-1	L	D	P	Credits
	1	0	4	3

COURSE CONTENTS

This course focuses on design for purpose, as well as opportunities to create innovative solutions to given theme problems. Develop Ideas and Design Concepts: The students will be allowed to work in teams to develop ideas and design concepts and propose solutions for specific theme-based projects. Product Development Process: Students will be given the space to creatively apply concepts of mechanical engineering like product design and development. The student will learn and apply brainstorming, estimation, sketching, sketch modelling, concept development, design aesthetics, detailed design, prototyping and manufacturing to carry out the projects. The course shall also provide a platform to develop written, visual, and oral communication. Themes Selection: The instructor will propose the themes for student projects. The themes are representing broad areas. Prototype and Fabrication: Students will work on at least one idea from each theme and in the fabrication stage they will work on anyone idea of their choice. Students have to ensure that their final choice of the project can demonstrate its functioning i.e. a working physical/mechanical prototype of product/software etc.

MATHEMATICS-1	L	D	P	Credits
	2	0	0	2

COURSE CONTENTS

Function of several variables, Partial derivatives, Applications of Partial derivatives in Maxima and Minima, Lagrange's method, Taylor's expansion for functions of two variables, Double and Triple Integrals, Cylindrical co-ordinates and Spherical polar co-ordinates

Exact differential equations, Applications of differential equations of first order, Ordinary differential equations of higher order, Second order linear differential equations with variable coefficients, method of variation of parameters.

PHYSICS FOR MECHANICAL ENGINEERS	L	D	P	Credits
	1	0	2	2

COURSE CONTENTS

Mechanics: Moment of Inertia, parallel axis theorem and perpendicular axis theorem, Moment of Inertia calculations of various rigid bodies, Rigid body rotation about a moving axis, conservation of angular momentum, gyroscope and its precession, centre of gravity, solving rigid body equilibrium problems, Stress strain elastic moduli (stress-strain diagram), elasticity and plasticity - Hooke's law - Relationship between three moduli of elasticity (qualitative), Poisson's ratio, Factors affecting elasticity.

Thermodynamics: Temperature and thermal equilibrium, Mechanisms of Heat Transfer, Thermal Conductivity, Heat Capacities, First Law of Thermodynamics, Second Law of Thermodynamics, Newton's law of cooling.

Solid State Physics: Space Lattice, unit cell and translation vectors; Miller indices, Simple and close-packed crystal structures with examples, Classification into metals, semiconductors and insulators, Hall effect.

MATLAB	L	D	P	Credits
	1	0	2	2

COURSE CONTENTS

The course is intended for students with no programming experience, provides the foundations of programming in MATLAB. The course includes working with variables and operators; matrices and vectors; conditional statements and loops; scripts, functions, and plots; file input-output, polynomials, differentiation, and integration. Projects on model-based design using Simulink.

COMPUTER PROGRAMMING	L	D	P	Credits
	1	0	2	2

COURSE CONTENTS

Syntax and semantics of programming languages, Functions of a compiler, Interpreted vs compiled code, Languages and translation, Data representation, Types, operators, variables, constants, Strings. Operators and expressions using arithmetic and relational operators, mixed operands, type conversion, logical operators, assignment operator, operator precedence and associativity; Designing the solution of a problem using Flow Charts, developing pseudo-code, Stepwise refinements, Workflow Control Constructs (using sequence, Selection, Repetition, Unconditional Branching). Sequence, Selection, Nested Branches, Iteration, Nested Loops. Methods: Parameter passing, Variable lifetime and scope, returning value, calling method. Composite Data Type: Defining, accessing the members, distinction between primitive and composite data types. Understanding arrays and array bounds, Single dimensional arrays, two-dimensional arrays, reading array elements. Some Basic Algorithms: Summation, counting, reverse, numeric operations, swapping, maximum, minimum, developing basic calculator, prime number, palindrome number, factorial of a number, Fibonacci series, even or odd numbers, simple array manipulation, operations on matrix.

INTRODUCTION TO SENSORS, ACTUATORS & IOT	L	D	P	Credits
	1	0	2	2

COURSE CONTENTS

Measurement errors: Gross and systematic errors, absolute and relative errors, Accuracy, precision and significant errors.

Introduction to various types of sensors, transducers: LDR, photo diodes, motion sensors, ultrasonic sensors, hall sensors, temperature, and humidity sensors, incremental encoder, accelerometer, etc.

Actuator: DC motors, Stepper motors, Servo motors, relay

Sensor signal conditioning: Basics and types of signal conditioning e.g., Analog signal conditioning (amplification, level shifting, voltage to current and current to voltage conversion, filtering)

Digital signal conditioning (noise removal, analog to digital conversion, isolation using opto-couplers)

Introduction to Internet of Things: Genesis internet of things (IoT), impact of IoT, and IoT challenges.

IoT network architecture and design: Drivers behind network architecture, comparing IoT architecture e.g., machine to machine (M2M) IOT architecture, IoT world forum standardize architecture, etc.

Layers of IoT architecture

Hands on working with Arduino, ESP8266/ Node-MCU platform and sensor interfacing, configuring ESP8266 as station, sever, client-server communication, remote device control using client server communication, etc.

Introduction to protocols such as HTTP, MQTT and implementation of MQTT protocol in controlling devices and data acquisition remotely.

ENGINEERING GRAPHICS	L	D	P	Credits
	1	0	2	2

COURSE CONTENTS

INTRODUCTION: Introduction to Engineering Drawing & Graphics, sheet sizes & layouts (ISO), line types with application, scales, drawing sheet sizes, title block, sheet markings, dimensioning and overview of projection types (orthographic, isometric, oblique & perspective projection)

Working with computer graphics: Overview of Computer Graphics, starting with auto cad, templets, menu-bar, drawing area, option buttons (drawing settings), command line area, draw commands(point, line, polyline, circle, circular arc, ellipse, elliptical arc, spline fit, spline cv, rectangle & polygon), modify commands (move, rotate, rim/ extend, erase, copy, mirror, chafer/ fillet, explode, stretch, scale, array & offset), layers (layering, Setting up and use of Layers, layers to create drawings and create, edit and use customized layers) & annotation commands (applying dimensions/ annotations to drawings), drawing settings (grid, snap-mode, ortho, polar tracking, object snap, iso-draft), dimension settings (edit/ modify dimension style: text size & style, arrow size & style, line types & thickness and setting other parameters of dimension text, dimension lines & extension lines) Printing documents to paper and to PDF using plot command.

Orthographic Projections: Principles of Orthographic Projections, Projections of Points, projection of lines (inclined to HP & VP); Projections of planes (inclined with planes); Projections of Regular Solids- Prism, Pyramid, Cylinder & Cone (inclined to both the Planes)

Isometric Projections: Draw Isometric views from orthographic views.

ENGINEERING MATERIALS-1	L	D	P	Credits
	2	0	0	1.5

COURSE CONTENTS

Metallic Crystal Structures: Introduction, Face-Centered-Cubic, Body-Centered-Cubic, Hexagonal-Closed-Packed, Density computations, Single and PolyCrystals; Imperfections: Introduction, Hume-Rothery rules, Vacancies and Self- interstitials, Impurities, Point, Linear, area and volume defects; Metallic systems: Introduction, Ferrous, Non-ferrous metals, alloys and metal matrix composites; Nano-structured alloys, Super alloys, Glassy alloys, High-

Entropy alloys: Processing (equilibrium solidification and rapid-solidification, thermo-mechanical processes, powder-metallurgy), Evolution of the microstructure, mechanical properties. Applications; Strengthening Mechanisms Dislocations: Grain refinement, Solid-solution strengthening, Strain hardening, Recovery-recrystallization-grain growth, Precipitation Hardening, Heat-treatment of non-ferrous alloys, Ageing; Failure of Metallic systems: Introduction, Fundamentals of fracture, Ductile, Brittle, DBTT, Stress-Strain curves for various metals, alloys and metal-matrix-composites, Super- alloys, Bulk-metallic glasses, Super plasticity, Creep; Corrosion: Introduction. Electro-chemical considerations, Forms of corrosion, Prevention of corrosion, Pilling-Bedworth ratio; Microstructural Characterization: Optical Microscopy, Scanning Electron Microscopy (SEM), Atomic Force Microscopy (AFM).

ELEMENTS OF MANUFACTURING	L	D	P	Credits
	2	0	0	1.5

COURSE CONTENTS

Introduction to Manufacturing: Definition, Necessity, 5Ms, Past, present and future trends of manufacturing (i.e. Industrial revolutions), Basic Manufacturing Types.

Metal Casting: Definition, Methods of Casting, Sand Casting, Types of patterns, pattern materials, pattern allowances and moulding materials, Solidification time, Casting Defects, Casting Applications.

Metal Forming: Definition, Cold and Hot working process, Introduction to metal forming process like Forging Rolling and Sheet metal working etc.

Metal Joining: Definition and various methods of Metal joining (permanent & temporary joining process), Welding, Introduction to Arc, SMAW, MIG, TIG, Gas & Resistance welding processes, Welding Defects, Introduction to advanced welding processes

Metal Cutting / Machining: Fundamentals of conventional machining processes, Machine Tools - Basics of Lathe, Milling, Drilling, Shaper & Planar, Grinding operations, Cutting tools & materials, Tool Life and Machinability calculations, Advances in machining processes

MANUFACTURING LAB-1	L	D	P	Credits
	0	0	1	0.5

COURSE CONTENTS

Machine Shop: Machine Shop: Facing, turning, Step turning, Taper turning, Drilling, Knurling, Threading, Surface finishing of job, Slot cutting via various Conventional Lathe, Milling, Drilling, Shaping machines

Sheet metal & Smithy shop: Introduction to Sheet metal, Box / Cylinder / Cone Preparation & Chisel preparation

Welding: Arc, Gas and TIG: Introduction of welding shop, Lap joint, Butt, Corner, T joint joints using various welding processes

Foundry/Injection Moulding: Casting of components of different, shape Mould & pouring, fettling & finishing & Injection Moulding for manufacturing of plastic components

Carpentry: T half joint, Cross lap joint, Jig saw and Band saw machine

MATERIAL TESTING LAB-1	L	D	P	Credits
	0	0	1	0.5

COURSE CONTENTS

Metallography: Polishing, Microstructural evolution of alloys (Optical microscopy, Scanning Electron Microscopy); Vickers hardness, Brinell Hardness, Rockwell Hardness, UTM, Charpy/ Izod tests; Fatigue testing; Fractography using Scanning Electron Microscopy

COMMUNICATION SKILLS	L	D	P	Credits
	1	0	0	1

COURSE CONTENTS

What is communication? Understanding the process/cycle of Communication; Verbal and Non-Verbal communication; Barriers of communication; Fundamentals of Effective Speaking1 (Style); Fundamentals of Effective Speaking 2 (Tone); Building Advanced Vocabulary; Effective Presentation Strategies /Dynamics of Professional Presentations; Techniques of Reading Comprehension; Basics/Techniques of writing.

ENGINEERING ETHICS	L	D	P	Credits
	1	0	0	1

COURSE CONTENTS

Ethical theories, Geo-engineering, bio-engineering, genetic engineering, environmental ethics, Kohlberg Theory, Heinz's Dilemma, Ethics and Programming, Ethics of Social Media platforms, Ethics of data collection and data sharing, Ethics and AI, Industrial Revolution 4.0, Future of AI and Technological unemployment.

JOY OF MECHANICAL ENGINEERING-2	L	D	P	Credits
	1	0	4	3

COURSE CONTENTS

This course focuses on design for purpose, as well as opportunities to create innovative solutions to given theme problems. Develop Ideas and Design Concepts: The students will be allowed to work in teams to develop ideas and design concepts and propose solutions for specific theme-based projects. Product Development Process: Students will be given the space to creatively apply concepts of mechanical engineering like product design and development. The student will learn and apply brainstorming, estimation, sketching, sketch modelling, concept development, design aesthetics, detailed design, prototyping and manufacturing to carry out the projects. The course shall also provide a platform to develop written, visual, and oral communication. Themes Selection: The

instructor will propose the themes for student projects. The themes are representing broad areas. Prototype and Fabrication: Students will work on at least one idea from each theme and in the fabrication stage they will work on anyone idea of their choice. Students have to ensure that their final choice of the project can demonstrate its functioning i.e. a working physical/mechanical prototype of product/software etc

BASICS OF ELECTRICAL ENGINEERING	L	D	P	Credits
	1	0	0	1

COURSE CONTENTS

Unit 1: Electrical circuit elements (R, L and C), Concept of active and passive elements, voltage and current sources, concept of linearity and linear network, unilateral and bilateral elements, Kirchhoff's laws, Loop and nodal methods of analysis, Star-delta transformation, Superposition theorem, Thevenin theorem, Norton theorem

Unit 2: Inductor and its design basics, transformer and its design basics

Unit 3: Bridges, PWM and S-PWM for controlling DC and AC motors, AC and DC motors and there controller design, methods of excitation, armature and field windings, emf equations in DC machines.

Unit 4: Single and three Phase Induction motor: Principle of operation and introduction to methods of starting, applications

Software platform used : MATLAB Simulink, PSIM

BASICS OF ELECTRONICS ENGINEERING	L	D	P	Credits
	2	0	0	1.5

COURSE CONTENTS

Unit 1: Diodes such as generic PN junction diode, Schottky diode, zener diode, etc and their application circuits. Bipolar junction transistor fundamental, its DC and switching applications, amplifiers. Filed effect transistors and their applications

Unit 2: Operational amplifier and their application circuits such as comparator, negative feedback amplifier, integrator, differentiator, summing amplifier. Passive and active filter design.

Unit 3: Ac to DC power supply design, voltage and current regulator design fundamentals, buck and boost converter fundamentals, SMPS supply design fundamentals.

Unit 4: Boolean Algebra, Logic gates & Karnaugh Map (K-MAP)

METROLOGY & MEASUREMENTS	L	D	P	Credits
	1	0	2	2

COURSE CONTENTS

SYSTEMS OF LIMITS AND FITS: Introduction, nominal size, tolerance, limits, deviations, fits, Unilateral and bilateral tolerance system, hole and shaft basis systems- interchangeability, deterministic & statistical tolerance, selective assembly. International standard system of tolerances, selection of limits and tolerances for correct functioning;

LINEAR MEASUREMENT: Length standards, end standards, slip gauges & their calibration, dial indicators & micrometers; Interferometry: Interference of light, Michelson's interferometer, NPL flatness interferometer, and NPL gauge interferometer Comparators: mechanical, optical, electrical and electronic, pneumatic comparators and their uses; Limit gauges: Taylor's principle – design of go and no-go gauges; plug, ring, snap, gap, taper, profile and position gauges; Optical measuring instruments: Tools maker's microscope, Vision Measuring System;

MEASUREMENT OF ANGLES AND TAPERS: Different methods – bevel protractor, angle slip gauges- angle Dekker- spirit levels- sine bar- sine table, rollers and spheres used to measure angles and tapers

SURFACE ROUGHNESS MEASUREMENT: Differences between surface roughness and surface waviness –Numerical assessment of surface finish-CLA, Rt., R.M.S. Rz, R10 values, Method of measurement of surface finish – Profilograph, Talysurf, ISI symbols for indication of surface finish;

FLATNESS MEASUREMENT: Measurement of flatness of surfaces- instruments used- straight edges- surface plates – auto collimator;

MACHINE TOOL ALIGNMENT TESTS: Principles of machine tool alignment testing on lathe, drilling and milling machines.

ENGINEERING THERMODYNAMICS	L	D	P	Credits
	2	0	0	2

COURSE CONTENTS

Basic concepts: Zeroth law of thermodynamics; Energy Interactions: displacement and various other types of work,

First law of Thermodynamics: first law different systems, Energy - a property of the system, different forms of stored energy, enthalpy, and first law applied to flow processes.

Second Law of Thermodynamics: Heat Engines, Refrigerators and Heat pumps, Various statements of 2nd law and their equivalence, Reversibility and irreversibility, Carnot Cycle, Carnot's theorem, Clausius inequality; Entropy: Definition, Principles of increase of entropy, calculation entropy for various processes; Available energy and availability: Helmholtz and Gibbs functions, availability in steady flow, entropy equation for flow processes, irreversibility.

Properties of Pure Substances: p-V, p-T, T-s and h-s diagrams for a pure substance, application to vapour power cycles, quality, Steam Tables and charts for thermodynamics properties, measurement of steam quality; Combined 1st and 2nd Laws: Maxwell relations, T-dS equations, Joule-Kelvin effect, Clausius-Clapeyron equation, Gibb's Phase rule and Conditions of stability.

ENGINEERING MECHANICS	L	D	P	Credits

2	1	0	3

COURSE CONTENTS

Statics: Introduction: Basic Concepts of Force, Moment and Couple; System of Coplanar forces, Equilibrium of Coplanar force systems, Free body diagrams and method of solution of engineering problems, Friction, Coulomb's Laws for dry friction, Coefficient of friction, Angle of friction, Belt friction and Screw Jack; Internal forces in Members of Trusses and Frames (Method of joints, Method of Sections) and Method of Members; Centroid: Theorems of Pappus, Moment of Inertia of plane figures, Polar Moment of Inertia and Product of Inertia; Principle of Virtual Work and application;

Dynamics: Kinetics of Rectilinear motion and Curvilinear motion of a particle - D'Alembert's Principle, Linear Momentum and Impulse, Moment of Momentum, Work and Energy, Impact; Rigid Body motion - Kinematics of rotation and plane motion Equation of motion of a Rotating rigid body.

BASICS OF ELECTRICAL ENGINEERING LAB	L	D	P	Credits
	0	0	1	0.5

COURSE CONTENTS

Design of inductance design and measurement

Design of bridges for controlling DC motor

Design of bridges for controlling AC motor

DC motor speed controller design and its speed measurement

AC motor speed controller design and its speed measurement

Induction motor controller design

BASICS OF ELECTRONICS ENGINEERING LAB	L	D	P	Credits
	0	0	1	0.5

COURSE CONTENTS

AC-DC power supply design using generic PN junction diode and testing

Voltage regulator design for a power supply and testing

Current regulator design for a power supply and testing

Variable voltage power supply design for a regulator and testing

Basic SMPS supply design and testing

Op-amp based filter design (low-pass, high-pass, etc.) and testing

Buck converter design and testing

Boost converter design and testing

TECHNICAL REPORT WRITING	L	D	P	Credits
	2	0	0	2

COURSE CONTENTS

What is Technical Communication; Difference between General and Technical Communication; Types of Motivation in writing Technical documents; Fundamentals of Effective Writing 1 (Style); Fundamentals of Effective Writing 2 (Tone); Building Advanced Vocabulary; Effective Writing Strategies; Office Correspondence; Memo, Agenda and Minutes of meeting, Circular and Notice; Writing a Technical Proposal; Fundamentals of Technical Report Writing; Writing a Technical Report; Dynamics of Professional Report Presentations.

ENVIRONMENTAL STUDIES	L	D	P	Credits
	2	0	0	2

COURSE CONTENTS

Introduction to Environmental Studies, Biodiversity, Ecological footprint, wetlands, Field trip to Yamuna Bio-diversity park, Food-chains, Alternate energy scenario in India, Water Pollution, Sewage treatment, Air pollution, CO_2 emission, Green-house effects, UNFCCC, Clean Air act, Global Warming, Environmental policy making, Race to bottom, Pollution Haven, Global South, Air pollution in emerging economies like India and China, Disaster Management, SDGs.

MATHEMATICS II (PROBABILITY & STATISTICS)	L	D	P	Credits
	2	0	0	2

COURSE CONTENTS

Eigenvalues and Eigenvectors of a real matrix, Characteristic polynomials, properties of eigen values, Diagonalization, Random Variables, discrete and continuous random variables, Probability distribution of continuation random variables, Mathematical Expectation, Variance, Mean/expected value of a random variable, Uniform, Normal distributions, Random sampling, Central limit theorem, confidence interval,

prediction interval and tolerance interval, testing of hypotheses, t- Distribution, F-Distribution.

DATA STRUCTURES AND ALGORITHMS	L	D	P	Credits
	2	0	0	2

COURSE CONTENTS

Introduction to the data structure, Motivation, need for data structures, understanding the role of data structures for efficient data processing, classification of data structures. Brief idea of algorithms, Asymptotic notations, the notion of time and space complexity. 1-D and 2-D arrays. Searching algorithms. Sorting algorithms. Conceptual understanding of Stack as a data structure, various operations. Applications. Conceptual understanding of Queue as a data structure, various operations. Applications. Introduction to Linked Lists - Singly, Doubly, Circular, Doubly circular linked list; Various operations on a linked list, Applications of linked lists. Review of recursion - Tower of Hanoi, Binary Tree and Binary Search Tree: various terms, representation using array and linked list; Various operations – insert, delete, tree traversal; Applications. Binary Heap, Heap sort, Balanced Binary Search Trees - AVL Tree, Operations. Applications. Graphs: Basic terminologies, modeling with graph, graph representation in computer; Various operations. Traversal, Applications, Concept of the hash function, Applications of hashing.

STRENGTH OF MATERIALS-1	L	D	P	Credits
	2	0	0	2

COURSE CONTENTS

Materials and Mechanics, Units and Dimensional analysis, Centroid, Area, Volume, Moment of inertia, Polar moment of inertia, Stress and deformation in solids, Stress and strain: Tension, compression, and shear stresses, stress-strain relations, Hooke's law, Poisson's ratio; Generalized presentation of stresses and strains in 3-D,Elastic constants (E, G, and K) and their relations, Ductile and brittle materials, Strain softening and hardening, Engineering stress-strain diagrams, Beams and types of beam supports; Simply supported, overhanging, and cantilever beams, Different types of loading on beams, (Longitudinal and) Transverse loading on beams, Loads: Distributed loads, Point loads, and Moments, Analysis of beams using (concepts and) equations of equilibrium, Theory of bending (Bending equation), Relation between shear force and bending moments, Shear force and bending moment diagrams for beams, Discussions: Displacements and rotations in beams, Discussions: Degrees of freedom and indeterminacy, indeterminate beams, compatibility equations, Torsion, Torsional members, Solid and hollow circular shafts, Stepped shafts, Stresses and deformation in circular shafts; Torsion equation and torsional rigidity, Power transmitted by shafts; Deflection of circular shafts fixed at both ends, Stresses on inclined plane, Combined shear and normal stresses, Principal planes and principal stresses, Mohr's circle

APPLIED ENGINEERING THERMODYNAMICS	L	D	P	Credits
	2	0	0	1.5

COURSE CONTENTS

Vapour Power Cycles: Properties of pure substance-Property diagram for phase - change processes, Carnot vapour cycle, Rankine cycle, Methods for improving the efficiency of Rankine cycle, Ideal Reheat and Regenerative cycles, Binary vapour cycles, Combined gas - vapour power cycles, Analysis of power cycles

Gas Power Cycles: Air standard cyc;es, Brayton cycle, Regenerative gas turbine cycle, Reheat gas turbine cycle, Ericsson cycle, Stirling cycle

Boilers: Types, Boiler functioning, Boiler mountings and accessories, Boiler draught,

Nozzles: Basics of compressible flow. Stagnation properties, Isentropic flow of a perfect gas through a nozzle, choked flow, subsonic and supersonic flows

Steam Turbines: Impulse and reaction turbines, Pressure and Velocity compounded turbines, Velocity diagrams for Impulse and reaction turbine

KINEMATICS OF MACHINES	L	D	P	Credits
	2	0	0	2

COURSE CONTENTS

Kinematic Joint, Type of Kinematic Joints, Elements or Links, Classification of Links, Kinematic Pair, Classification of Kinematic Pairs, Constrained Motion, Kinematic Chain, Mechanism, Types of Mechanisms, Mechanism and Machines, Degrees of Freedom, Degrees of Freedom of Planar Mechanisms, Planar Mechanisms with Lower Pairs Only, Four-Bar Chain, Grashof's Law, Crank–Crank (or Double Crank) Mechanism, Crank–Rocker (or Lever) Mechanism, Rocker–Rocker (or Double Rocker) Mechanism, Class-II Four-Bar Linkage, Inversion of Mechanisms, Inversions of a Four-Bar Chain, Determination of Link Velocities, Relative Velocity Method, Relative Velocity of Points in a Kinematic Link, Relative Angular Velocities, Relative Velocity of Points on the Same Link, Forces in a Mechanism, Mechanical Advantage, Four-Bar Mechanism, Slider–Crank Mechanism , Instantaneous Centre Method, Velocity of a Point on a Link, Properties of Instantaneous Centre, Number of Instantaneous Centres, Types of Instantaneous Centres, Location of Instantaneous Centres, Determination of Angular Velocity of a Link, Acceleration Diagrams, Total Acceleration of a Link, Acceleration of a Point on a Link, Absolute Acceleration for a Link, Acceleration Centre, Acceleration Diagram for Four-Bar Mechanism, Coriolis Acceleration, Classification of Cams, Types of Followers, Cam Nomenclature, Follower Motions, Simple Harmonic Motion, Motion with Uniform Acceleration and Deceleration, Motion with Uniform Velocity, Cycloidal Motion, Cam Profile with Knife-Edge Follower, Radial Knife-Edge Follower, Offset Knife-Edge Follower, Cam Profile with Roller Follower, Radial Roller Follower,, Offset Roller Follower, Tangent Cam with Roller Follower, Fundamental Law of Gearing, Sliding Velocity Between Gear Teeth , Gear Tooth Forms, Involute Tooth Profile, Cycloidal Tooth Profile, Involute Gear Tooth Action, Interference and Undercutting in Involute Gear Teeth, Minimum Number of Teeth, Gear Wheel, Pinion, Rack and Pinion, Gear Standardization, Effect of Centre Distance Variation on Velocity Ratio, Determination of Backlash,

Helical Gears, Comparison Between Spur and Helical Gears, Helical Gear Terminology, Angle Relationships in Helical Gears, Forces in Helical Gears, Parallel Helical Gears, Crossed Helical Gears, Herringbone Gears, Bevel Gears

COMPUTER AIDED DESIGN (CAD)	L	D	P	Credits
	2	0	0	2

COURSE CONTENTS

Introduction to CAD: Product life cycle management (PLM) & importance of CAD in PLM, basic architecture of CAD systems & its effective use in geometric modeling

Geometric transformations: 2-D & 3-D transformations

Geometric modeling: Introduction to Wireframe modeling, Surface modeling & Solid modeling with view & Control via sketch planes, geometric aid & manipulation tools

Wireframe modeling (Introduction, parametric & non-parametric formulation and application): Analytic type: Point, Straight lines, Arc, Circles, Ellipse, Parabola, hyperbola & Synthetic type: Hermite cubic spline, Bezier curves, B-spline curves & non-uniform rational B-splines

Surface modeling (analytical & synthetic): plane surface, ruled surface, surface of revolution, tabulated surface, Hermite Bi-cubic surface, Bezier surface, B-spline surface & COONS surface

Solid modeling: Boundary representation (BREP), Constructive solid geometry (CSG), Sweep representation, Primitive instancing, Cell decomposition & Analytical solid modeling

Data exchange standards: IGES, STEP & STL translators, preprocessors and postprocessors

MACHINE DRAWING	L	D	P	Credits
	1	0	2	2

COURSE CONTENTS

Introduction to Machine drawing: standard abbreviation – Limits, fits and Tolerance (Dimensional and Geometrical tolerance) and standard representations (symbols) of gears, shafts, bearings, nuts-bolts & joints.

Orthographic projections: orthographic and sectional views from isometric views of machine parts / components like coupling, crankshaft, pulley, piston, connecting rod, Cotter joint, Knuckle joint, Riveted Joint and Welded Joint.

Development of 2-D Assembly drawing using CAD software with bill of materials from given detailed drawings

Development of 3-D CAD model from the assembly drawings

FLUID MECHANICS	L	D	P	Credits
	2	0	0	2

COURSE CONTENTS

Fluid statics: Fluids and their properties, Pressure and its measurement: Manometers, Pressure gauges. Pressure on submerged plate, Plane & curved surfaces, Centre of pressure, Stability of floating bodies, Metacenter;

Fluid flow: Different types of fluid flows, steady and unsteady, uniform & non-uniform, laminar & turbulent flows, compressible & incompressible flows. Discharge & Mean velocity calculation. Fundamentals of flow visualization. Mass, Bernoulli & Energy equations;

Flow in pipes & ducts: Incompressible flow through ducts & pipes, Boundary layers, water hammer in pipes, Fluid friction in pipes & head losses;

Notches and Weirs: Introduction and their Classification, discharge over rectangular, triangular, trapezoidal notches, Numerical problems;

Fluid flow measurements: Pitot tube, Orifice meter, Venturi meter, hot wire anemometer.

FLUID MECHANICS LAB	L	D	P	Credits
	0	0	1	0.5

COURSE CONTENTS

Experimental validity of Bernoulli's equation; metacentric height of a floating body (i.e. a model of a ship) and to locate the position of center of buoyancy, metacenter and center of gravity; laminar, transient and fully turbulent pipe flows; determine the Reynolds numbers for various flows; Velocity of fluid flowing through a circular tube using a Pitot tube; discharge over different types of notches; impact of a water jet on vanes with different geometrical shapes; velocity of fluid flowing through a pipe using a venturi meter and an orifice meter.

KINEMATICS OF MACHINES LAB	L	D	P	Credits
	0	0	1	0.5

COURSE CONTENTS

To study various types of kinematics links, pairs, chains & Mechanisms.

To study of 4 Bar link Mechanisms, Single & double slider crank mechanism.

To study various types of inversions of four bar link mechanism.

To study various types of gear- Spur Gears, Helical Gears, Worm Gears.

5. To find out the angular displacement of various cam follower pairs. To plot the n-—Ө (follower displacement vs angle of cam rotation) curves for different cam follower pairs.

Motion simulation with links and joints.

CAD LAB	L	D	P	Credits
	0	0	2	1

COURSE CONTENTS

Introduction to CAD Software: Fusion 360/ NX/ Solid edge/ Solid works/ Autodesk Inventor

Working with SOLID modelling commands: create, modify, assemble, construct & inspect a CAD model

Working with SURFACE Modelling commands: create, modify, assemble, construct & inspect a CAD model

Working SHEET METAL Modelling commands: create, modify, assemble, construct & inspect a CAD model

Data exchange methods: conversion of CAD model into standard data exchange formats like IGES, STEP, STL & parasolid

ETIQUETTES AND CONVERSATIONAL SKILLS	L	D	P	Credits
	2	0	0	2

COURSE CONTENTS

Understand basic concepts about business communication, soft skills; attitude and team work; understand the communication cycle; organizational barriers, workplace etiquettes and grooming, Understand and apply phone etiquettes, and email etiquettes; understand and apply assertive communication and conflict management, Apply the concepts of workplace presentations and time management, Put together the notions of vocal varieties and visual aids in making presentations. Implement the time management grid. Understand and apply the strategies of drafting an effective resume and cover letter, Put into practice the concepts of interview skills and meetings. Practice to prepare business reports, Present proposals, status reports, and business plans..

DYNAMICS OF MACHINES	L	D	P	Credits

2	0	0	2

COURSE CONTENTS

Overview on Flywheel, working mechanism of flywheel, energy fluctuation in flywheel, numerical solution on flywheel, function of brakes, Working mechanism of shoe brake, band brake and differential band brake, numerical solution on brake, working mechanism of disc clutch, cone clutch, centrifugal clutch, numerical solution on clutch, Overview on dynamometers, working mechanisms of various dynamometers, numerical solution on dynamometers, Function of bearing, working mechanism of flat bearing, pivot bearing, collar bearing, numerical solution of bearings, Introduction to governors, Types of governors, watt governor, Proell, porter and hartnell governor working principle, important terms for designing of governor, numericsl solution of governors, Introduction to balancing, Rotational balancing, reciprocating balancing, numerical solution on balancing., Introduction to gyroscope, gyroscopic couple, gyroscopic effect on aeroplane, ships, numerical solution on gyroscopic effect, Introduction to vibration., frequency calculation for longitudinal, transverse and torsional vibration, damped and undamped vibration, vibration isolation techniques.

CASTING & WELDING OF METALS	L	D	P	Credits
	2	0	2	3

COURSE CONTENTS

Fundamentals of Metal Casting: Introduction, Solidification of metals, Fluid flow, fluidity of molten metal,

Heat transfer, Defects; Metal Casting Processes and Equipment: Introduction, Expendable-mold, Permanent pattern Casting Processes, Expendable-mold, Expendable-pattern Casting Processes, Permanent mold casting processes, Mold-less casting, Continuous Casting, Casting techniques for single crystal components, Rapid-solidification, Melting-practice and Furnaces, Foundries and Foundry- Automation; Metal Casting: Design, Materials: Introduction, Design considerations in casting, Casting alloys. Powder Metallurgical processes: Introduction, Production of metal powders; Compaction; Sintering; HIP, CIP. Fundamentals of Welding, brazing and soldering, different techniques, and welding defects; Heat-Affected-Zone. Metalcasting and Welding laboratory: Casting related Product development and manufacture: Project involves product conceptualization, design, computational analysis, process planning, pattern making, melting and casting. Welding of metals using MIG, TIG, Resistance welding followed by microstructural examination of the HAZ using metallographic techniques.

METROLOGY & MEASUREMENTS	L	D	P	Credits
	1	0	2	2

COURSE CONTENTS

SYSTEMS OF LIMITS AND FITS: Introduction, nominal size, tolerance, limits, deviations, fits, Unilateral and bilateral tolerance system, hole and shaft basis systems- interchangeability, deterministic & statistical tolerance, selective assembly. International standard system of tolerances, selection of limits and tolerances for correct functioning;

LINEAR MEASUREMENT: Length standards, end standards, slip gauges & their calibration, dial indicators & micrometers; Interferometry: Interference of light, Michelson's interferometer, NPL flatness interferometer, and NPL gauge interferometer Comparators: mechanical, optical, electrical and electronic, pneumatic comparators and their uses; Limit gauges: Taylor's principle – design of go and no-go gauges; plug, ring, snap, gap, taper, profile and position gauges; Optical measuring instruments: Tools maker's microscope, Vision Measuring System;

MEASUREMENT OF ANGLES AND TAPERS: Different methods – bevel protractor, angle slip gauges-angle Dekker- spirit levels- sine bar- sine table, rollers and spheres used to measure angles and tapers

SURFACE ROUGHNESS MEASUREMENT: Differences between surface roughness and surface waviness –Numerical assessment of surface finish-CLA, Rt., R.M.S. Rz, R10 values, Method of measurement of surface finish – Profilograph, Talysurf, ISI symbols for indication of surface finish

FLATNESS MEASUREMENT: Measurement of flatness of surfaces- instruments used- straight edges-surface plates – auto collimator

MACHINE TOOL ALIGNMENT TESTS: Principles of machine tool alignment testing on lathe, drilling and milling machines.

STRENGTH OF MATERIALS-2	L	D	P	Credits
	2	0	0	2

COURSE CONTENTS

Theory of bending of beams, bending stress distribution and neutral axis, shear stress distribution, point and distributed loads; Introduction to beam deflection, relation between slope, deflection and Radius of curvature: Double Integration Method, Macaulay's Method, Moment Area Method; Strain energy, Stress due to different types of loads, strain energy due to pure shearing, torsion, bending, Impact load, Deflection estimation using strain energy; Application to thin & thick cylinders, rotating discs, torsion of non-circular cross-sections, stress concentration problems. Euler's theory and Buckling of columns.

OPERATIONS RESEARCH	L	D	P	Credits
	2	0	0	2

COURSE CONTENTS

Introduction to Linear Programming, LP Model & graphical solution, Simplex Method, Artificial starting solution and special cases , Transportation Model, Assignment Problem, Gradient Based Methods – Introduction, Classical Optimization Theory, KKT Conditions: Constrained and Unconstrained

FLUID MACHINES	L	D	P	Credits

	2	0	0	2

COURSE CONTENTS

Introduction: Classification of Fluid Machinery, Impulse-momentum principle. Moment of momentum equation applied to hydraulic machinery, Euler's equation. Hydrodynamic force of jet on flat & curved surfaces (stationary as well as moving);

Impulse turbines: Principle of operation of impulse turbines and their construction, velocity triangles, calculation of power & efficiency. Pelton Wheel turbine;

Reaction Turbines: Principle of operation of reaction turbines. Francis and Kaplan turbines: construction and velocity triangles, calculation of power & efficiency, Degree of reaction, purpose of draft tube, meaning and cause of Cavitation in turbines, specific speed, Performance characteristic curves;

Hydraulic Pumps: Classification of pumps. Classifications of centrifugal pumps, impellor work, Specific speed, Cavitation. Reciprocating pumps, Slip, Indicator diagram. Differences between centrifugal and reciprocating pumps. Performance characteristic curves for pumps.

FLUID MACHINES LAB	L	D	P	Credits
	0	0	1	0.5

COURSE CONTENTS

Experimental validity of Bernoulli's equation; metacentric height of a floating body (i.e. a model of a ship) and to locate the position of center of buoyancy, metacenter and center of gravity; laminar, transient and fully turbulent pipe flows; determine the Reynolds numbers for various flows; Velocity of fluid flowing through a circular tube using a Pitot tube; discharge over different types of notches; impact of a water jet on vanes with different geometrical shapes; velocity of fluid flowing through a pipe using a venturi meter and an orifice meter.

DYNAMICS OF MACHINES LAB	L	D	P	Credits
	0	0	1	0.5

COURSE CONTENTS

To study the modes of vibration & to measure the frequency.

To determine gyroscopic couple on Motorized Gyroscope.

To balance the masses Statically & Dynamically of a simple rotating mass system. To observe the effect of unbalance in a rotating mass system.

To perform experiment on Watt Governors to prepare performance characteristic Curves.

To perform experiment on Porter Governors to prepare performance characteristic Curves

To perform experiment on Propel Governors to prepare performance characteristic Curves

To perform experiment on Hartnell Governors to prepare performance characteristic Curves

To measure epicyclic gear ratio & To measure input torque , holding torque & output torque.

To determine the radius of gyration K of a given Compound Pendulum . To verify the relation of Compound Pendulum

To determine the radius of gyration of given bar by using Bi Filer suspension

To study the Torsional Vibration of Single Rotor System

To study the longitudinal vibration of helical spring & to determine the frequency

    & time period of oscillation theoretically & actually.

GLOBAL ENERGY: POLITICS, MARKETS AND POLICY	L	D	P	Credits
	1	0	0	1

COURSE CONTENTS

Energy insights - General Energy Policy, Energy System Transformation – Energy and Sustainable Development, Energy Efficiency, Renewable energy, Energy Technology Innovation, Energy Security

INNOVATION AND ENTREPRENEURSHIP	L	D	P	Credits
	0	0	1	0.5

COURSE CONTENTS

Sharpen your problem pitch: Re-visit their opportunity, Re-validate their problem, Refine and Sharpen their Problem Pitch

Customer and Markets: Re-visit their opportunity, Re-validate their problem statement, Refine and Sharpen their Problem Pitch

Sustainable Differentiation Strategy: Craft your core value proposition, Create a Sustainable Differentiation Strategy, Deliver

Value that Differentiates you from competition

Milestone 1 Submission

Business Model and Testing Riskiest assumptions: Build and test their business model, Taking a decision to pivot or persevere

Identify the riskiest assumptions in their business model

Competition Analysis: Create / Iterate the Prototype, Conduct Customer Interviews, Analyse feedback - rank product features Build

 the MVP

Milestone 2 Submission

Creating a Sustainable Business Plan: Sales Plan, People Plan, Financial Plan & Unit Economics, Funding Plan, Identify Metrics that

matter

Go to market Strategy: Identify the appropriate GTM channels, Develop Channel Partners, Analyse the Market Penetration Strategy,

 Build the Digital Marketing Plan

Milestone 3 Submission

Managing growth and Targeting Scale : Devise a Growth Plan, Structure the Scaling Strategy, Customer acquisition; Enhancing

productivity, Process improvements, Operational excellence, Manage money

Funding Strategy: Create Sources and uses of Funds Statement, Map the Start-up Lifecycle to Funding Options, Create the Pitch

Deck

Milestone 4 Submission

MAGIC IN MECHANICAL ENGG. – PRODUCT DEVELOPMENT	L	D	P	CREDITS
	0	1	2	2

COURSE CONTENTS

This course focuses on design for purpose, as well as opportunities to create innovative solutions to given theme problems. Develop Ideas and Design Concepts: The students will be allowed to work in teams to develop ideas and design concepts and propose solutions for specific theme-based projects.

Product Development Process: Students will be engaged to creatively apply concepts of Engineering courses. The student will learn and apply brainstorming, estimation, sketching, sketch modelling, concept development, design aesthetics, detailed design, prototyping and manufacturing to carry out the projects. The course shall also provide a platform to develop written, visual, and oral communication.

Themes Selection: Students will work on any of the following themes:

Robotics

Mechatronics & Automation

Automobile

Refrigeration & Airconditioning

Additive Manufacturing

Prototype and Fabrication: Students will work on at least one idea from above themes. Students have to ensure that their final choice of the project can demonstrate its functioning i.e. a working physical/mechanical prototype of product.

Syllabus

for

Elective courses

10th BOS Meeting

17-February-2022

1. **Deep Learning**   **3 Credits**
2. **Cloud Computing**   **3 Credits**
3. **Big Data Analytics**   **3 Credits**
4. **Advance Data Science**   **3 Credits**
5. **Blockchain**   **3 Credits**
6. **Cyber security tools and cyber-attacks**   **3 Credits**
7. **Natural Language Processing and Text Analysis**   **3 Credits**
8. **Electric Vehicle Technology**   **3 Credits**
9. **Vehicle Body Engineering and Aerodynamics**   **3 Credits**
10. **Automotive Structures and Design**   **3 Credits**
11. **Drives and Control Systems for Robots**   **3 Credits**
12. **Introduction to Robotics**   **3 Credits**
13. **Industrial Automation**   **3 Credits**

Deep Learning

L D P [2-0-2]

Review of Machine Learning and Introduction to Deep Learning, Feed-Forward-Artificial-Neural-Network: Multi-Layered Perceptron – Optimization with Gradient Descent and Backpropagation; Variants of Gradient Descent – batch/minimatch/stochastic-gradient-descent (SGD), Momentum, RMSProp, Adam. Using deep learning libraries – introduction to Tensorflow and Keras, Convolutional Neural Networks (CNN) – solving Binary and Multi-class Image Classification, problems; Object Detection from Images – RCNN, YOLO, SSD; Image Segmentation – Semantic, Segmentation with UNET and Instance Segmentation with Mask-RCNN. Processing sequence data with Recurrent Neural Networks (RNN), LSTM, GRU with applications to text classification. Transfer Learning – Feature extraction and Fine-tuning; Data Augmentation, Attention-based models and Transformers with applications, Autoencoders and Generative Adversarial Networks (GAN), Applications of Deep Learning to Audio, Image and Text Processing, Deployment of the Deep Learning models on cloud.

Cloud Computing **L D P [2-0-2]**

Introduction to the world of cloud, benefits and security concerns, SaaS, Paas, Iaas, IDaas, cloud storage, capacity planning, cloud security, moving applications, cloud migration, Mobile web services in cloud.

Big Data Analytics **L D P [3-0-0]**

Introduction to Big Data and its types, Big Data technology Landscape, Life Cycle of Big data projects, Introduction to Hadoop, Hadoop Distributed File System (HDFS), Processing Data with Hadoop (MAPREDUCE), Working of Yet Another Resource Negotiator (YARN), Interacting with Hadoop Ecosystem, NoSQL databases, NewSQL, Machine Learning: Definitions and Types, Regression, Clustering, Collaborative Filtering, Association Rule Mining.

Advance Data Science **L D P [3-0-0]**

Introduction to Data Science: Introduction to Data Science concepts- Data pre-processing – data cleaning – handling missing values. Exploratory Data Analysis (EDA). Hypothesis Testing, Type I and Type II error, A/B Testing, Outlier detection Methods. Data Visualization: Importance of proper visualization, qualities of a great visualization. Data visualization toolkits - matplotlib, seaborn, interactive plot with plotly and cufflinks, geographical plotting with choropleth maps. Making sense of data with suitable plots like line plot, bar plot, histogram, Box plot. Applied Machine Learning, Supervised regression – Linear Regression, Multiple Linear Regression, Regularized Regression, Supervised classification – Logistic Regression, KNN, SVM, Decision Tree classifier, Ensemble techniques – Random Forest, Bagging, Boosting, Unsupervised techniques – K-means clustering, Fuzzy c-mean, Mean Shift, Mixture of Gaussians, Evaluating a Classification Model, Dimension reduction and Feature Engineering: Dimension reduction- PCA, Factor analysis, LDA, Cross validation, model overfitting, hyper-parameter tuning of a machine learning model and model persistence. Time Series Analysis: Introduction: Examples, simple descriptive techniques, trend, seasonality, the correlogram. Probability models for time series: stationarity. Moving average (MA), Autoregressive (AR), ARMA and ARIMA models. Auto correlation.

Blockchain   L D P [3-0-0]

Background leading to Blockchain, Mining Mechanism, Distributed Consensus, Merkle Patricia Tree, Gas Limit, Transactions and Fee, Anonymity, Reward, Chain Policy, Life of Blockchain application, Private and Public blockchain. The consensus problem - Asynchronous Byzantine Agreement - AAP protocol and its analysis - Nakamoto Consensus. Deep details of blockchain transaction ecosystem - hashing, Merkle tree, PoW etc. Crypto-currencies, wallets and crypto economy, Applications of Blockchain Ethereum - Ethereum Virtual Machine (EVM) - Wallets for Ethereum - Solidity - Smart Contracts, Basics of Solidity, Advanced Solidity, Deployment of Smart Contract, developing a DApp using Remix, developing a DApp using Truffle, Understanding and implementing frontend (html-css-js) and backend basics (cmd node.js). Introduction Hyperledger Fabric, Hyperledger Fabric architecture.

Cyber security tools and cyber-attacks   L D P [2-0-2]

Basics of Security: Confidentiality, Integrity, Availability, Non-repudiation, Privacy, Anonymity, Information Security, Cyber Security, Network Security. Essential Terminologies: Threats, Vulnerabilities & its types, Attacks, Exploits. Malware, Trojan, Virus, Worms. Types of Attacks: Denial-of-service (DoS) and distributed denial-of-service (DDoS) attacks, Botnets, Eavesdropping, Man-in-the-middle (MITM) attack, Phishing attacks, Password attack i.e. Brute Force Attack, Dictionary Attack, Key Logger Attack, Cross-site scripting (XSS) attack, SQL Injection attack, Types of SQL Injections. Pen testing Process: Planning and Reconnaissance, Scanning, Assessment, Exploitation, Reporting. Foot printing, Fingerprinting, Sniffing, ARP Poisoning, DNS Poisoning, Social Engineering. Introduction to Dark Web. Vulnerability assessment tools: OpenVAS, Wireshark, Aircrack-ng. Network Security: Pre-connection, Gaining attacks, post-connection attacks, Pen testing Routers, Bypassing Firewalls. Penetration Testing Wireless Networks: Network Mapping, WEP Attacks, WPA/WPA2 Network security controls for defence mechanism, DOS & DDOS Mitigation Network Défense - Tools, Secure protocols, Firewalls, types of firewalls, Intrusion Detection and filters (Host-Based IDS vs Network-Based IDS), VPN.

Natural Language Processing and Text Analysis   L D P [2-0-2]

Basic and Advance text pre-processing: Tokenization, Stemming, Spell Correction, etc. Vectorization: Distributional Semantics, Topic Models, Subword Models, Sentence encoders, Language Modelling: N-grams, smoothing techniques, RNNs. Morphology, Parts of Speech Tagging, NER. Lexical Semantics, Word Sense Disambiguation, Linguistic Structure: Dependency Parsing. Information Extraction: Relation Extraction, Event Extraction, Contextual Word Representations, Text Classification, Sentiment Analysis, Opinion Mining, Summarization, Question Answering, Machine Translation (Seq2Seq models and Transformers), Tools for text analytics – Spacy, NLTK, Keras, and Tensorflow.

Electric Vehicle Technology   L D P [2-1-0]

Overview on the past, present and future of EVs, and reveals the essential engineering philosophy of EVs, state-of-the-art EVs and HEVs, The variations in EV configurations due to fixed and variable gearing, single- and multiple-motor drives and in-wheel drives, the variations in HEV configurations and the corresponding power flow control, Electric propulsion systems for modern EVs. In-depth discussions of dc motor drives, induction motor drives, permanent-magnet motor drives and switched reluctance motor drives for electric propulsion, Different types of energy sources for EVs, including batteries, fuel cells, ultracapacitors and ultrahigh-speed flywheels. Their operating principles, unique features and potentialities are discussed and evaluated, Various auxiliaries for modern EVs, including battery chargers, battery indicators, energy management systems, temperature control units, power steering units, auxiliary power supplies, navigation systems and regenerative braking systems, Concept of system level simulation for EVs, EV simulator, the deductions of optimal transmission ratio, optimal system voltage and optimal hybridization ratio, EV infrastructure, for the commercialization and popularisation of EVs. It includes the discussions on domestic charging infrastructure, public charging infrastructure, standardization, The energy, environment and economy (EEE) benefits resulting from the implementation of EVs, Final Vehicle Fabrication.

Vehicle Body Engineering and Aerodynamics   L D P [2-0-2]

Interface with Styling: Engineering inputs for styling, Surface quality parameters, Design of B class surfaces, Design of interfaces
Manufacturing Considerations: Polymers and molding analysis, Metallic materials for body design and manufacturing considerations, Welding considerations
Design Validation Processes: FEA, Vibration Analysis, Aerodynamic analysis and wind, water and mud management, Ergonomics, Fit and finish
Fixture Concepts: Fixture planning and match mapping diagram, Fastener selection and design, Fixture planning and match mapping diagram, Fastener selection and design

Automotive Structures and Design   L D P [2-0-2]

Philosophy of automobile design and user-designer interface: Introduction to design, Meaning in use, meaning in language and the science of emotions, Emotions and engineering parameters for automobiles, Engineering design for automobiles

Strategies: Platforms, platforming strategy and case studies, Automobile architecture, architectural strategy and case studies

Conceptualization: Market research and product brief, Concept finalization, Skeleton layout, Mule, Sketch and clay, Development process at a glance, Automobile structures

Testing concepts: Performance and emission measurement, Drivability testing, Homologation testing

Drives and Control Systems for Robots   L D P [1-0-4]

Robot drive mechanism: Objectives, motivation, open loop control, closed loop control with velocity and position feedback, Types of drive systems. Functions of drive system. Lead Screws, Ball Screws, Chain & linkage drives, Belt drives, Gear drives, Precision gear boxes, Harmonic drives, Cyclo speed reducers.

Hydraulic drives: Introduction, Requirements, Hydraulic piston and transfer valve, hydraulic circuit incorporating control amplifier, hydraulic fluid considerations, hydraulic actuators Rotary and linear actuators. Hydraulic components in robots.

Pneumatic drives: Introduction, Advantages, pistons-Linear Pistons, Rotary pistons, Motors-Flapper motor, Geared motor, Components used in pneumatic control. Pneumatic proportional controller pneumatically controlled prismatic joint.

Electric drives: Introduction, Types, DC electric motor, AC electric motor, stepper motors, half step mode operation, micro step mode. Types of stepper motors, Direct drive actuator.

Servo systems for robot control: General aspects of robot control. Basic control techniques, mathematical modeling of robot servos, error responses and steady state errors in robot servos, feedback and feed forward compensations, hydraulic position servo, computer-controlled servo system for robot applications, selection of robot drive systems.

Introduction to Robotics   L D P [1-0-4]

Historical evolution of robotics, Robot mechanical system (links, bearings, shafts, gearboxes, grippers), Robot kinematics: joint and Cartesian space, homogenous transformation, frames and standard names, Denavit-Hartenberg notation, direct and inverse kinematics solution, Euler angels, Jacobian matrix and velocity transformation. Robot trajectory planning in joint and Cartesian space, Robot dynamics: Euler-Lagrange formulation, joint and Cartesian forces., Robot power system (electrical, pneumatic and hydraulic motors)., Robot measuring system. Internal sensing (position, velocity, acceleration, force) and external robot sensing (proximity sensors, range finders, tactile sensors, vision), Programming of Robots in KRL at Siemens CoE: Smart Pad- Robot HMI; Robot Safety - Internal & External; Axis Specific Motion & Cartesian Coordinate System; Robot Stop Reactions; Mastering Principle & Loads on the Robot; Tool & Base Calibration; Singularity, Introduction To Robot Programming; Working with Program Files; Working with Logic Functions & Variables

Industrial Automation   L D P [1-1-2]

Introduction to Automation, Introduction, Architecture of industrial controllers and their Different Modules, PLC Wiring, Memory mapping (IO addressing), Connection (communicate), monitoring the Process, Digital and Analog Addressing, Troubleshooting, Selection of controller, Interconnection (communication with peripheral) & Communication Standards & Protocols and NO/NC Concept.

Working with TIA portal: communication & upload- download a ladder logic program, write ladder logics for PLC and monitor the process on screen, Electrical circuits and ladder logics for: logic gates, Relays and its types, Latching and unlatching ideology, Push-buttons, DOL, Forward reverse (RDOL), Control Circuits Using Contactors, Relays, Timers Etc.-Starter for 3 Phase Motors, Hydraulic and Pneumatic Systems

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Annexure-25

Revision in the pre-Ph.D coursework of Ph.D Students, SoET

17th Meeting of Academic Council
BML Munjal University, Gurugram

Annexure – VI /BOS Meeting

Syllabus

for

Ph.D. courses

10th BOS Meeting

17-February-2022

1. **Theoretical Techniques for Quantum Chemical Computations**   **4 Credits**
2. **Semiconductor Photocatalysis for Water Remediation**   **2 Credits**
3. **X-Ray: Technology, Technique, Diffraction and Analysis**   **4 Credits**
4. **A Hands-on Introduction to Engineering Simulations**   **4 Credits**
5. **Neural Networks and Machine Learning**   **4 Credits**
6. **Numerical solutions of differential equations**   **4 Credits**
7. **Advanced Power Electronics Circuits, Devices and Applications**   **4 Credits**
8. **Advanced Embedded Systems and IoT Application**   **4 Credits**

Theoretical Techniques for Quantum Chemical Computations   **L D P [3 - 0 - 2]**

Course Content:

Overview of Basic Quantum Chemistry:

Introduction; Operators; Eigenvalues; Time-dependent Schrödinger equation; Particle in a box; Variation and perturbation methods; Born-Oppenheimer approximation.

Molecular Mechanics:

Fundamentals; Potential energy functions; Force fields; Electrostatic interactions; van der Waals interactions; Geometry optimization; Energy minimization methods.

Simulation Methods:

An introduction; Overview of Molecular Dynamics and Monte Carlo simulations; Introduction to application of simulation methods to explore bio-macromolecules; Brief on conformational analysis; Basic hands-on experiences on simulating bio-molecules (like protein, DNA, lipids) using academic and/or commercially available simulation packages (depending on availability of resources).

Overview of Molecular Orbital (MO) Theory:

Trial wave functions; Hückel MO theory; Hartree-Fock (HF) theory; MO-LCAO formalism.

Semiempirical Implementation of MO Theory:

Extended Hückel theory; CNDO, INDO and NDDO formalisms; Ongoing developments; Computation of electronic structures; Hands-on experience in running semiempirical jobs and extracting various molecular properties using academic and/or commercially available quantum chemical packages (depending on availability of resources).

Ab Initio Hartree-Fock Theory:

Review of HF equation and variational principle; Basis sets; Practical issues; Electron correlation techniques; Configuration Integration; Geometry optimization; Electric dipole moment; Electric polarizability and Hyperpolarizability; Hands-on experience in running jobs to explore electronic structure of molecules using quantum chemical packages (depending on availability of resources).

Overview of Density Functional Theory (DFT):

Introduction; Hohenberg-Kohn theorem; Kohn-Sham theory; Exchange-correlation functionals; Advantages and disadvantages of DFT compared to MO theory; Computing electronic structure; Hands-on experience in running DFT jobs using quantum chemical packages (depending on availability of resources); Comparison of performances of various methods.

Semiconductor Photocatalysis for Water Remediation   **L D P [2 - 0 - 0]**

Course Content:

Periodic structure and symmetry of crystals, Chemical bonding, Phonons, Free electron Theory, KP model, Bloch theorem and band structure, Semiconductors physics, Effective mass, Concept of Holes, Pseudo-potential, intrinsic and extrinsic semiconductors, Band gap, Carrier concentration and Fermi level of intrinsic and extrinsic semiconductor, conductivity

and carrier mobility in semiconductor, Fermi level, fermi level with doping and temperature, generation, recombination and injection of carriers, basic governing equations in semiconductors-Poisson's equation, Electron hole recombination and traps, Measurement technique of recombination, Band gap of semiconductor (Four probe measurement and optical band gap from DRS), Advance oxidation processes, Principle of Photocatalysis, Factors affecting photocatalysis, Quantum confinement

X-Ray: Technology, Technique, Diffraction and Analysis   **L D P [2 - 1 - 2]**

Course Content:

Properties of X-Rays: Radiography, X ray invention, Basics of X-ray Production and Detection, Characteristic spectrum, Moseley's law, X ray absorption, Filters, Filter design, X-Ray tubes, Safety precautions while working with X Rays.

Principal of X-ray diffraction: Crystallography, Miller planes, Millar directions, study of important material and their crystal structure, Bragg's law (scalar, vector), Necessity of reciprocal lattice, Introduction of stereographic projection and zone axis, Nobel prizes during the journey from X rays to X Ray diffraction

Diffraction Methods and Diffractometer: Powder diffraction (Hull/ Debye-Scherrer method), Debye Scherrer Camera/Diffractometer, Bragg-Brentano geometry (flat plat), monochromator, Diffractometer-theta-theta and Theta-two theta geometry, XRD-lab demonstration

Analysis: Study of x ray diffraction pattern, Intensity of diffraction peaks, Raw data versus reduced/analysed data, Determination of crystal structure, precise lattice parameter determination, crystal quality-stress calculation by XRD, Phase determination, Order-Disorder Transformation, phase analysis-qualitative, quantitative, Texture analysis, Size Determination, Refinement using PowderX software to determine lattice constant of a given material, Peak fitting using Origin to determine particle size in a given material.

Applications: (i) X-Ray Photoelectron Spectroscopy (XPS): Basic principle and theory, (photoelectric effect, Photoionization cross-sections, Line shapes and fine structure, Chemical shift, Inelastic Scattering and sampling depth), Basic requirements for XPS, Analysis of data and depth profiling, (ii) Energy Dispersive X-ray Spectroscopy (EDS): Principle and analysis

A Hands-on Introduction to Engineering Simulations   **L D P [1 - 1 - 4]**

Course Content:

- Static structural analysis using FEM
- Dynamic Analysis of Structures using FEM
- Simulation techniques for Thermal and thermo-mechanical analysis
- Simulation using computational fluid dynamics
- Simulation Techniques for Fluid structure interaction

Neural Networks and Machine Learning   **L D P [3 - 0 - 2]**

Course Content:

Introduction to Artificial Neural Networks – Perceptron and MLP, Training a neural network–Back-propagation, Optimization - Gradient Descent and its variants, Recurrent

Neural Networks, LSTM, Autoencoders, Physics informed neural networks (PINN), Convolutional Neural Network. Introduction to Machine Learning and Key Concepts such as Sampling, Bias-Variance, Decision Boundary, Over and Under fitting of models, Cost sensitive model development, Inductive Bias and Parameter estimation. Bayesian Learning: Basics of Probability, Generative vs Discriminative Models, Parameter Estimation, Maximum Likelihood Estimation, Bayes Rule, Maximum a Posteriori (MAP).Supervised Learning: Nearest Neighbour, Random Forest, Support Vector Machine, Logistic Regression, Linear and non-linear regression, Decision Tree. Unsupervised learning – K-means, Principal Component Analysis, Hierarchical Clustering, Hidden Markov Model. Reinforcement Learning. Model Selection: Accuracy, Confidence Intervals, Confusion Matrix, Hyper-parameter tuning, Cross Validation, AUC-ROC

Numerical solutions of differential equations   L D P [4 -0 -0]

Course Content:

Rate of convergence, Algorithms, Errors: Relative, Absolute, Round off, Truncation. Approximations in Scientific computing, Error propagation, stability and accuracy, computer arithmetic MATLAB software and libraries, visualization. Numerical solution ordinary differential equations; Taylor's series method, Euler's method, Single-step methods, Runge-Kutta methods, multi-step methods. Introduction to well posed PDE, Classification, Finite Difference representation of derivatives, Split operator methods. Multilevel difference schemes. Parabolic PDEs; Parabolic equations in 1-D, Explicit and implicit finite difference schemes, Crank-Nicolson implicit method, Fourier stability methods, Truncation errors, convergence and consistency, Stability analysis: matrix method, maximum principle, energy method, Maximum principle and convergence, Lax equivalence theorem, Parabolic equations in 2-D, explicit methods, ADI methods. Elliptic PDEs; Basic finite difference schemes, Direct factorization methods and Successive over relaxation (S.O.R.) and ADI method. Hyperbolic PDES: wave equation, Finite difference explicit and implicit schemes, Stability analysis, Method of characteristics and their significance, CFL condition and Fourier analysis, Upwind scheme, Lax-Wendroff scheme.

Advanced Power Electronics Circuits, Devices and Applications   L D P [2 - 0 - 4]

Course Content:

Power Transistors: Power MOSFETs, Steady-State Characteristics, Switching Characteristics and Applications, MOSFET Gate Drives, Gate Drive ICs, Drive IC for Converters. DC–DC Converters: Introduction, Performance Parameters of DC–DC Converters, Principle of Step-Down Operation, Generation of Duty Cycle, Step-Down Converter with RL Load, Principle of step-up Operation, step-up Converter With a Resistive Load, Frequency Limiting Parameters, Converter Classification, Switching-Mode Regulators, Buck Regulators, Boost Regulators, Buck–Boost Regulators, Cúk Regulators, Pulse Width Modulation Techniques: PWM Principle, Classifications.

Sensor-less Vector Control: Speed Estimation methods, Slip Calculation, Direct Synthesis from State Equations, Model Referencing Adaptive System (MRAS), Speed Adaptive Flux Observer (Luenberger Observer), Extended Kalman Filter (EKF), Adaptive Control, Model Referencing Adaptive Control (MRAC), Sliding Mode Control, Sliding Trajectory Control of a vector device.

Introduction to Renewable Energy: Introduction, Energy and Power, Renewable Energy Generation System, Solar Energy Systems, Solar Energy, Photovoltaic, Photovoltaic Cells, PV Models, Photovoltaic Systems, Power Curve, Solar Cell and its function, Solar Technologies, Solar Cell Parameters, Efficiency of Solar Cell, Solar PV Module, Rating of Solar PV Module, PV Module Parameters, Efficiency of PV Module, Measuring Module Parameters, Connection of PV Module in Series and Parallel, Estimation and Measurement of PV Module Power, Selection of PV Module, Types of Solar PV System, Design methodology for SPV system, Maximum Power Point Tracking, Specification of Inverter and charger. Different Maximum Power Point Tracking Algorithms like perturb and observe, incremental conductance, Ripple correlation control etc. and their comparison.

Advanced Embedded Systems and IoT Application   **L D P [2 - 0 - 4]**

Course Content:

- "Internet of Things" and the technological trends which have led to IoT, impact of IoT on society, what an embedded system is in terms of its interface, components of an embedded system, interactions of embedded systems with the physical world, hardware components most commonly used in IoT devices, interaction between software and hardware in an IoT device, role of an operating system to support software in an IoT device.

- Outline of composition of the Arduino development board, programming of Arduino board's firmware, board schematics, Installation of Arduino IDE, what "shields" are and how they are used, role of libraries in the use of shields, different types of sensors and how to connect them to the Arduino, uses of continuous or analog signals and the hardware is digital you will learn how these signals are converted back-and-forth and how this must be considered as you program your device.

- Basics of the C programming language which will be used to write code for the Arduino, basic syntax, variables, and types, conditional statements (if, switch) and loops (while, for) etc., concept of functions and how to define and call functions, creation and use of global variables, the composition of an Arduino program, or sketch, and the process by which it is compiled and uploaded, introduction on debugging embedded software on an Arduino, how to use the UART communication protocol to gain controllability and observability. Serial library to communicate with the Arduino through the serial monitor.

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Annexure-26

MoM: BOS
School of Engineering and Technology

17th Meeting of Academic Council
BML Munjal University, Gurugram

SCHOOL OF ENGINEERING AND TECHNOLOGY

Minutes of the Meeting

10th Board of Studies [BoS] Meeting

17th February 2022

10th Board of Studies Meeting
School of Engineering and Technology
2:00 PM - 04:00 PM, Thursday, 17th February 2022

Agenda

Sr. No.	Agenda Item	Remarks	Time
1.	Joining the Meeting	All members	2:00 PM
2.	Introduction and Opening Remarks	Prof. Anirban Chakraborti Chairman, BoS	2:00 to 2:05 PM
3.	Confirmation of the Minutes of 9th BoS Meeting.	Prof. Anirban Chakraborti Dean, SoET & Chairman, BoS	2:05 to 2:10 PM
4.	Approval of new B.Sc. Programmes (Mathematics and Computer Science)	Prof. Akhlaq Husain, Prof. Soharab Hossain	2:10 to 2:40 PM
5.	Approval of syllabus for 2nd year B.Tech CSE, Ecomp and ME.	Prof. Yogesh Gupta Prof. Anubhav Agarwal Prof. Neeraj Sharma	2:40 to 3:10 PM
6.	Approval of syllabus for minor Degree Programmes.	Prof. Sridharbabu Prof. Neeraj Sharma	3:10 to 3:30 PM
7.	Approval of syllabus for Elective, Open Elective and Ph.D. Courses	Prof. Yogesh Gupta, Prof. Neeraj Sharma Prof. Ashok Suhag Prof. Tabish Rasheed	3:30 to 3:50 PM
8	- Ratification of PS-III Shifted from VI Sem to VIII Sem for 2019 Batch. - Ratification for 15 credits to award minor degree due to inadvertent omission in 7th BoS MoM.	Prof. Anirban Chakraborti Chairman, BoS	3:50 to 3:55 PM
9	- Any other Items (with Permission of the Chairman) - Recommendation and Concluding Remarks	Chairman, BoS	3:55 to 4:00 PM

The 10ᵗʰ meeting of the Board of Studies of School of Engineering and Technology was held on Thursday, February 17, 2022. The meeting was conducted online using the "Google Meet" platform.

Members of the Board of Studies of School of Engineering and Technology are as following:

Chairman

Name	Designation	Email ID
Prof. Anirban Chakraborti	Dean, SoET	anirban.chakraborti@bmu.edu.in

External Members

Name	Designation	Email ID
Prof. Manoj Misra	Professor, Department of Computer Science and Engineering, IIT Roorkee	manojfec@iitr.ac.in
Prof. Pankaj Chandna	Professor, Department of Mechanical Engineering, NIT Kurukshetra	pchandna08@gmail.com
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Prof. Ranu Gadi	Associate Professor, Department of Applied Sciences and Humanities, IGDTUW, Delhi	ranugadi@igdtuw.ac.in
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Mr. Vinod Sood	Managing Director at Hughes Systique Corporation (HSC)	Vinod@hsc.com
Mr. Mayur Kinra	BMU Alumni, 2016 Batch	Jaganlalkinra@gmail.com

Internal Members

Sr. No.	Name	Designation	Email ID
1	Prof. AK Prasada Rao	Professor	prasadd.ayyagari@bmu.edu.in
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7	Dr. Akhlaq Husain	Associate Professor	akhlaq.husain@bmu.edu.in
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19	Dr Abhimanyu Singh Rana	Associate Professor	abhimanyu.rana@bmu.edu.in
20	Dr. Neeraj Sharma	Assistant Professor	neeraj.sharma@bmu.edu.in
21	Dr. Harish Puppala	Assistant Professor	harish.puppala@bmu.edu.in
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24	Dr. Hirdesh Pharasi	Assistant Professor	hirdesh.pharasi@bmu.edu.in
25	Mr. Pranshu Sood	Student BMU 18 CSE batch	pranshu.sood.18cse@bmu.edu.in

Special Invitees for the 10th BoS Meeting

Name	Designation	Email ID
Prof. Manoj K. Arora	Vice Chancellor, BMU	vc@bmu.edu.in
Dr. Sarabjot Singh Anand	Director, Dept. of CSE, BMU	sarabjot.singh@bmu.edu.in

Leave of Absence

Prof. Manoj Arora had expressed his regret for not being able to join the meeting due to prior commitments. Mr. Vinod Kumar Sood and Mr. Pranshu Sood could not attend the meeting due to other professional/personal commitments.

Quorum was established and the BoS meeting commenced.

Agenda # 1: Joining the meeting (online)

BoS members joined the meeting online on Google Meet platform using the link shared prior to the meeting link, and calender invite for the same.

Agenda # 2: Introduction and Opening Remarks

The meeting commenced with the welcome address by Prof. Anirban Chakraborti [Dean - SoET and Chairman, BoS] who greeted all members and conveyed the school's appreciation for their continued support. Prof. Anirban then briefly outlined the agenda of the BoS meeting.

Agenda # 3: Confirmation of the Minutes of 9th BoS Meeting.

Prof. Anirban presented the minutes of the 9th BoS meeting for confirmation and the minutes were confirmed by BoS members.

Agenda # 4A: Approval of B.Sc (Computational Mathematics and Data Science)

Dr. Akhlaq Husain presented the program structure of B.Sc (Computational Mathematics and Data Science) and discussed the salient features of curriculum.

BoS Members suggested that total number of credits of the courses per year must range from 36 to 40. Accordingly, the credits of the courses need to be revised.

BoS Members also proposed that that total number of credits of VI sem is to be divided equally among Major Project and the courses offered in that semester.

It was also suggested to introduce an elective course (Mathematics in Gaming) and minor specializations focusing on interdisciplinary courses.

The provision of entry/exit criteria is to be introduced.

The complete document of B.Sc (Computational Mathematics and Data Science) after the incorporation of suggested changes **is placed as Annexure I.**

Agenda # 4B: Approval of B.Sc (Computer Science)

Dr. Soharab Hossain presented the program structure of B.Sc (Comp. Sci) and discussed the salient features of curriculum.

BoS Members suggested that total number of credits of the courses per year must range from 36 to 40. Accordingly, the credits of the courses need to be revised.

It was suggested to include tutorial/discussion for the courses where there is no lab/practical.

BoS members also proposed to relook at the category of Project/Dissertation (VI sem) which is compulsory for all the students. Making Project/Dissertation as compulsory is not in line with the flexibility in curriculum as per NEP 2021.

The complete document of B.Sc (Computer Science) after the incorporation of suggested changes **is placed as Annexure II.**

Agenda # 5: Approval of syllabus of 2ⁿᵈ year courses [2021-25], new elective Courses and the syllabus of elective courses for UG Students of B.Tech(Comp. Sci.)[2019-23, 2020-24], B.Tech(ME) [2020-24] and B.Tech.(E. Com) [2020-24].

Dr. Yogesh Gupta, Dr. Anubhav Agrawal and Dr. Neeraj Sharma presented the syllabus of 2ⁿᵈ year courses [2021-25] and the list of new elective courses along with the syllabus of new/exiting elective course of B.Tech(Comp. Sci.)[2019-23, 2020-24], B.Tech(ME) [2020-24] and B.Tech.(E. Com) [2020-24] respectively.

After the discussion and deliberation, it was proposed by the BoS members to indicate lab/practical hours separately in the credit (L-D-P) of the elective courses.

For Robotics an Automation elective course, credits (1-0-4) is to be changed to increase the number of hours for theory to bechanged to 2-0-2 or these courses should be declared as lab courses. The lecture hours should at least be equal to Lab hours.

The Strength of Material-1 & Strengths of Material-2, the courses are more dealing with Mechanics of various components and not with the Materials, therefore the course name should be changed.

The course content of strength of Material-1 is more and should be balanced.

Global Energy: Politics, Markets and Policy course should be mapped as per other branches, being a common course

The complete document for of new elective courses along with the syllabus of new/exiting elective course **is placed as Annexure III.**

Agenda # 6: Approval of syllabus for minor degree Programme.

Prof. Y. Sridharbabu presented the syllabus of courses of three minor degree Programmes (Computational Mathematics, Energy Harvesting and storage, and Nanotechnology) and Prof. Neeraj Sharma presented the syllabus of courses of Material Science minor degree Programme. After the discussion and deliberation, it

was approved. The complete document for minor degree Programme for UG Students **is placed as Annexure IV.**

Agenda # 7[A]: Approval of syllabus for Open Elective Courses.

Prof. Ashok Suhag presented the list and syllabus of new open elective courses. After the discussion and deliberation, it was approved. The complete document for new open elective courses for UG Students **is placed as Annexure -V.**

Agenda # 7[B]: Approval of Courses being offered to Ph. D. Students of SoET.

Dr. Tabish Rasheed (PhD Program Coordinator, SoET) presented a brief overview of the PhD program at BMU with emphasis on coursework requirement and BMU Doctoral Program regulations based on UGC regulations.

Dr. Rasheed presented a list of compulsory and student specific courses along with the syllabus offered by SoET (for pre-PhD coursework) for discussion and approval of BoS. BoS suggested changes in the PhD course X-Ray: Technology, Technique, Diffraction and Analysis. The changes have been incorporated in the said course. All other PhD courses were approved after the deliberation and discussions. The complete document for new open elective courses for UG Students **is placed as Annexure -VI.**

Agenda # 8: Prof. Anirban apprised the BoS members for the ratification of PS-III Shifted from VI Sem to VIII Sem for 2019 Batch due to Covid19, So that students be able to do PS in physical mode. In addition to this, Prof. Anirban also apprised the BoS members for ratification for 15 credits to award minor degree due to inadvertent omission in 7th BoS MoM. After the discussion and deliberation it was approved by BoS members unanimously.

Agenda # 9 [A]: : Any other item (with permission of the Chairman)
No other items were proposed.

Agenda # 9 [B]: Recommendations and Concluding Remarks
BoS members suggested that there should be no capping on minimum number of students in new programmes. Dr. Vinnie Jauhari suggested the integration of MS programme and provision of industry-level certificates on data visualization/financial consulting in B.Sc and B.E.

Chairman BoS acknowledged the constructive comments and suggestions of the external experts from Prof. Manoj Mishra, Prof. Pankaj Chandna, Prof. Kulvir Singh, Prof. P B Sujit, Prof. Ranu Gadi and Mr. Mayur Kinra and rendered his appreciation for the same, with the assurance that the suggestions/recommendations would be incorporated and acted upon. The 10th BoS meeting of the School of Engineering and Technology concluded with the Vote of Thanks offered by the Chairman.

Prof. Anirban Chakraborti

Chairman, SoET BoS

(Dean, SOET)