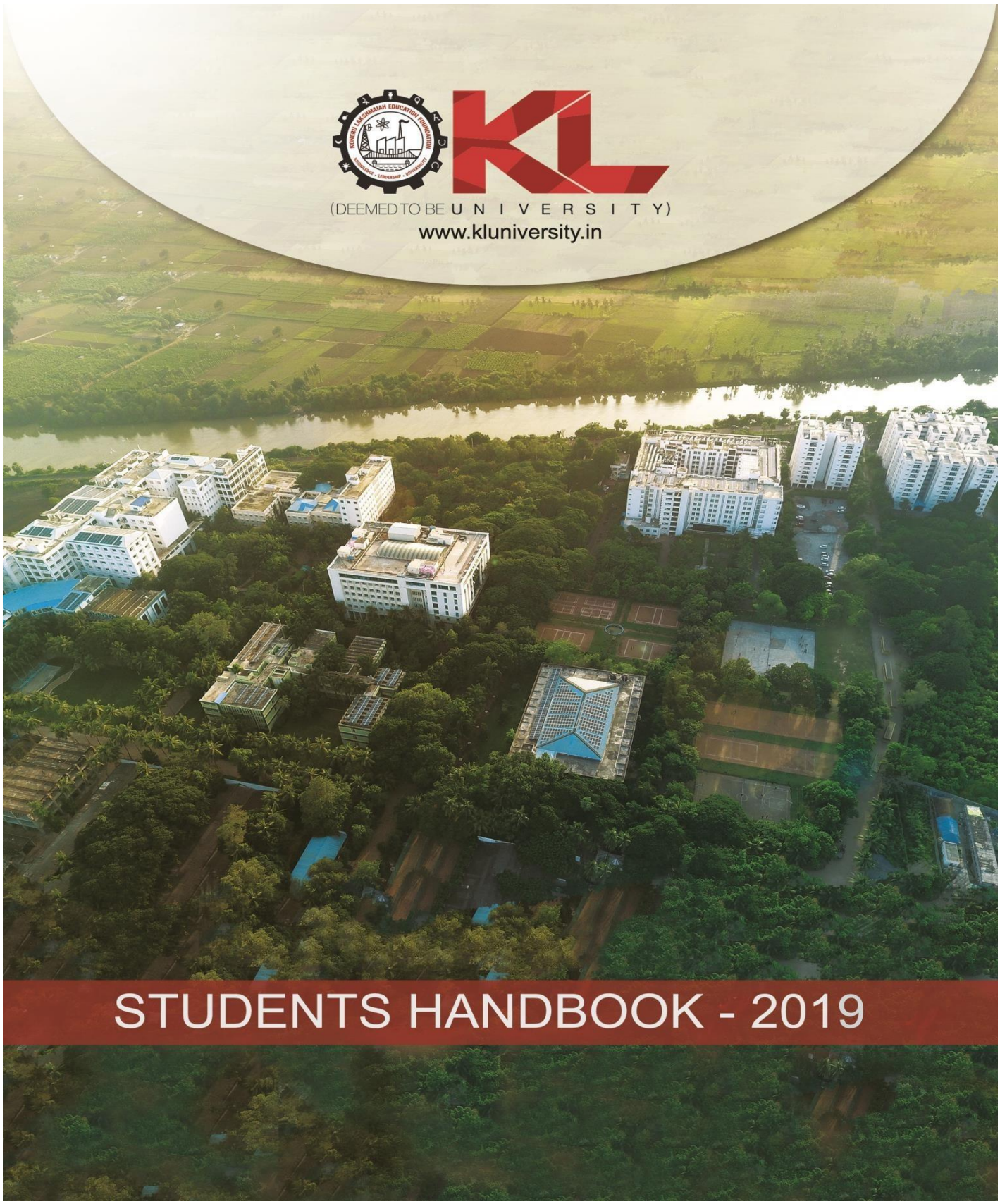

KL
(DEEMED TO BE UNIVERSITY)
www.kluniversity.in
STUDENTS HANDBOOK - 2019

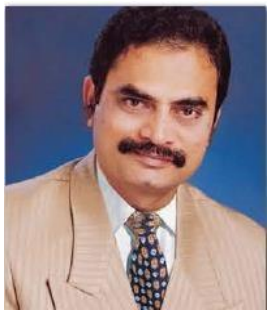
(Est. u/s.3 of the UGC Act, 1956) (NAAC Accredited "A" Grade University)

## VISION

To be a globally renowned university.

## MISSION

To impart quality higher education and to undertake research and extension with emphasis on application and innovation that cater to the emerging societal needs through all-round development of students of all sections enabling them to be globally competitive and socially responsible citizens with intrinsic values.



Koneru Satyanarayana,

President

Sri Koneru Satyanarayana, BE, FIE, FIETE, MIEEE graduated in Electronics and Communication Engineering in the year 1977. Along with Sri Koneru Lakshmaiah, he is the co-founder of the Institute which was established in the year 1980. He is an educationist of eminence and also an industrialist of great repute. He runs a number of industries in and around Vijayawada.

Dr. S.S. Mantha

Chancellor

Dr. S S Mantha, an eminent academician and an able administrator, is the former Chairman of the All India Council for Technical Education (AICTE). He joined in this Organization in 2019 as Chancellor, he has been at the forefront of bringing in some radical changes for transparency and accountability in its administration. He holds a Bachelors degree in Mechanical Engineering from the M S University, Baroda, and a Masters in Mechanical Engineering from VJTI, Mumbai.

Dr.L.S.S Reddy

Vice Chancellor

Dr. L.S.S. Reddy is an eminent Professor in Computer Science and Engineering Department holding Ph.D in Computer Science Engineering from BITS Pilani. Dr. Reddy is an outstanding administrator, a prolific researcher and a forward looking educationist. Dr. Reddy has over 30 years of experience in Teaching, Research and Administration at various Prestigious institutes.

Dr. L. S. S. Reddy had joined Koneru Lakshmaiah College of Engineering in December 1995 and proved his administrative excellence as a Head of Department of Computer Science and Engineering. Dr. Reddy was instrumental and a driving force as Principal (2002-2009) in promoting KLCE as one of leading Institutions in India.

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## ACRONYMS

| Sl No | Acronyms | Full Form |
|---|---|---|
| 1 | KLEF | Koneru Lakshmaiah Education Foundation |
| 2 | CET | Common Entrance Test |
| 3 | KLEEE | KLEF Engineering Entrance Examination |
| 4 | JEE | Joint Entrance Examination |
| 5 | BT | Bio Technology |
| 6 | CE | Civil Engineering |
| 7 | CSE | Computer Science &Engineering |
| 8 | ECE | Electronics & Communication Engineering |
| 9 | EEE | Electrical & Electronics Engineering |
| 10 | ECM | Electronics & Computer Engineering |
| 11 | ME | Mechanical Engineering |
| 12 | CGPA | Cumulative Grade Point Average |
| 13 | SGPA | Semester Grade Point Average |
| 14 | LTPS | Lecture Tutorial Practical Skill |
| 15 | SEE | Semester-End Examinations |
| 16 | SIE | Semester-In Examinations |
| 17 | OJET | On-the-job Engineering Training |
| 18 | IRP | Industrial Relations and Placements |
| 19 | PS | Practice-School |
| 20 | OPAC | Online Public Access Catalog |
| 21 | QCM | Quality Circle Meeting |
| 22 | MOOC | Massive Open Online Course |
| 23 | MOU | Memorandum of Understanding |
| 24 | OD | On Duty |
| 25 | (A,B] | Between A and B excluding value A and including value B |
| 26 | COE | Controller of Examinations |
| 27 | VLSI | Very Large Scale Integration |
| 28 | M.Tech | Master of Technology |
| 29 | COA | Council of Architecture |
| 30 | JEE | Joint Entrance Examination |
| 31 | NATA | National Aptitude in Architecture |
| 32 | L-ST- P- S | Lecture Studio Practical Skill |

| | | |
|---|---|---|
| 33 | PC | Professional Core |
| 34 | BSAE | Building Science and Applied Engineering |
| 35 | PE | Professional Elective |
| 36 | PAECC | Professional Ability Enhancement Compulsory Courses |
| 37 | SEC | Skill Enhancement Course |
| 38 | OE | Open Elective |
| 39 | CTIS | Cloud Technology and Information Security |
| 40 | DS | Data Science |
| 41 | IoT | Internet of Things |
| 42 | IPA | Intelligent Process Automation |
| 43 | PCI | Pharmacy Council of India |
| 44 | PY | Pharmacy |
| 45 | B.Com (H) | Bachelor of Commerce with Honors |
| 46 | ACCA | Association of Chartered Certified Accountants |
| 47 | HM | Hotel Management |
| 48 | BTK | Basic Training Kitchen |
| 49 | QTK | Quantitative Training Kitchen |
| 50 | ATK | Advanced Training Kitchen |
| 51 | MBA | Master of Business Administration |
| 52 | BBA | Bachelor of Business Administration |
| 53 | MSc (F&C) | Master of Science (Finance & Control) |
| 54 | BA | Bachelor of Arts |
| 55 | M.Sc | Master of Science |

# CHAPTER 1

## Introduction

### 1.1: History

The President of Koneru Lakshmaiah Education foundation, Er. Koneru Satyanarayana, along with Late Sri.Koneru Lakshmaiah, founded the K L College of Engineering in the Academic year 1980-81. With the mighty vision and restless efforts of Er. Koneru Satyanarayana K L College of Engineering carved a niche for itself through excellence in engineering education, discipline and record numbers of placements and was the leading college in the state of AP. K L College of Engineering achieved NBA Accreditation for all its B.Tech. Programs in 2004 and later re-accredited in 2007. K L College of Engineering was transformed into an autonomous engineering college in the year 2006. In 2008 this college received a record grade of 3.76 on a 4 points scale with "A" Grade from NAAC; and in February 2009, the college, and Accredited by National Assessment and Accreditation Council (NAAC) of UGC as '$A^{++}$' with highest Grade of 3.57 CGPA on 4 point scale in 2018 ,through its founding society "Koneru Lakshmaiah Education Foundation" was recognized as Deemed to be University by the MHRD-Govt. of India, Under Section 3 of UGC Act 1956. This Deemed to be University is named as "KLEF".

### 1.1.1: Location

Vijayawada is located on the banks of river Krishna in the state of Andhra Pradesh and has been historically a cultural, political and educational center. It is also a part of Andhra Pradesh Capital Region. The city is well connected by National Highway and Rail with Chennai (440 km), Hyderabad (275 km), and Vizag (385 km) and is a central junction for trains running from North to South India. Daily flights operate from Hyderabad and Bangalore.

KLEF is situated in a spacious 100-acre campus on the banks of Buckingham Canal of river Krishna, eight kilometers from Vijayawada city. Built within a rural setting of lush green fields, the institute is a virtual paradise of pristine nature and idyllic beauty. The campus has been aptly named "Green Fields" and the splendid avenue of trees and gardens bear testimony to the importance of ecology and environment. The campus ambience is most befitting for scholastic pursuits. The University has been situated on a built up area of around 15, 00,000 S. Ft.

### 1.2: Hall Marks:

- **NAAC A++ Grade** with 3.57 CGPA on 4-point scale
- **CATEGORY-1** University by UGC under the categorization of universities for grant of Graded Autonomy
- UGC Recognized under section **12B** of UGC Act 1956
- Approved by MHRD & UGC (Under Section 3 of UGC act 1956)
- ISO 9001 - 2015 Certified Institution


**1.3: Facilities:**

**Central Library: E-Resources**

The Central Library is the largest, and holds materials to serve the whole University community. It has materials relevant to the Engineering, Science & Humanities courses offered by the University.

The library system contains more than one lakh and fifty thousand books and periodicals on all subjects related to the teaching and research interests of the University staff and students. The library has over 36,000 electronic journal titles, academic databases and 32.98 lakhs eBooks. Access is available on campus on student computers and remotely.

A new library building will be opened shortly on par with international standard with modern IT facilities.

Every department of the college maintains their library to cater the needs of students and faculty. All foreign and Indian journals are made available in the department library for the convenience of faculty and students.

The libraries render following library services.

- Circulation of library documentary.
- Inter-library loan services.
- Photo copying services.
- Reference service.
- CD-ROM search services.
- Inter Net services.
- OPAC
- WEB OPAC
- Audio visual
- Online lectures

**The Data Center:**

A State-of-the-Art Data center with advanced servers provides highly interactive learning environment with full-fledged hardware and software training facilities.

**Hardware:**

The configuration of high end stream of servers that provides various services is

Super Computer

HPC Infrastructure (Super Computer):

- 5.3 TERA Flops ( CPU + GPU)
- HP SL 230 4* SL230s Gen8, (2 * 2.6 GHz, 32GB RAM, 2x500GB HD, 10G IB HCA) providing -1.3TF
- HP SL 250 2* SL250s Gen8, (2 * 2.6 GHz, 32GB RAM, 2x500GB HD, 10G IB HCA + 2 NVIDIA K20 GPU providing -4TF. Master Node:
- HP DL 380P 1* DL380p Gen8 (2 * 2.6Ghz, 64GB RAM, 2x2TB HD, 10G IB HCA).
- Compute Switch (48 Port Low latency switch) Q Logic IB QDR 36 Port Switch.
- Intel® Composer XE for Linux.
- The data centers consists of BYOD Servers& Backup Server, Sun Servers, Dell and HP Blade Servers, Apple Server Xserver.

**Special Laboratories:**

The institute is equipped with various Industry Collaborated Labs

| S. No | Discipline | Name of the Lab | Research Group Associated |
|---|---|---|---|
| 1. | Computer Science & Engineering | CISCO | Computer Networks and security |
| 2. | Computer Science &Engineering | IBM | Software Engineering |
| | | | Knowledge Engineering |
| 3. | Computer Science & Engineering | Microsoft | Embedded Systems |

| | | | |
|---|---|---|---|
| | | | Software Engineering |
| | | | Knowledge Engineering |
| 4. | Computer Science & Engineering | Adobe | Web technologies |
| | | | Image processing |
| 5. | Computer Science & Engineering | Oracle | Knowledge Engineering |
| 6. | Electronics & Communication Engineering | NI Lab View | Communications Systems |

**Physical Education- Sports Facilities:**

KLEF encourages students to explore their latent talents by providing good games and sports facilities. The institute is equipped with the following.

| Sport/Game | No. of Courts | Sport/Game | No. of Courts |
|---|---|---|---|
| Athletic track | 1 | Handball Court | 1 |
| Hockey Field | 1 | Netball Courts | 2 |
| Badminton Courts | 4 | Throw ball courts | 2 |
| Tenni-koit Courts | 2 | Beach Volleyball Court | 1 |
| Cricket Field with Net practice | 3 | Football Field | 1 |
| Volleyball Courts | 2 | Basketball Courts | 2 |
| Tennis Courts | 2 | Kabaddi Courts | 2 |
| Kho Kho Court | 1 | Table Tennis | 6 |
| Soft Ball | 1 | Chess | 20 |
| Archery | 1 | Caroms | 12 |

The University had State-of- the - Art Indoor stadium of 30000 sq.ft with:

- 4 wooden Shuttle Courts/ Basketball Court
- Yoga and Meditation Center
- Dramatics
- 8 Table Tennis Tables
- Hobby Center
- Gymnasium for Girls
- Gymnasium for Boys
- Multipurpose room with Chess, Caroms etc.
- Power lifting/Weight Lifting

**Accommodation- Hostels**

- KLEF has separate hostels for boys and girls with well furnished rooms and modern amenities. The overall atmosphere is very conducive for the students to concentrate on studies.
- A state- of – the- art kitchen and spacious dining area has been provided for both the hostels.
- Generators have been provided as power back up.
- Emphasis has been laid on hygiene and cleanliness for healthy living. A customized menu caters to the student needs and it keeps changing according to their tastes.
- Teaching staff will have to address academic and personal problems of the students.
- Round-the-clock security, communication, dispensary facilities are also available.

➢ **The Girls Hostel**

The girl's hostel is within the campus with a capacity of 1192 in 500 rooms. Different rooms accommodating 2 per room, 3 per room with attached toilets as well as A.C. rooms are available. Suite rooms with modern furniture and separate study room are also available.

➢ **The Boys Hostel**

It is a short walk from the university with a capacity of 2040 in 780 rooms. Different rooms accommodating 2 per room, 3 per room with attached toilets as well as A.C. rooms are available.

➢ **Facilities in the Hostels**

Protected drinking water, state of the art kitchen, dining hall, newspapers, telephones, toilets and bathrooms are well maintained. Every student in the hostel is provided with a cot, study table, chair and a rack. Fan and light are also provided in each room.

- Gas & Steam based hygienic food preparation
- Palatable regional, national and international cuisines
- Cleanliness and Safety
- STD/ISD Facilities
- Medical Kits and First Aid Boxes
- Soft drinks, snacks, Fruits etc.
- Laundry
- Stationary shop

➢ **Hostel Rules & Regulations**

- Students are hereby informed that while staying in the hostel, it is essential to be responsible in maintaining dignity by upholding discipline. They must be obedient to the hostel warden/floor in – charges.

- Valuable items like jewelry etc. should not be kept with students while staying in the hostel. It is student's own responsibility to safeguard her/his Laptops, Money by locking suitcases and bags. If any loss is found, management will not take any responsibility.
- Student has to intimate to the hostel authorities before you giving police complaint against losses.
- Students are not allowed to indulge in smoking; consumption of Alcohol, Narcotic drugs etc., and defaulters will be strictly viewed upon.
- Students are directed that after locking their rooms they have to hand over the keys to security and can collect them on returning back to the hostel.
- Students must switch off Fans, Lights, Geysers, A/C's etc., before leaving their rooms.
- Visitors are not allowed inside the hostel at any time, however they are allowed into the visitor's hall with the prior permission of the warden. Only family members listed by the parents are allowed to contact the student. Visiting hours are up to 7.30 pm only and after 7.30 pm visitors are required to leave premises.
- Hostel students are not allowed to come into the hostel after 3.00 pm in case morning shift students and 6.00pm for day shift students. Those students who are utilizing computer lab, library etc., after the times specified have to submit the permission slip to the security while entering into the hostel.
- During public holiday outings, those who seek permission to leave the hostel will have to obtain a written permission from warden. Permission will be given only to those students who get permission from parents to leave the hostel during holidays/outings. Moving out of campus without permission is strictly prohibited.
- Strict study hours from 7.30 am to10.30 pm shall be maintained in the hostel. The hostellers must be in their allotted rooms during study hours.
- The general complaints of any kind should be noted in the complaint register, which is available at the hostel office. Registered complaints only will be entertained.
- Any health problem should be brought to the notice of Warden/Floor In – charge for necessary treatment.

**Transportation:**

The institution runs 80 buses covering all the important points in Vijayawada City, Mangalagiri, Guntur & Tenali towns with a total seating capacity of 4000 students in two shifts.

- Transport is available 24 hrs in case of any emergency in the institute / hostels.
- Transportation is available for conducting industrial tours and visits etc.
- Regular transport facility available up to 10 PM.

**Health Centre:**

A full-fledged health center with all the facilities is established to cater to the needs of the students, staff, Faculty and to the general public in the adopted villages. It consists of three doctors (Homoeopathy, Ayurvedic & Allopathy).

**Cafeteria:**

- KLEF has a spacious canteen with latest equipment and hygienic environment which provides quality food and prompts service and caters to needs of all the students and the staff.
- A central cafeteria of 1500 Sq.m. is available in the campus. Mini cafes and fast-food centers are available in various blocks.
- The canteen is open from 6:30 a.m. to 8:30 p.m. There is a wide variety of North-Indian and South-Indian cuisine and the students enjoy the pleasure of eating during the breaks. Cool aqua water for drinking is available.

**1.4: Placements:**

KLEF has meticulously planned to make all its outgoing students employed. The University had installed the infrastructure, employed well experienced faculty, designed and delivered programs that help enhancing the communication and soft skills which are required for making the students employable. An excellent system is in place that considers all the issues that make a student employable. The University has been successful for the last 7 years in employing all the students who have registered and eligible for placement through its offices located across the country. About 50 trained personnel work extensively to make the students ready for recruitment by the Industry.

**1.5: Counseling& Career Guidance:**

A special Counseling Cell consisting of professional student counselors, psychologists, and senior professors counsels/helps the students in preparing themselves to cope with studies, perform well in the tests & various competitions. This Cell provides its services to the students in getting the solutions for their personal problems and also provides career guidance with the help of Industrial Relations and Placements (IRP) department. A group of 20 students are allotted to a senior faculty member who counsels them regularly and acts as their mentor.

**1.6: Social Service Wing:**

KLEF has a social service wing which is used to channelizing the social service activities of the faculty, the staff and the students. It has adopted 5 nearby villages and conducts activities like medical camps, literacy camps and educates the villagers regarding hygiene and health care on a regular basis.

**1.7: NSS Wing of Institute:**

Regularly organizes Blood donation camps, Blood grouping camps, Fund collection and distribution to poor children and old age homes, distribution of old clothes and free medicines to slum dwellers, tree plantations, AIDS awareness program, teaching basic computer skills to a target group of 500 people in villages.

**1.8: Hobby Clubs:**

Wholly and solely managed by the students, the clubs have in the past contributed much to the cultural life of the campus and to the cultural evolution of the students, A number of student bodies and clubs operate in the campus like music society, dance club, drama society, literary and debating club, English press club, drawing club, painting club, mime club, computer club etc. Students manage entire activities and budget of the organization for the entire semester in advance. Around 4000 students are the active members of the Hobby Clubs.

**1.9: Life Skills and Inner Engineering:**

KLEF feels that it is its responsibility to mold the students as good human beings contributing to the country and to the society by producing responsible citizens. Along with the regular programs every student admitted into KLEF undergoes a one week special life skills /orientation program. Through this program, KLEF is producing the students with the clarity of thoughts and charity at hearts. Strict regularity, implicit obedience, courtesy in speech and conduct, cleanliness in dress and person is expected of each KLEF student. Life skills and inner engineering teach a student his/her obligations towards GOD, himself /herself his/her country and fellow human beings. Every student is encouraged to practice his/her own religious faith and be tolerant and respectful towards other religions.

**1.10: Technical Festival:**

KLEF organizes various programs for the all-round development of the students. The technical festival and project exhibition is being organized in the odd semester (October) every year to elicit the innovative ideas and technical skills of the students.

**Cultural Festival:**

The cultural festival in the even semester (February) of every year is the best platform for the students for exhibiting their talents and creativity. Through these festivals KLEF is imparting organizational skills, leadership skills, competitive spirit, and team behavior skills to our students. Along with the knowledge, KLEF festivals are providing recreation to the student community.

### 1.11: Innovation, Incubation and Entrepreneurship Center:

KLEF being a pioneering institute supporting Academics and Research in Engineering, Science and Technology is endowed with the entire infrastructure and highly experienced faculty, has an Innovation, Incubation and Entrepreneurship Centre (IIE) that comprises of:

- Innovation centre which aims to inculcate a spirit of innovation.
- Incubation centre which aims to incubate the innovations through prototype product development.
- Entrepreneurship Development Centre (EDC) which aims at fostering entrepreneurial skills among the students.

## CHAPTER 2

## List of Programmes

### 2.1: School of Architecture

| S.no | Program | Duration (Years) | Eligibility |
|---|---|---|---|
| 1 | Bachelor of Architecture | 5 | 10+2 or equivalent with JEE- Paper 2 score or NATA score |

### 2.2: College of Arts & Science and Humanities

| S.no | Program | Duration (Years) | Eligibility |
|---|---|---|---|
| 1 | Bachelor of Arts (BA) | 3 | 10+2 or equivalent with at least 50% and must have qualified in KL entrance exam |
| 2 | Bachelor of Computer application (BCA) | 3 | |
| 3 | Master of Arts (MA English ) | 2 | Any Bachelor's degree excluding Bachelor of Fine Arts, with minimum of 55% marks or equivalent CGPA |
| 4 | Master of Science (M.Sc (Chemistry)) | 2 | Bachelor's degree in Science with 55% or Equivalent CGPA with honors / in Chemistry as one of the Course. |
| 5 | Master of Science (M.Sc (Applied Mathematics)) | 2 | Any Bachelor's degree with 55% or Equivalent CGPA with honors / in Mathematics as one of the Course. |
| 6 | Master of Science (M.Sc (Physics)) | 2 | Bachelor's degree in Science with minimum of 55% marks or equivalent CGPA in Physics as one of the Course. |

### 2.3: College of Business School

| S.no | Program | Duration (Years ) | Eligibility |
|---|---|---|---|
| 1 | Bachelor of Business Administration (BBA) | 3 | 10+2 or equivalent with at least 50% and must have qualified KL entrance exam. |
| 2 | Bachelor of Commerce with Honor's B. Com(H) | 3 | |
| 3 | B.Sc Hotel Management | 3 | 10+2 or equivalent with at least 45% and must have qualified KL Entrance Exam |

| | | | |
|---|---|---|---|
| 4 | Master of Business Administration (MBA) | 2 | Bachelor's degree with 55% marks or equivalent CGPA and qualified any one (KLEFBSAT)/ ICET / MAT / CAT / XAT & Personal interview |
| 5 | Master of Science (Finance and Control) | 2 | Bachelor's degree with 55% marks or equivalent CGPA and Mathematics /Statistics as one of the course at 10+2 /UG. |

**2.4: College of Engineering**

B. Tech-Bachelor of Technology, M. Tech -Master of Technology

| S.no | Program | Duration (Years ) | Eligibility |
|---|---|---|---|
| 1 | B.Tech in Biotechnology (BT) | 4 | 10 +2 or equivalent at least 60% in aggregate and 60% and above (or) equivalent CGPA in Group subjects / Physics, Chemistry and Mathematics, ( For BT program physics ,chemistry and biology are also eligible **)** |
| 2 | B.Tech in Civil Engineering (CE) | 4 | |
| 3 | B.Tech in Computer Science & Engineering (CSE) | 4 | |
| 4 | B.Tech in Electronics and Communication Engineering (ECE) | 4 | |
| 5 | B.Tech in Electrical and Electronics Engineering (EEE) | 4 | |
| 6 | B.Tech in Electronics and Computer Engineering (ECM) | 4 | |
| 7 | B.Tech in Mechanical Engineering (ME) | 4 | |
| 8 | B.Tech in Petroleum Engineering (PE) | 4 | |
| 9 | M.Tech in Biotechnology | 2 | B.E/B.Tech (BT/ Chemical Engg. /Leather Technology/Bio-Tech./Industrial Bio-Tech. /Bio-Chemical Engg. /Bio-Informatics) or B.Pharm. Or M.Sc. (Ag.)/M.V.Sc. /M.Sc. in any branch of Life Sciences. With at least 55 % or equivalent CGPA |

| | | | |
|---|---|---|---|
| 10 | M.Tech in Structural Engineering | 2 | B. Tech (CE) with at least 55% or equivalent CGPA |
| 11 | M.Tech in Construction Technology and Management | 2 | |
| 12 | M.Tech in Geo-informatics | 2 | |
| 13 | M.Tech in Environmental and Environment science | 2 | |
| 14 | M.Tech in Computer science and Engineering | 2 | B. Tech / MCA/M.Sc with at least 55% or equivalent CGPA |
| 15 | M.Tech in Machine Learning and Computing | 2 | B. Tech (CSE/IT) or equivalent with at least 55% or equivalent CGPA |
| 16 | M.Tech in Digital Forensics & Cyber Security | 2 | |
| 17 | M.Tech in Radar & Communication | 2 | B. Tech ECE or equivalent with at least 55% or equivalent CGPA |
| 18 | M.Tech in Very Large-Scale Integration | 2 | |
| 19 | M.Tech in Atmospheric Science | 2 | B. Tech ECE/M.Sc Electronics/Physics or equivalent with at least 55% or equivalent CGPA |
| 20 | M.Tech in Embedded Systems | 2 | B. Tech (ECE/ECM/CSE) or equivalent with at least 55% or equivalent CGPA |
| 21 | M.Tech in Power Systems | 2 | B. Tech (EEE) or equivalent with at least 55% or equivalent CGPA |
| 22 | M.Tech in Power Electronics and Drives | 2 | |
| 23 | M.Tech in Thermal Engineering | 2 | B.Tech in ME with minimum of 55 % marks or equivalent CGPA |
| 24 | M.Tech in Robotics and Mechatronics | 2 | B.Tech in ME/ECE/ECM with minimum of 55 % marks or equivalent CGPA |
| 25 | M.Tech in Machine Design | 2 | B.Tech in ME with minimum of 55 % marks or equivalent CGPA |

### 2.5: College of Fine Arts

| S.no | Program | Duration (Years ) | Eligibility |
|---|---|---|---|
| 1 | Bachelor of Fine Arts (BFA) | 4 | 10+2 or equivalent with at least 60% aggregate and Qualified in KL Entrance Exam |
| 2 | Bachelor of science in Visual Communication (B.Sc Vc) | 3 | 10+2 or equivalent with at least 55 % and must qualify in KL Entrance Exam or qualified any State Level Exams across India |

**2.5: College of Pharmacy**

| S.no | Program | Duration (Years) | Eligibility |
|---|---|---|---|
| 1 | Bachelor of Pharmacy (B.Pharm) | 4 | 10+2 or equivalent with at least 60% in aggregate and 60% in PCM / PCB and Qualified in any one EAMCET / NEET / Any State Level Pharmacy Entrance Exams across India |

**2.6: College of Law**

| S.no | Program | Duration (Years) | Eligibility |
|---|---|---|---|
| 1 | Bachelor of Business Administration and Bachelor of Law (BBA-LLB) | 5 | 10+2 or equivalent with at least 45% in aggregate Any State Level Entrance Exams across India |

# CHAPTER 3

# PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

# AND

# PROGRAM OUTCOMES (POs)

## 3.1: Bachelor of Architecture (B.Arch)

**Program Educational Objectives (PEOs)**

| | |
|---|---|
| PEO1 | Should be able to stimulate artistic sensitivity and creative powers. (SKILL) |
| PEO2 | Strengthen intellectual growth and the capacity to develop creative and responsible solutions to unique and changing problems. (EMPL) |
| PEO3 | Acquire leadership capabilities necessary for the competent practice of architecture and lifelong learning. (ETPR) |
| PEO4 | Pursue advanced education, research and development, and other creative and innovative efforts in the field of Architecture. (SKILL). |

**Program Outcomes (POs):**

| | |
|---|---|
| PO1 | Ability to gain knowledge of Humanities, Sciences and Architecture and the application of knowledge in practice. |
| PO2 | Use the elements of Architecture and apply basic principles in Architectural Design. |
| PO3 | Identify and solve the social, economical and cultural issues in Architectural Design. |
| PO4 | Ability to apply theoretical knowledge to achieve Architectural Design solutions. |
| PO5 | Recognize the ethical and professional responsibilities and the norms of Architectural practice. |
| PO6 | Ability to research, review, comprehend and report technological developments happening in the field of Architecture |
| PO7 | Communicate effectively and work in interdisciplinary groups according to the project scale. |
| PO8 | To guide the Building construction workforce in the right direction |
| PO9 | Ability to understand the real-life situation in converting the On-paper design to On-site design of Architectural Practice |
| PO10 | To make the student design aesthetically pleasing, structurally viable buildings and encourage technological advancements in the building construction industry. |

**Programme Specific Outcomes (PSOs)**

| | |
|---|---|
| PSO1 | PS01: Ability to enhance creative design skills in attaining design solutions in architecture. |
| PSO2 | To understand the design complexity of the designed structure and use appropriate building construction techniques and technology for the particular structure |

## 3.2: Bachelor of Arts (B.A)

**Programme Educational Objectives**

| | |
|---|---|
| PEO1 | Graduate will be able to exhibits their skills in Literature and diverse literary works. |
| PEO2 | A graduate student able to analyze the aspects of History, Geography, Public Administration and Economy |
| PEO3 | Graduate will be to apply knowledge, information and research skills to complex |

| | |
|---|---|
| | problems in the field of Social Science and Humanities. |

**Programme Outcomes**

| | |
|---|---|
| PO1 | Provide knowledge and understanding of various fields of study in core disciplines in the Humanities and Social Sciences |
| PO2 | Develop critical and analytical skills to identify and resolve of problems with in complex changing social, linguistic and literary context. |
| PO3 | Understanding the general concepts and principles of selected areas of study outside core disciplines of the Humanities, Social Science and Languages |
| PO4 | Follow independence in learning appropriate theories and methodologies with intellectual honesty and an understanding of ethical and human values |
| PO5 | Encourage students to analyze the problems and apply this knowledge for remedies thereof |
| PO6 | Enhance student's skills of effective communication and language learning i.e. reading, writing, listing and speaking another language with fluency and understand its cultural value. |
| PO7 | Become well informed and updated member of the community and responsible citizen |
| PO8 | Work with self esteem, self reliance, self reflection and creativity to face adversities in the work and personal life |
| PO9 | Inculcate leadership and administrative abilities for their future career |
| PO10 | Increase inclination for higher studies and research in social sciences and Gain comprehensive knowledge to succeed in competitive examinations |

**3.3: Bachelor of computer applications (BCA)**

**Program educational objectives (PEOs)**

| | |
|---|---|
| PEO1 | Practice Computer Applications in a broad range of industrial, societal and real world applications. |
| PEO2 | Pursue advanced education, research and development, and other creative and innovative efforts in science, engineering, and technology, as well as other professional careers |
| PEO3 | Conduct them in a responsible, professional, and ethical manner. |

**Program Outcomes (POs):**

| **PO NO** | **Description** |
|---|---|
| PO1 | **Problem Analysis** :Ability to identify, formulate, research literature, and analyze complex computer application oriented problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and computer applications. |
| PO2 | **Design / development of solutions** :Ability to design solutions for complex computer application problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations. |
| PO3 | **Conduct investigations of complex problems** :Ability to use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. |
| PO4 | **Modern tool usage** :Ability to create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. |

| PO NO | Description |
|---|---|
| PO5 | **Communication** :Ability to communicate and engage effectively with diverse stakeholders. |
| PO6 | Ability to apply ethical principles and commit to professional ethics and responsibilities. |
| PO7 | **Life-long learning**: Ability to recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. |
| PO8 | **Individual and teamwork**: Ability to function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. |

**Programme Specific Outcomes (PSOs)**

| **Cloud Technology and Information Security** | |
|---|---|
| PSO1 | An ability to use and develop cloud software, administrative features. Infrastructure services and architectural patterns; ethical hacking and forensic security technologies. |
| PSO2 | An ability to gain knowledge on design and control strategy; techniques to secure information and adapt to the fast changing world of information technology needs. |
| **Data Science** | |
| PSO1 | Ability to apply the knowledge of computing tools and techniques in the field of Data science for solving real world problems encountered in the Software Industries. |
| PSO2 | Ability to identify the challenges in Data analytics with respect to IT Industry and pursue quality research in this field with social relevance. |
| **Internet of Things** | |
| PSO1 | An ability to apply pattern recognition and artificial intelligent techniques including statistical data analysis and quantitative modelling techniques to solve real world problems from various domains such as healthcare, social computing, economics, etc. |
| PSO2 | PSO1: An ability to apply pattern recognition and artificial intelligent techniques including statistical data analysis and quantitative modelling techniques to solve real world problems from various domains such as healthcare, social computing, economics, etc. |
| **Intelligent Process Automation** | |
| PSO1 | An ability to apply pattern recognition, machine learning, and artificial intelligent techniques including statistical data analysis and quantitative modelling techniques to solve real world problems from various domains such as healthcare, social computing, economics, etc. |
| PSO2 | An ability to recognize and analyze problems related to AI and ML applications along with their ethical implications |

### 3.4: Master of Arts (English)

**Program Educational Objectives (PEOs)**

| | |
|---|---|
| PEO1 | Introduce students to the professional conversation in English studies in various fields and to texts from diverse eras and cultures, with the intention of provoking and supporting their intellectual curiosity and valuing literature, language, and imagination: Students will develop a passion for literature and language. They will appreciate literature's ability to elicit feeling, cultivate the imagination, and call us to account as humans. They will cultivate their capacity to judge the aesthetic and ethical value of literary texts–and be able to articulate the standards behind their judgments. |
| PEO2 | Critical Approaches: Students will develop the ability to read works of literary, rhetorical, and cultural criticism, and deploy ideas from these texts in their own reading and writing. They will express their own ideas as informed opinions that are in dialogue with a larger community of interpreters and understand how their own approach compares to the variety of critical and theoretical approaches. |
| PEO3 | Research Skills: Students will be able to identify topics and formulate questions for productive inquiry; they will identify appropriate methods and sources for research and evaluate critically the sources they find; and they will use their chosen sources effectively in their own writing, citing all sources appropriately. |

**Program Outcomes (POs):**

| **PO Number** | **Description** |
|---|---|
| PO1 | Gain an introductory knowledge of some of the issues explored in influential works in English language and the stylistic strategies that writers used to explore those issues. |
| PO2 | Read complex texts actively: recognize key passages; raise questions; appreciate complexity and ambiguity; comprehend the literal and figurative uses of language. |
| PO3 | Appreciate literary form: recognize how form and structure shape a text's meaning; appreciate how genre generates expectations and shapes meanings. |
| PO4 | Interpret texts with an awareness of and curiosity for other viewpoints |
| PO5 | Practice writing as a process of motivated inquiry, engaging other writers' ideas through the use of quotations, paraphrase, allusions and summary. Use sources well and cite them correctly. |
| PO6 | Attend to a wider range of voices within interculturation. |
| PO7 | Enjoy the experience of reading challenging literature: appreciate literature's ability to elicit feeling, cultivate the imagination, and call us to account as humans |

### 3.5: Master of Sciences (M.Sc Chemistry)

**Program Education Outcomes (PEOs):**

| | |
|---|---|
| PEO1 | To prepare students for successful practice in diverse fields of Chemical Sciences such as pharmaceutical, chemical, polymer / advanced material, energy, biotechnology and environmental engineering and in the fields of Societal expectations on time. |
| PEO2 | To prepare students for advanced studies in Chemical sciences and its allied fields. |
| PEO3 | To ensure our students to achieve excellence and get selected for high-ranking industrial, academic, Government and other professional positions, as well as to |

| | |
|---|---|
| | inculcate leadership qualities. |
| PEO4 | To develop graduate's skills and awareness to become socially, ethically and morally responsible individual in all the challenges they take over, in our communities and in the field of chemical Sciences. |

**Program Outcomes (POs):**

| PO NO | Description |
|---|---|
| PO1 | Ability to understand the scope and principle of Chemistry. |
| PO2 | Ability to understand and implement complex chemical equations and chemical compositions. |
| PO3 | Ability to analyze the outcomes of experiments on chemicals and their product |
| PO4 | Ability to understand the chemicals deeply and their effects on environment and health. |
| PO5 | Ability to connect the latest developments in Chemistry with the knowledge attained during academics and come up with better ideas. |
| PO6 | Awareness of the impact of Chemistry in all domain of the society including environment, manufacturing, and production, etc. |
| PO7 | Use modern techniques, decent equipments and Chemistry software's |

**Programme Specific Outcomes (PSOs)**

| | |
|---|---|
| PSO1 | Global level research opportunities to pursue Ph.D programme targeted approach of CSIR – NET examination. |
| PSO2 | Enormous job opportunities at all level of chemical, pharmaceutical, food products, life oriented material industries |
| PSO3 | Specific placements in R & D and synthetic division of polymer industries & Allied Division |
| PSO4 | Discipline specific competitive exams conducted by service commission. |

### 3.6: Master of Sciences (M.Sc Applied Mathematics)

**Program Educational Objectives (PEOs)**

| | |
|---|---|
| PEO1 | To assimilate and understand a large body of complex concepts and their interrelationships. |
| PEO2 | Apply Advanced Mathematical Techniques to formulate, solve and analyze mathematical models of real-life problems |
| PEO3 | To identify and apply suitable computational mathematical tools and techniques to solve various complex Engineering problems and meaningful physical interpretation. |
| PEO4 | To Demonstrate, communicate, and work, with people having diversified backgrounds in individual and group settings, in an ethical and professional manner. |

**Program Outcomes (POs)**

| PO NO | Description |
|---|---|
| PO1 | To identify, formulate, abstract, and solve mathematical problems that use tools from a variety of mathematical areas, including algebra, analysis, probability, numerical analysis and differential equations |
| PO2 | The program prepares students for a variety of mathematical careers. The current program has three identified tracks viz: Cryptography, Data analysis, Applied Mechanics, and Ph.D preparation. Students should be prepared for employment requiring mathematical skill and sophistication at the Master's level. |
| PO3 | Apply mathematics and technology tools (MATLAB, R, and MINITAB) to solve problems. |
| PO4 | Ability to do research in a particular topic agreed with a Supervisor, on which the student publish a research paper in a peer reviewed indexed journal. |
| PO5 | To maintain a core of mathematical and technical knowledge that is adaptable to changing technologies and provides a solid foundation for lifelong learning. |
| PO6 | Promote interdisciplinary research among allied subjects related to applied mathematics |
| PO7 | Use symbolic and numerical software as part of practical computation. |

**3.7: Master of Sciences (M.Sc Physics)**

**Program Educational Objectives (PEOs)**

| | |
|---|---|
| PEO1 | To develop strong student competencies in Physics and its applications in a technology-rich, interactive environment. |
| PEO2 | To develop strong student skills in research, analysis and interpretation of complex information |
| PEO3 | To prepare the students to successfully compete for employment in Electronics, Manufacturing and Teaching and to offer a wide range of experience in research methods, data analysis to meet the industrial needs |

**Program Outcomes (POs):**

| PO NO | Description |
|---|---|
| PO1 | Ability to understand the scope and principle of Physics. |
| PO2 | Ability to solve the physical problems by applying physics principles |
| PO3 | Ability to analyze the outcomes of Physics and electronics experiments and their product. |
| PO4 | Ability to demonstrate the knowledge in physics for managing the physics projects effectively. |
| PO5 | Ability to connect the latest developments in Physics with the knowledge attained during academics and come up with better ideas |
| PO6 | Ability to do research in the fields related to Materials and Electronics. |
| PO7 | Ability to understand and solve the complexity of Solid state physics. |

### 3.8: BBA&BBA-MBA Integrated Program

**Program Educational Objectives**

| | |
|---|---|
| PEO1 | To educate the business graduates to respond effectively in meeting the competitive business needs of the society. |
| PEO2 | To nurture the spirit of Entrepreneurship among the students that propagates the business world. |
| PEO3 | To train the students in emerging as efficient managers equipped with innovation, rationality and application oriented decision-making in the context of the ever-changing business environment. |

**Program outcomes (pos):**

| PO | Description |
|---|---|
| PO1 | Core Business Knowledge Demonstrate competency in the underlying concepts, theory and tools taught in the core undergraduate curriculum. |
| PO2 | Critical Thinking skills Able to define analyze and devise solutions for multifunctional business problems and issues in the areas like Marketing, Finance, Human Resources and Production. |
| PO3 | Global Perspective Identify and analyze relevant global factors that influences decision making in International Business Perspective |
| PO4 | Investigation of complex problems An ability to use research-based knowledge and research methods including design of innovative processes, analysis and interpretation of data and synthesis of the information to obtain solutions to organizational problems |
| PO5 | Application of Statistical and Analytical tools Ability to create, select and apply appropriate analytical tools, techniques and methods in the modern management activities. |
| PO6 | The Manager and society Ability to apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional management practices. |
| PO7 | Legal Environment and sustainability Ability to demonstrate the knowledge of contemporary issues in legal aspects, understanding and reporting their impact on societal and environmental contexts, leading towards sustainable organizational development through entrepreneurial orientation. |
| PO8 | Ethics & Corporate Social Responsibility An ability to apply ethical principles and commit to professional ethics and responsibilities and norms of management practice. Identify and analyze ethical conflicts and social responsibility issues involving different stakeholders. |
| PO9 | Individual and Team Work An ability to perform different roles effectively as an individual and a member or leader in diverse teams and in multi-disciplinary streams with entrepreneurial edge. |
| PO10 | Communication Ability to communicate effectively oral, written reports and graphical forms on complex managerial and administrative activities. |
| PO11 | Project Management and Finance Ability to demonstrate knowledge and understanding of the business and operational activities and having sound knowledge in the financial aspects and applying those concepts to manage projects in multi-disciplinary environments. |
| PO12 | Lifelong Learning An ability to recognize the need for and having the preparation |

| PO | Description |
|---|---|
| | and ability to engage independent and life-long learning in global context of technological and organizational change. |

### 3.9: Bachelor of Commerce (B.Com)

**Program Educational Objectives (PEOs)**

| | |
|---|---|
| PEO1 | To produce best commerce (H) graduates in the country as well as in Global. |
| PEO2 | To equip students with updated inputs in the field of accounting and finance |
| PEO3 | To provide practical explore as per corporate needs through summer intern ship and industrial training. |

**Program Outcomes (POs):**

| | |
|---|---|
| PO1 | Ability to understand the world of trade and commerce |
| PO2 | Ability to apply the knowledge of Accounting, Finance and Taxation in the Global context |
| PO3 | Ability to develop each graduate to be adept in identifying and understanding major trends in commerce in national and international level |
| PO4 | Ability to develop each graduate to be a critical thinker and strong decision maker. |
| PO5 | Ability to develop each graduate to be an effective and professional communicator. |
| PO6 | An understanding of professional and ethical responsibility in business related issues |
| PO7 | Knowledge of contemporary issues in finance and accountancy |
| PO8 | A recognition of the need for and an ability to engage in life-long learning in commercial activities |
| PO9 | Enhance the skills of students competent to deal with Accounting and Finance practices at global level |
| PO10 | Develop commerce students as professional auditors and tax practitioners at national and international level |

### 3.10: Bachelor of Science(Hotel Management )

**Program Education Outcomes (PEOs):**

| | |
|---|---|
| PEO1 | Make students to be leaders in hospitality industry through industry immersion and national and international linkages in order to support business in the field of relevance. |
| PEO2 | To intensify student`s knowledge and skills with instruction based on international standards, to produce quality graduates with balanced knowledge, skills and industry exposure in catering, hotel and management. |

| | |
|---|---|
| PEO3 | Inculcate leadership skills needed for integration of hotel and restaurant development, to demonstrate community involvement in travel and tour operation, airlines and other related industries to strengthen their knowledge and skills. |

**Program Outcomes (POs):**

| PO NO. | Description |
|---|---|
| PO 1 | 1. Technical Knowledge Knowledge of techniques and equipment for planting, growing, and harvesting food products (both plant and animal) for consumption, including storage/handling techniques. |
| PO 2 | 2. Quality / Cost control Knowledge of raw materials, production processes, quality control, costs, hygiene and sanitation and other techniques for maximizing the effective manufacture and distribution of goods. |
| PO 3 | 3. Strategic Planning Knowledge of business and management principles involved effectively in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources. |
| PO 4 | 4. Customer Service Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction |
| PO 5 | 5. Financial Principles Knowledge of economic and accounting principles and practices, the financial markets, banking, analysis and reporting of financial data involved in industrial sectors. |
| PO 6 | 6. Individual and team work Knowledge of principles and procedures for personnel recruitment, selection, training, compensation and benefits, labor relations and negotiation, and personnel information systems. |
| PO 7 | 7. Communication Knowledge of the structure and content of different language including the meaning and spelling of words, rules of composition, and grammar. |
| PO 8 | 8. Marketing Strategy Knowledge of principles and methods for showing, promoting, and selling products or services. This includes marketing strategy and tactics, product demonstration, sales techniques, and sales control systems. |
| PO 9 | 9. Safety Measures Knowledge of principal methods of cleaning, controlling, recycling process, maintenance of equipment's, latest technology and its usage, safety measures to taken in hotel industry. |
| PO10 | 10. Tourism Industry Knowledge on Tourism, hospitality industry history, sales, promotions, Audit, general knowledge, share market, excellent skill to communicate and computer knowledge |

### 3.11: Master of Business Administration (MBA)

**Program Educational Objectives (PEOs)**

| | |
|---|---|
| PEO1 | Make students to apply techniques of business analysis, data management and problem-solving skills in order to support business management decision-making in the field of relevance. |
| PEO2 | Inculcate leadership skills needed for implementing and coordinating organizational activities and managing change to explore business problems in |

| | |
|---|---|
| | depth for developing their functional knowledge to think strategically and to lead, motivate and manage teams across borders. |
| PEO3 | Nurture with abilities to integrate business knowledge and management techniques to aid planning and control in a changing environment and to enhance better career paths. |

**Program Outcomes (POs):**

| PO NO | Description |
|---|---|
| PO1 | Core Business Knowledge: Able to synthesize the knowledge, management skills, and tools acquired in the program, which will be helpful to shape the organizations effectively. |
| PO2 | Career Planning and Decision Making: Able to excel in their chosen career paths, by learning on how to live, adapt and manage business environmental change through decision making. |
| PO3 | Critical Thinking and Leadership :Able to reflect upon and explore business and research problems in depth, to demonstrate leadership skills and to demonstrate ability to pursue new knowledge necessary to succeed in dynamic domestic and international business environments. |
| PO4 | Manager & Society: Able to emerge as efficient managers equipped with innovation, rationality and application oriented decision-making in the context of the ever-changing business environment. |
| PO5 | Team Building & Business Communication: Able to communicate effectively and to perform different roles efficiently as an individual or in a team in multi-disciplinary streams with entrepreneurial edge. |
| PO6 | Business perspective and Sustainability :Able to gain an understanding of professional, legal, financial, marketing, production & operational activities, logistics, ethical, social issues and responsibilities |
| PO7 | Application of Statistical and Analytical tools: Able to gain knowledge of contemporary issues and develops an art of using current techniques, skills and necessary analytical tools for managerial practice. |

### 3.12: Master of Sciences (Finance & Control)

**Program Educational Objectives (PEOs)**

| | |
|---|---|
| PEO1 | To produce best Post graduates in Finance & Control in the country as well as in Global. |
| PEO2 | To equip students with updated inputs in the field of accounting and finance |
| PEO3 | To provide practical explore as per corporate needs through summer intern ship and Finance Research project |

**Program Outcomes (POs):**

| | |
|---|---|
| PO1 | Develop each Post – Graduate student to be adept in identifying and understanding major trends in business environment both locally and globally |
| PO2 | Develop Post-graduate student to be a critical thinker and strong decision maker. |
| PO3 | Develop Post-graduate student to be an effective and professional |

| | |
|---|---|
| | communicator. |
| PO4 | Create an atmosphere by which the student can become a professional entrepreneur |
| PO5 | Enhance the ability and skills of entering into corporate world |
| PO6 | This program would open doors for the students to enter into research and development field. |
| PO7 | Ability to create effective professionals in the area of accounting, finance and taxation |

### 3.13: Engineering Under graduate Programs

**Program Educational Objectives (PEOs)**

To be a globally renowned university, as per our vision, we need to produce quality products (graduates) into the market who have potential strengths to meet all the professional and personal challenges prevailing at global levels and who can serve in all the possible positions of their respective job domains and contribute towards holistic growth of their respective employment providers as well as the nation, world. The graduates must also possess cutting edge R&D skills in their domain areas.

This is exactly what has been framed into the University's Mission and thereby the Mission has converted into the following **Program Educational Objectives (PEOs)** which are best suited to Undergraduate Engineering programs, and are those that complement the university vision, mission.

**B.Tech (B. Tech):**

| | |
|---|---|
| PEO1 | Practice engineering in a broad range of industrial, societal and real-world applications. |
| PEO2 | Pursue advanced education, research and development, and other creative and innovative efforts in science, engineering, and technology, as well as other professional careers. |
| PEO3 | Conduct themselves in a responsible, professional, and ethical manner. |
| PEO4 | Participate as leaders in their fields of expertise and in activities that support service and economic development throughout the world. |

**Program Outcomes (POs):**

| PO NO | Description |
|---|---|
| PO1 | .**Engineering Knowledge** :An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization for the solution of complex engineering problems in engineering |
| PO2 | **Problem Analysis** :An ability to identify, formulate, research literature, analyze complex engineering problems in mechanical engineering using first principles of mathematics, natural sciences and engineering sciences |
| PO3 | **Design/ development of solutions** :An ability to design solutions for complex engineering problems and system component or processes that meet the specified needs considering public health & safety and cultural, societal & environment |

| PO NO | Description |
|---|---|
| PO4 | **Conduct investigations of complex problems** :An ability to use research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of the information to obtain solutions to engineering problems |
| PO5 | **Modern tool usage** :Ability to create, select and apply appropriate techniques, resources and modern engineering activities, with an understanding of the limitations |
| PO6 | **The engineer and society** :Ability to apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice |
| PO7 | **Environment and sustainability** Ability to demonstrate the knowledge of engineering solutions, contemporary issues understanding their impacts on societal and environmental contexts, leading towards sustainable development |
| PO8 | **Ethics** : An ability to apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice |
| PO9 | **Individual and team work** :An ability to function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings |
| PO10. | **Communication** :Ability to communicate effectively oral, written reports and graphical forms on complex engineering activities |
| PO11. | **Project management and finance** :Ability to demonstrate knowledge and understanding of the engineering and management principles and apply those one's own work, as a member and leader in team, to manage projects and in multi-disciplinary environments |
| PO12 | **Lifelong learning** An ability to recognize the need for and having the preparation and ability to engage independent and life-long learning in broadest context of technological change |

**Programme Specific Outcomes (PSOs)**

| | |
|---|---|
| **Bio Technology** | |
| PSO1 | Graduates will be able design, perform experiments, analyze and interpret data for investigating complex problems in biotechnology Engineering and related fields. |
| PSO2 | Graduates will be able to justify societal, health, safety and legal issues and understand his responsibilities in biotechnological engineering practices. |
| **Civil Engineering** | |
| PSO1 | Function as design consultants in construction industry for the design of civil engineering structures. |
| PSO2 | Provide sustainable solutions to the Civil Engineering Problems. |
| **Computer Science & Engineering** | |
| PSO1 | An ability to design and develop software projects as well as Analyze and test user requirements. |
| PSO2 | An Ability to gain working Knowledge on emerging software tools and technologies. |
| **Electronics & Communication Engineering** | |
| PSO1 | An ability to Understand the theoretical and mathematical concepts to analyze real time problems. |

| | |
|---|---|
| PSO2 | An Ability to Design and Analyze systems based on the theoretical and Practical Knowledge |
| **Electronics & Computer Engineering** | |
| PSO1 | An ability to solve complex Electronics Engineering problems, using latest hardware and software tools, to arrive cost effective and appropriate solutions in the domain of embedded systems and Internet of Things. |
| PSO2 | An ability to demonstrate basic knowledge of Web Technologies for development of web-based applications along with knowledge and skill related to cyber security. |
| **Electrical & Electronics Engineering** | |
| PSO1 | Knowledge and hands on competence in simulating, developing, Testing, operation and maintenance of Electrical & Electronics systems. |
| PSO2 | Able to work in multi-disciplinary environments with knowledge on Electrical and Electronics domain and in Project Management techniques, environmental issues and Green technologies. |
| **Mechanical Engineering** | |
| PSO1 | An ability to demonstrate the knowledge, skill to analyze the cause and effects on machine elements, processes and systems. |
| PSO2 | An ability to apply the acquired Mechanical Engineering knowledge for the advancement of society and self. |
| **Petroleum Engineering** | |
| PSO1 | An ability to understand the basic components of petroleum exploration and production operations. |
| PSO2 | An ability to analyze and design solutions for petroleum engineering operations. |

### 3.14: Engineering Post graduate Programs

**Master of Technology (M.Tech)**

The Programme Educational Objectives (PEOs) are the statements that describe the expected achievements from the programme. They are guided by global and local needs, vision of the Institution, long term goals etc.

**The Programme Educational Objectives of M.Tech Programme:**

| | |
|---|---|
| PEO1 | To mould the students to become effective global science students in the competitive environment of modern society. |
| PEO2 | To provide students with strong foundation in contemporary practices of Science, different functional areas and scientific environment |
| PEO3 | To emphasize on application oriented learning. |
| PEO4 | To develop communication, analytical, decision-making, motivational, leadership, problem solving and human relations skills of the students. |
| PEO 5 | To inculcate professional and ethical attitude in students. |
| PEO6 | To pursue lifelong learning as a means of enhancing knowledge and skills necessary to contribute to the betterment of profession |

**M.Tech Bio Technology**

**Programme outcomes**:

| PO NO | Description |
|---|---|
| PO1 | Ability to practically apply various technological concepts. |
| PO2 | Demonstrate knowledge of innovative and modern engineering practices. |

| | |
|---|---|
| PO3 | Ability to apply the specialized expertise in relevant practical fields. |
| PO4 | Ability to communicate effectively and professionally. |
| PO5 | Ability to solve critical practical oriented real time problems. |
| PO6 | Ability to manage people effectively and become good leaders. |
| PO7 | Develop professional and ethical attitude and become socially responsible citizens |

**M.Tech -Structural Engineering**
**Programme Outcomes**

| PO NO | Description |
|---|---|
| PO1 | Knowledge of a broad range of structural methodologies and underlying civil engineering, commonly used in the development and analysis of Structural Engineering systems. |
| PO2 | Knowledge of fundamental design issues relevant to Structural Engineering and an understanding of how to formulate and analyze design solutions in various engineering contexts. |
| PO3 | In-depth knowledge of one or more of the following (depending of selection of option modules and project area): specific engineering systems, design methods, modeling techniques. |
| PO4 | Knowledge of basic research and development principles and practices relevant to main stream engineering industry. |
| PO5 | Knowledge of key professional, safety and ethical issues arising in modern engineering industry. |
| PO6 | Knowledge of time management and work planning issues related to the organization implementation and successful completion, including reporting, of an individual, masters level, Engineering based projects. |
| PO7 | Knowledge of sustainable solutions to the Civil Engineering Problems in design aspects. |

**M.Tech -Construction Technology & Management**
**Programme Outcomes**

| PO NO | Description |
|---|---|
| PO1 | Knowledge of a broad range of Construction Technology methodologies and underlying civil engineering, commonly used in the development and analysis of Construction Technology and Management systems |
| PO2 | Knowledge of fundamental design issues relevant to Construction Engineering and an understanding of how to formulate and analyse design solutions in various engineering contexts |
| PO3 | In-depth knowledge of one or more of the following (depending of selection of option modules and project area): specific engineering systems, design methods, modeling techniques |
| PO4 | Knowledge of basic research and development principles and practices relevant to main stream engineering industry |

| | |
|---|---|
| PO5 | Knowledge of key professional, safety and ethical issues arising in modern engineering industry |
| PO6 | Knowledge of time management and work planning issues related to the organization implementation and successful completion, including reporting, of an individual, masters level, Engineering based projects |
| PO7 | Knowledge of sustainable solutions to the Civil Engineering Problem in construction technology and management. |

**M.Tech - Geo-Informatics**
**Programme Outcomes**

| PO NO | Description |
|---|---|
| PO1 | Knowledge of a broad range of Geospatial Technology methodologies and underlying civil engineering commonly used in the development and analysis of geo spatial systems. |
| PO2 | Knowledge of fundamental design issues relevant to Geospatial Technology and an understanding of how to formulate and analyse design solutions in various engineering contexts |
| PO3 | In-depth knowledge of one or more of the following (depending of selection of option modules and project area): specific engineering systems, design methods, modeling techniques |
| PO4 | Knowledge of basic research and development principles and practices relevant to main stream engineering industry |
| PO5 | Knowledge of key professional, safety and ethical issues arising in modern engineering industry |
| PO6 | Knowledge of time management and work planning issues related to the organization implementation and successful completion, including reporting, of an individual, masters level, Engineering based projects |
| PO7 | Knowledge of sustainable solutions to the Civil Engineering Problems by mapping using geospatial technologies. |

**M.Tech - Energy and environmental Technology**
**Programme Outcomes**

| PO NO | Description |
|---|---|
| PO1 | Knowledge of a broad range of Energy and environmental Technology methodologies and underlying civil engineering, commonly used in the development and analysis of Energy and environmental systems. |
| PO2 | Knowledge of fundamental design issues relevant to Energy and environmental Technology and an understanding of how to formulate and analyse design solutions in various engineering contexts |

| | |
|---|---|
| PO3 | In-depth knowledge of one or more of the following (depending of selection of option modules and project area): specific engineering systems, design methods, modeling techniques |
| PO4 | Knowledge of basic research and development principles and practices relevant to main stream engineering industry |
| PO5 | Knowledge of key professional, safety and ethical issues arising in modern engineering industry |
| PO6 | Knowledge of time management and work planning issues related to the organization implementation and successful completion, including reporting, of an individual, masters level, Engineering based projects |
| PO7 | Knowledge of sustainable solutions to the environmental Problems by energy and environmental technologies. |

**M.Tech- Computer Science Engineering**

**Program Outcomes**

| PO NO | Description |
|---|---|
| PO1 | Apply the knowledge of computer engineering principles and paradigms in the design of system components and processes that meet the specific needs of the industry. |
| PO2 | Identify, analyze and formulate solutions to complex engineering problems using innovative and emerging technologies. |
| PO3 | Effectively communicate technical information in speech, presentation and documentation. |
| PO4 | Extract information relevant to novel problems and apply appropriate research methodology to develop scientific knowledge. |
| PO5 | Self-learn and pursue higher studies to upgrade qualifications and attain constructive growth in profession. |
| PO6 | Make valuable contributions to design, developer by practicing related engineering applications and algorithmic methods. |
| PO7 | Provide exposure to latest tools and technologies based on the industry needs and contribute to valuable research findings in the specialized domains. |

**M.Tech – Machine Learning and Computing**

**Program outcomes:**

| PO NO | Description |
|---|---|
| PO1 | Apply the knowledge of computer engineering principles and paradigms in the design of system components and processes that meet the specific needs of the industry. |
| PO2 | Identify, analyze and formulate solutions to complex engineering problems using innovative and emerging technologies. |
| PO3 | Effectively communicate technical information in speech, presentation and documentation. |
| PO4 | Extract information relevant to novel problems and apply appropriate research methodology to develop scientific knowledge. |
| PO5 | Self-learn and pursue higher studies to upgrade qualifications and attain constructive growth in profession. |
| PO6 | Make valuable contributions to design, developed by practicing related engineering applications and algorithmic methods. |
| PO7 | Provide exposure to latest tools and technologies based on the industry needs and contribute to valuable research findings in the specialized domains. |

**M.Tech-Digital Forensics & Cyber Security**

**Program outcomes:**

| PO NO | Description |
|---|---|
| PO1 | Apply the knowledge of computer engineering principles and paradigms in the design of system components and processes that meet the specific needs of the industry. |
| PO2 | Identify, analyze and formulate solutions to complex engineering problems using innovative and emerging technologies. |
| PO3 | Effectively communicate technical information in speech, presentation and documentation. |
| PO4 | Extract information relevant to novel problems and apply appropriate research methodology to develop scientific knowledge. |
| PO5 | Self-learn and pursue higher studies to upgrade qualifications and attain constructive growth in profession. |
| PO6 | Make valuable contributions to design, developed by practicing related engineering applications and algorithmic methods. |

| | |
|---|---|
| PO7 | Provide exposure to latest tools and technologies based on the industry needs and contribute to valuable research findings in the specialized domains. |

**M.Tech - Radar & Communication**

**Programe Outcomes:**

| PO NO | Description |
|---|---|
| PO1 | An ability to identify, formulate, research literature, analyze complex engineering problems in the area of communications and RADAR to cater national and industrial needs. |
| PO2 | An ability to develop solutions for complex problems in communication system design and RADAR system component or processes that meet the specified needs considering. |
| PO3 | Ability to create and apply appropriate techniques using modern industrial and research tools for modeling and testing of antennas, communications system modules and RADAR systems. |
| PO4 | An ability to design the experiments, analysis and interpretation of data and synthesis of the information using various modern and industrial tools to obtain solutions for complex problems in industries, military and social needs. |
| PO5 | Ability to apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues, ethical principles of engineering practices and the consequent responsibilities relevant to the RADAR engineering. |
| PO6 | Exposure to prerequisite math's and a mathematically rigorous approach to communication theory will provide him with all the necessary background to pursue a career in any field of communications going forward in his career. |
| PO7 | An ability to function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings for project management by demonstrating the knowledge and understanding of principles of communication systems and radar, and apply those one's own work, as a member and leader in team, to manage projects and in multi-disciplinary environments. |

**M.Tech Program VLSI**

**Programe Outcomes:**

| PO NO | Description |
|---|---|
| PO1 | Apply the knowledge of science, mathematics, and engineering principles for developing problem solving attitude and get sound knowledge in the theory, principles and applications of VLSI Circuits and Systems. |
| PO2 | Configure recent EDA tools, apply test conditions, deploy and manage them. |
| PO3 | Design and conduct experiments, analyze and interpret data, imbibe programming skills for development of simulation experiments. |
| PO4 | Ability to demonstrate the knowledge of engineering solutions, and function as a member of a multidisciplinary team with sense of ethics, integrity and social responsibility. |
| PO5 | To develop, design and implement projects with given specifications, in order to cater |

| | |
|---|---|
| | industrial needs. |
| PO6 | Ability to investigate develops and carries out research to solve industrial problems related to designing and testing of VLSI systems. |
| PO7 | Design a system, component or process as per social needs and specifications and also will be aware of contemporary issues. |

**M.Tech Atmospheric Science and Space Technology**

**Programe Outcomes**:

| **PO NO** | **Description** |
|---|---|
| PO1 | Ability to understand the physical mechanisms controlling the structure and evolution of atmospheric phenomena covering a broad range of scales in spatial and temporal domain using first principles of mathematics, physics and chemical sciences. |
| PO2 | To create well trained manpower with expertise in mathematical tools and computer applications for applying appropriate techniques and resources with thorough understanding of atmospheric processes. |
| PO3 | An ability to demonstrate knowledge and understanding of the atmospheric sciences and management principles tocarry out investigation or research and development effectively as an individual, and as a member or leader in diverse teams to solve weather and climatological issues. |
| PO4 | An ability to use research-based knowledge and research methods including design of experiments, , simulation, analysis and interpretation of data and synthesis of the information to obtain solutions to adverse atmospheric problems in a global, economic, environmental, and societal context. |
| PO5 | Ability to demonstrate the knowledge by applying critical and analytical thinking through combining with other interrelated domains of earth and space science in order to take challenging responsibility for addressing issues relating to extreme weather, climate and natural hazards. |
| PO6 | An ability to understand and apply ethical principles and commit to professional ethics and responsibilities and norms of atmospheric sciences being aware of the scientific limits of prediction and forecasting as well as human and machine interpretations. |
| PO7 | An ability to become a practicable candidate and recognize the need for emphasizing the importance of atmospheric issues and timely enrich individual learning in a broader context of technological advancements for understand and mitigate complex climatological and weather extremes through atmospheric evolutions. |

**M.Tech Embedded Systems**

**Program Outcomes (Po's)**

| **PO NO** | **Description** |
|---|---|
| PO1 | To demonstrate the skills to meet the current and future industrial challenges in the field of embedded systems engineering. |
| PO2 | Able to create, develop, apply, and disseminate knowledge within the embedded systems development environment. |
| PO3 | Ability to communicate effectively and professionally. |
| PO4 | Develop the professional and ethical attitude and become socially responsible |

| | |
|---|---|
| | citizens. |
| PO5 | Ability to carry out cutting edge research in the emerging areas of Embedded Systems. |
| PO6 | Ability to develop embedded system product conceptualization methods |
| PO7 | Demonstrate their role as engineers or entrepreneurs and contribute to society. |

**M.Tech - Power Systems:**

**Program Outcomes (Po's)**

| PO NO | Description |
|---|---|
| PO1 | Acquire in- depth knowledge in the domain of power systems and understanding of engineering principles for project management. |
| PO2 | Ability to critically analyze various power system components, models and their operation. |
| PO4 | Apply advanced concepts of electrical power engineering to analyze, design and develop electrical components, apparatus and systems to put forward scientific findings at national and international levels. |
| PO5 | Ability to use advanced techniques, skills and modern scientific and engineering tools for professional practice. |
| PO6 | Preparedness to lead a multidisciplinary scientific research team, communicate and lifelong learning effectively. |
| PO7 | Recognize the need to engage in lifelong learning through continuing education and research. |

**M.Tech – Power Electronics and Drives**

**Program Outcomes**

| | |
|---|---|
| PO1 | Advanced knowledge of a broad range of modelling methodologies, and underlying principles of mechanics, commonly used in the development and analysis of mechanical machines and systems. |
| PO2 | Knowledge of fundamental design issues relevant to machine or mechanical component, and an understanding of how to formulate and analyze design solutions in various engineering contexts. |
| PO3 | Working knowledge of a range of modern mathematical methods and tools used in the development and analysis of machines and mechanical systems. |
| PO4 | In-depth knowledge of one or more of the following (depending of selection of option modules and project area): specific engineering systems, design methods, modelling techniques, mathematical and/or numerical techniques. |

| | |
|---|---|
| PO5 | Knowledge of basic research and development principles and practices relevant to mainstream engineering industry. |
| PO6 | Knowledge of key professional, safety and ethical issues arising in modern engineering industry. |
| PO7 | Knowledge of time-management and work planning issues related to the organisation, implementation and successful completion, including reporting, of an individual, Masters level, engineering based project. |

**M.Tech. – Thermal Engineering**

Program Outcome's

| | |
|---|---|
| PO1 | Advanced knowledge of a broad range of modelling methodologies, and underlying mechanical science, commonly used in the development and analysis of Thermal engineering systems. |
| PO2 | Knowledge of fundamental design issues relevant to Thermal engineering, and an understanding of how to formulate and analyse design solutions in various engineering contexts. |
| PO3 | Working knowledge of a range of modern mathematical methods and tools used in the development and analysis of Thermal engineering systems. |
| PO4 | In-depth knowledge of one or more of the following (depending of selection of option modules and project area): specific engineering systems, design methods, modelling techniques, mathematical and/or numerical techniques. |
| PO5 | Knowledge of basic research and development principles and practices relevant to mainstream engineering industry. |
| PO6 | Knowledge of key professional, safety and ethical issues arising in modern engineering industry. |
| PO7 | Knowledge of time-management and work planning issues related to the organisation, implementation and successful completion, including reporting, of an individual, Masters level, engineering based project. |

**M.Tech. – Robotics and Mechatronics**

Program Outcome's

| PO Number | Description |
|---|---|
| PO1 | Advanced knowledge of a broad range of modelling methodologies, and underlying mechanical science, commonly used in the development and analysis of mechatronic engineering systems. |
| PO2 | Knowledge of fundamental design issues relevant to mechatronic engineering, and an understanding of how to formulate and analyse design solutions in various engineering contexts. |
| PO3 | Working knowledge of a range of modern mathematical methods and tools used in the development and analysis of mechatronic engineering systems. |
| PO4 | In-depth knowledge of one or more of the following (depending of selection of option modules and project area): specific engineering systems, design methods, modelling techniques, mathematical and/or numerical techniques. |

| | |
|---|---|
| PO5 | Knowledge of basic research and development principles and practices relevant to mainstream engineering industry. |
| PO6 | Knowledge of key professional, safety and ethical issues arising in modern engineering industry. |
| PO7 | Knowledge of time-management and work planning issues related to the organization, implementation and successful completion, including reporting, of an individual, Masters level, engineering based project. |

**M.Tech – Machine Design**

Program Outcome's

| | |
|---|---|
| PO1 | Advanced knowledge of a broad range of modelling methodologies, and underlying principles of mechanics, commonly used in the development and analysis of mechanical machines and systems. |
| PO2 | Knowledge of fundamental design issues relevant to machine or mechanical component, and an understanding of how to formulate and analyse design solutions in various engineering contexts. |
| PO3 | Working knowledge of a range of modern mathematical methods and tools used in the development and analysis of machines and mechanical systems. |
| PO4 | In-depth knowledge of one or more of the following (depending of selection of option modules and project area): specific engineering systems, design methods, modelling techniques, mathematical and/or numerical techniques. |
| PO5 | Knowledge of basic research and development principles and practices relevant to mainstream engineering industry. |
| PO6 | Knowledge of key professional, safety and ethical issues arising in modern engineering industry. |
| PO7 | Knowledge of time-management and work planning issues related to the organisation, implementation and successful completion, including reporting, of an individual, Masters level, engineering based project. |

**3.15: Bachelor Fine Arts**

**Programme Educational Objectives (PEO's)**

| | |
|---|---|
| PEO1 | Graduate Apply appropriate communication skills across settings, purposes, and audiences. |
| PEO2 | Graduates shall promote professionalism in the practice of Fine Arts. |
| PEO3 | Graduates with sense of responsibility and rooted in community involvement with a |

| | |
|---|---|
| | global perspective. |
| PEO4 | Participate as leaders in their fields of expertise and in activities that support service and economic development throughout the world. |

**Programme Outcomes (PO's)**

| | |
|---|---|
| PO1 | Building a solid foundation in the elements, principles and process of visual design |
| PO2 | Communicate effectively with clients and utilize the talents and strengths of design colleagues to develop the best design products. |
| PO3 | Applying fundamentals to solve increasingly complex design problems in technologically innovative ways |
| PO4 | Engage in critical analysis of their own and their peer's creative work. |
| PO5 | Explore media, communication and dissemination techniques to entertain via written, oral and visual media. |
| PO6 | Apply design principles to software in a manner that provides the skills to adapt to the newest technologies in expectation for the technologies which will emerge in the future. |
| PO7 | Understanding of and ability to develop strategies for planning, producing, and disseminating visual communications. |
| PO8 | Understand and prepare production management for artworks for hassle free delivery of works |
| PO9 | Ability to design solutions for the development of current society and a design which is functional in the growth of acting society |
| PO10 | Engage in the practicing of ethical professionalism in the creative world |
| PO11 | Ability to understand the Global Scenario and get updated time to time |
| PO12 | Ability to carry out research study and fill in the void thus developing new dimensions in applied arts and crafts. |

**3.16: Bachelor of Science (Visual Communication)**

| | |
|---|---|
| PEO1 | Graduate Apply appropriate communication skills across settings, purposes, and audiences. |
| PEO2 | Graduates shall promote professionalism in the practice of Visual Communication. |
| PEO3 | Graduates with sense of responsibility and rooted in community involvement with a global perspective. |
| PEO4 | Participate as leaders in their fields of expertise and in activities that support service and economic development throughout the world. |

**Programme Outcomes (PO's)**

| | |
|---|---|
| PO1 | Building a solid foundation in the elements, principles and process of visual design |
| PO2 | Communicate effectively with clients and utilize the talents and strengths of design colleagues to develop the best design products. |
| PO3 | Applying fundamentals to solve increasingly complex design problems in |

| | |
|---|---|
| | technologically innovative ways |
| PO4 | Engage in critical analysis of their own and their peer's creative work. |
| PO5 | Explore media, communication and dissemination techniques to entertain via written, oral and visual media. |
| PO6 | Apply design principles to software in a manner that provides the skills to adapt to the newest technologies in expectation for the technologies which will emerge in the future. |
| PO7 | Understanding of and ability to develop strategies for planning, producing, and disseminating visual communications. |
| PO8 | Understand and prepare production management for artworks for hassle free delivery of works |
| PO9 | Ability to carry out research study and fill in the void thus developing new dimensions in communications. |
| PO10 | Engage in the practicing of ethical professionalism in the creative world |

**3.17: Bachelor of Pharmacy (B.Pharm)**

**Program Educational Objectives**

| | |
|---|---|
| PEO1 | To produce pharmacist workforce competent for the society. |
| PEO2 | To produce pharmacy graduates with employable skills and high technical competence in pharmaceutical industry and health care sectors |
| PEO3 | To inculcate research activity and develop passion for discovery and innovations |
| PEO4 | To develop entrepreneurship qualities that support growth of pharmaceutical intellectual property and contribute for economic development throughout the world |

**Program Outcomes (POs):**

| | |
|---|---|
| PO 1 | Pharmacy Knowledge: Provide basic knowledge for understanding the principles and their applications in the area of Pharmaceutical Sciences and Technology. |
| PO 2 | Technical Skills: Develop an ability to use various instrument and equipment with an in-depth knowledge on standard operating procedures for the same. |
| PO 3 | Modern tool usage: Develop/apply appropriate techniques, resources, and IT tools including prediction and modeling to complex health issues and medicine effect with an understanding of the limitations. |
| PO 4 | Research and Development: To demonstrate knowledge of identifying a problem, critical thinking, analysis and provide rational solutions in different disciplines of Pharmaceutical Sciences and Technology |
| PO 5 | Lifelong Learning: Develop an aptitude for continuous learning and professional development with ability to engage in pharmacy practice and health education programs |
| PO 6 | Communication: Communicate effectively on health care activities with the medical community and with society at large, to comprehend drug regulations, write health reports and provide drug information |
| PO 7 | The Pharmacist and Society: Apply reasoning informed by the contextual knowledge to comprehend medical prescription, perform patient counselling and issue or receive clear instructions on drug safety and the consequent responsibilities relevant to the professional pharmacy practice. |

| | |
|---|---|
| PO 8 | Ethics: Follow the code of ethics and commit to professional values and responsibilities and norms of the pharmacy practice. |
| PO 9 | Environment and Sustainability: Understand the impact of the professional pharmacy solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. |
| PO 10 | Pharmaceutical product development: To apply the knowledge of manufacturing, formulation and quality control of various pharmaceutical and cosmetic products. |
| PO 11 | Competitive skills: Develop problem-solving skills and aptitude to participate and succeed in competitive examinations. |
| PO 12 | Invention and Entrepreneurship: Application of technical skills to integrate health care systems, design an effective product with commercial advantage and societal benefit, perform risk analysis and become entrepreneur. |

### 3.18: Bachelor of Business Administration – Bachelor of Law (BBA-LLB)

**Program Education Outcomes (PEOs):**

| | |
|---|---|
| PEO1 | Should be able to stimulate compassion and creativity in the field of legal profession. |
| PEO2 | Strengthen intellectual growth and the capacity to develop ingenious and conscientious legal solutions to unique and varying tribulations of society and business environment |
| PEO3 | Acquire leadership capabilities necessary for the competent practice of law and lifelong learning in practice |
| PEO4 | Pursue advanced education, research and development, and other innovative and pioneering efforts in the field of law |

**Program Outcomes (POs):**

| PO NO | Description |
|---|---|
| PO1 | Ability to gain knowledge of law and the application of such knowledge in practice |
| PO2 | Be proficient to use the fundamentals and vital principles in law; |
| PO3 | Identify and solve the social, economic and cultural issues in law; |
| PO4 | Ability to synthesis academic knowledge to legal problems and find solutions; |
| PO5 | Recognize the ethical and professional responsibilities and the norms of advocacy; |
| PO6 | Ability to research, review, comprehend and utilize such knowledge for Law reform; |
| PO7 | Converse effectively and work in inter-disciplinary groups and legal institutions; |
| PO8 | To guide the trainee legal practitioners in the right direction; |
| PO9 | Ability to understand the real-life situation in legal profession and practice; |
| PO10 | To make the student to learn aesthetically pleasing practice and make it socially relevant; |

**Programme Specific Outcomes (PSOs)**

| **5 Year BB.A, LL.B PROGRAMME** | |
|---|---|
| PSO1 | To equip skills required to deal with a fast-changing business environment and legal arena; |
| PSO2 | To acquaint with technological developments and to make suitable changes in the field of law and legal profession. |

# CHAPTER 4
# ACADEMIC REGULATIONS

This document supplements the KLEF rules and regulations to provide assistance to all students. It is required that every individual has to abide by these regulations.

**Note**: The regulations stated in this document are subject to change or can be relaxed / modified without prior notice at the discretion of the Hon'ble Vice Chancellor.

**Terminology**

**Academic Council:** The Academic Council is the highest academic body of the University and is responsible for the maintenance of standards of instruction, education and examination within the University. Academic Council is an authority as per UGC regulations and it has the right to take decisions on all academic matters including academic research.

**Academic Year:** It is the period necessary to complete an actual course of study within a year. It comprises of two consecutive semesters i.e., Even and Odd semester.

**Y19 Audited Course:** It is a course of study which has zero credits and has a "Satisfactory" or an "Unsatisfactory" grade.

**Y15**: It is a course of study which neither has evaluation component nor a grade.

**Backlog Course:** A course is considered to be a backlog course if the student has obtained a failure grade (F).

**Basic Sciences:** The courses of foundational nature in the areas of Mathematics, Physics, Chemistry, Biology etc., are offered in this category.

**Betterment:** Betterment is a way that contributes towards improving the students' grade in any course(s). It can be done by either (a) re-appearing or (b) re-registering for the course.

**Board of Studies:** Board of Studies (BOS) is an authority as defined in UGC regulations, constituted by Vice Chancellor for each of the department separately. They are responsible for curriculum design and update in respect of all the programs offered by a department.

Branch of Study: It is a branch of knowledge, an area of study or a specific program (like Civil Engineering, Mechanical Engineering, Electrical and Electronics Engineering etc.)

**Certificate course:** It is a course that makes a student gain hands-on expertise and skills required for holistic development. It is a mandatory, non-credited course for the award of degree.

**Change of Branch:** Change of branch means transfer from one's branch of study to other.

**Compulsory course:** Course required to be undertaken for the award of the degree as per the program.

**Course:** A course is a subject offered by the University for learning in a particular semester.

**Course Handout:** Course Handout is a document, which gives complete plan of the course. It

contains the details of the course viz. Course title, Course code, Pre-requisite, Credit structure, team of instructors, Course objectives, Course rationale, Course Outcomes and the relevant syllabus, textbook(s) and reference books, Course delivery plan and session plan, evaluation method, chamber consultation hour, course notices and other course related aspects. In essence, course handout is an agreement between students (learners) and the instructor.

**Course Outcomes:** The essential skills that need to be acquired by every student through a course.

**Credit:** A credit is a unit that gives weight to the value, level or time requirements of an academic course. The number of 'Contact Hours' in a week of a particular course determines its credit value. One credit is equivalent to one lecture hour per week or two hours per week of tutorials/ self-learning/ practical/ field work during a semester.

**Credit point:** It is the product of grade point and number of credits for a course.

**Credit Transfer:** The procedure of granting credit(s) to a student for course(s) undertaken at another institution.

**Cumulative Grade Point Average (CGPA):** It is a measure of cumulative performance of a student over all the completed semesters. The CGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places.

**Curriculum:** Curriculum incorporates the planned interaction of students with instructional content, materials, resources, and processes for evaluating the attainment of Program Educational Objectives.

**Degree:** A student who fulfills all the Program requirements is eligible to receive a degree.

**Degree with Specialization:** A student who fulfills all the Program requirements of her/his discipline and successfully completes a specified set of Professional elective courses in a specialized area is eligible to receive a degree with specialization.

**Department:** An academic entity that conducts relevant curricular and co-curricular activities, involving both teaching and non-teaching staff and other resources.

**Y19 Detention in a course:** Student who does not **obtain minimum prescribed marks in continuous in-semester evaluation and /or minimum** prescribed attendance in a course shall be detained in that particular course.

Y15: Student who does not obtain minimum prescribed marks in continuous in-semester evaluation and /or minimum prescribed attendance in a course shall be detained in that particular course.

**Dropping from the Semester:** A student who doesn't want to register for the semester should do so in writing in a prescribed format before commencement of the semester.

**Elective Course:** A course that can be chosen from a set of courses. An elective can be Professional Elective, Open Elective, Management Elective and Humanities Elective.

**Engineering Sciences**: The courses belonging to basic evolutionary aspects of engineering from Mechanical Sciences, Electrical Sciences and Computing like Engineering Mechanics, Data structures, Network Theory, Signal Analysis etc...

**Evaluation:** Evaluation is the process of judging the academic work done by the student in her/his courses. It is done through a combination of continuous in-semester assessment and semester end examinations.

**Grade:** It is an index of the performance of the students in a said course. Grades are denoted by alphabets.

**Grade Point:** It is a numerical weight allotted to each letter grade on a 10 - point scale.

**Honors Degree:** A student who fulfills all the Program requirements of her/his discipline and successfully completes a specified set of additional courses within the same program is eligible to receive an Honors degree.

**Humanities Elective**: A course offered in the area of Liberal Arts.

**Industrial Training:** Training program undergone by the student as per the academic requirement in any company/firm. It is a credited course.

**Industrial Visit:** Visit to accompany/firm as per the academic requirement.

**Y19 In-Semester Evaluation: Summative assessments used to evaluate student learning, acquired skills, and academic attainment during a course.**

**Y15:** Summative assessments used to evaluate student learning, acquired skills, and academic attainment during a course.

**Y19 Make-up Test:** An additional test scheduled on a date other than the originally scheduled date. (Describe elaborately)

Y15: An additional test scheduled on a date other than the originally scheduled date.

**Management elective**: A course that develops managerial skills and inculcates entrepreneurial skills.

**Mini project:** Mini Project is a credit-based course that a student has to undergo during his/her academic term, which involves the student to explore in a discipline belonging to their research interest within their program area.

**Minor Degree:** A student who fulfills all the Program requirements of her/his discipline and successfully completes a specified set of courses from another discipline is eligible to receive a minor degree in that discipline.

**Multi- Section Course:** Course taught for more than one section.

**Open Elective:** This is a course of interdisciplinary nature. It is offered across the University for All Programs.

**Over loading:** Registering for more number of credits than normally prescribed by the Program in a semester.

**Practice School:** It is a part of the total program and takes one full semester in a professional location, where the students and the faculty get involved in finding solutions to real-world problems. A student can choose Project/Practice School during his/her $7^{th}$ or $8^{th}$ semester of his/her Academic Year to meet the final requirements for a degree.

**Pre-requisite:** A course, the knowledge of which is required for registration into higher level course.

**Professional Core:** The courses that are essential constituents of each engineering discipline are categorized as Professional Core courses for that discipline.

**Professional Elective**: A course that is discipline centric. An appropriate choice of minimum number of such electives as specified in the program will lead to a degree with specialization.

**Program:** A set of courses offered by the Department. A student can opt and complete the stipulated minimum credits to qualify for the award of a degree in that Program.

**Program Educational Objectives:** The broad career, professional, personal goals that every student will achieve through a strategic and sequential action plan.

**Project:** Course that a student has to undergo during his/her final year which involves the student to undertake a research or design, which is carefully planned to achieve a particular aim. It is a credit based course.

**Project based laboratory:** Project Based Laboratory is a student-centric learning methodology that involve students in design, problem-solving, decision making, and investigative activities; gives students the opportunity to work in teams, over extended periods of time; and culminate in realistic products or presentations

**Re-Appearing**: A student can reappear only in the semester end examination for the Theory component of a course, subject to the regulations contained herein.

**Registration**: Process of enrolling into a set of courses in a semester/ term of the Program.

**Re-Registering:** A student desiring to repeat a course is permitted to do so, subject to the regulations contained herein.

**Semester:** It is a period of study consisting of 15 to 18 weeks of academic work equivalent to normally 90 working days including examination and preparation holidays. The odd Semester starts normally in July and even semester in December.

**Semester End Examinations:** It is an examination conducted at the end of a course of study.

**Single Section Course:** Course taught for a single section.

**Social Service:** An activity designed to promote *social* awareness and generate well-being; to improve the life and living conditions of the society.

**Student Outcomes:** The essential skill sets that need to be acquired by every student during her/his program of study. These skill sets are in the areas of employability, entrepreneurial, social and behavioral.

**Substitution of Elective course:** Replacing an elective course with another elective course as

opted by the student.

**Summer term:** The term during which courses are offered from May to July. Summer term is not a student right and will be offered at the discretion of the University.

**Term Paper:** A 'term paper' is a research report written by students that evolves their course based knowledge, accounting for a grade. Term paper is a written original research work discussing a topic in detail. It is a credit based course.

**Under-loading:** Registering for lesser number of credits than normally prescribed by the Program in a semester.

**Withdraw from a Course:** Withdrawing from a Course means that a student can drop from a course within the first two weeks of the odd or even Semester (deadlines are different for summer sessions). However s/he can choose a substitute course in place of it by exercising the option within 5 working days from the date of withdrawal.

## Chapter 5

## ACADEMIC INSTRUCTIONS

### 5.1 General Behavior

a. Students should speak in English only while on campus with the faculty or among themselves.

b. Students are expected to wish/greet all senior officials of the KLEF with due respect.

c. Students should be courteous and polite in dealing with all Faculty &staff.

d. Students should maintain silence and/or speak in a soft voice in and around the classrooms, library, laboratories, and offices of the Deans, Program Chairs, Senior Officials, faculty rooms and corridors of academic buildings. It must be noted that shouting, talking in loud voice or in chorus, using indecent, abusive and discourteous language anywhere within the institution premises are considered serious acts of indiscipline and are punishable.

e. Students should not loiter during the free time in the university campus.

f. Students should not issue any public or press statement, send letters to editors, government, public servants or notaries without prior permission and approval of the Registrar of KLEF in writing.

g. Students should keep the status, dignity, prestige and reputation of KLEF high and not engage in anything that might directly or indirectly undermine the standing of the institution.

h. Students must always adhere to a prescribed/decent dress code befitting the dignity of a technical/professional student within the campus.

i. Ragging of any student is a serious act of indiscipline and has been totally banned by the Hon'ble Supreme Court of India. A student found involved in any form of ragging, verbal or physical, inside or outside the institutional campus, hostels, or buses shall be treated as per the anti-ragging rules of the KLEF.

j. Students must not be involved in quarreling or fighting or any indecent verbal or physical activity among themselves, or with staff and faculty or visitors. Direct or indirect involvement in any such activity will be considered as serious breach of discipline and strict disciplinary action will be taken against the students that engage in such activities.

k. Students are not allowed to sit on the steps, boundary walls on the higher floors of any building, or engage in gossiping, making noise or any other such activity.

### 5.2 KLEF Working Hours

KLEF operates between 7:20 AM to 5.00 PM on all week days.

### 5.2.1 Lecture Class Environment

The institute is a community of learners. Students have a responsibility of creating and maintaining an environment that supports effective learning to receive effective instructions in classrooms, laboratories. KLEF expects students to conduct themselves in an orderly and cooperative manner by adhering to University Rules & Regulations.

### 5.2.2 Laboratory Environment

A conducive learning environment in the laboratory is essential and the students are advised to follow the guidelines mentioned below:

l. Always listen carefully to the faculty especially for the safety precautions to take in the laboratories. Accidents resulting in injuries may occur if precautions are not taken.
m. Eating in laboratories is strictly prohibited.
n. Proper dress code is to be followed as prescribed by faculty in each lab.
o. Students should familiarize themselves with the location of all safety equipment which may be available.
p. Follow evacuation procedures quickly and quietly, if needed.
q. Students should always conduct themselves in a responsible and cautious manner. Risky behaviors such as pushing, running, jumping etc., are unwarranted.
r. Only materials required to complete and record the experiment instructions, (e.g. pencils or graph paper, etc.) should be brought into the laboratory.
s. Equipment must be carefully handled to prevent breakage or damage, otherwise appropriate penalties/disciplinary-action may believed/imposed.
t. Lab station must be cleaned prior to leaving a lab.
u. Any accident, no matter how small or big, must be reported to the concerned faculty immediately.

## 5.3 Registration Process

For every course, the student must undertake the registration process prior to commencement of the course-work, based on the following conditions;

a. Registration into a course will be permitted only for such courses, which are offered by KLEF in that semester.
b. A student must clear the pre-requisite(s) if any, to register in to a course.
c. KLEF reserves the right to register.
d. Registration for add/drop/change of a course will be permitted only within one week from the scheduled date of commencement of classes.
e. Students can register up to a maximum of 32 credits of their choice in a semester to meet their program requirements.
f. Students, who wish to register for additional credits through Overloading or less credits

through Under loading, must seek prior permission from Dean-Academics.

g. Students who have opted for minor degree, Honors degree, can register for more number of credits in a semester through Overloading.

h. KLEF reserves the right to withdraw within one week of the commencement of the semester any elective course offered, if adequate number of students have not registered or for any other administrative reasons. In such cases, the students are permitted to register for any other elective course of their choice provided they have fulfilled the eligibility conditions.

   KLEF reserves the right to cancel the registration of a student from a course or a semester or debar from the degree on disciplinary / plagiarism grounds.

i. A student is solely responsible to ensure that all conditions for proper registration are satisfied. If, there is any clash in the timetable, it should be immediately brought to the notice of the Academic coordinator for necessary corrective action. The registration may be cancelled for a course or the entire semester either by KLEF if any irregularity is found at a later stage.

## CHAPTER 6

### Requirements for the award of Degree

For all Programs the following are the requirements

- ✓ The student should complete all mandatory courses (University Core, College Core and Departmental Core) as prescribed in the curriculum of the respective department.
- ✓ The Student must participate in social service activities for a minimum duration of 40 hours.

Apart from the above for all PG Programs the following requirements are also must be satisfied.

- ✓ Must have published a minimum of one publication (along with Supervisor) in Scopus indexed Journal.

And the following criteria must be fulfilled for the various programs as given against the program name.

| | Name of the program | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Total Credits | Minimum CGPA required |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Bachelor of Architecture** | 14 | 15 | 9 | 4 | 2 | | | | | | | | | 58 | 174 | | 276 | 5.00 |
| 2 | **Bachelor of Arts** | 48 | 10 | | | | | | 4 | | | | 59 | | | | | 121 | 5.25 |
| 3 | **Bachelor of Computer Applications** | | | 8 | | | | | 14 | | | | 21 | 4 | | 88 | | 135 | 5.25 |
| 4 | **Master of Arts (English)** | 24 | | | | | | | 15 | | | | | | | 91 | | 130 | 5.5 |
| 5 | **Master of Science ( Chemistry)** | | | 9 | | | | | 6 | | | | | | | 82 | | 97 | 5.5 |
| 6 | **Master of Science (Applied Mathematics)** | | | 12 | | | | | 15 | | | | | | | 64 | | 91 | 5.5 |
| 7 | **Master of Science (Physics)** | 9 | | | | | | | 10 | | | | | | | 75 | | 94 | 5.5 |
| | **Master of Science (Finance & Control)** | | 3 | | | | | | 12 | | | 20 | 3 | | | 74 | | 112 | 5.5 |
| 8 | **Bachelor of Business Administration** | 15 | | | | | | | 18 | | | | 21 | 10 | | 69 | | 133± 5 | 5.25 |
| | **Bachelor of Business Administration (Business Analytics)** | 43 | | | | | | | 26 | | | | 18 | 10 | | 38 | | 135 | 5.25 |
| | **Bachelor of Business Administration (Strategic Finance)** | 31 | | | | | | | 18 | | | | 21 | 10 | | 57 | | 137 | 5.25 |
| | **Bachelor of Business Administration (Logistics)** | 9 | | | | | | | 102 | | | | 7 | 6 | | 47 | | 171 | 5.25 |
| 9 | **Bachelor of Commerce (H)** | 10 | 9 | | | 2 | | | 18 | | | | 9 | 5 | | 96 | | 149 | 5.25 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **B.Com with ACCA** | 10 | 9 | | | 2 | | | 6 | | | 20 | 9 | 5 | | 120 | | 181 | 5.25 |
| 10 | **Bachelor of Science (Hotel Management)** | 4 | 4 | | | 3 | | | 30 | | | | 17 | 6 | | 70 | | 134 | 5.25 |
| 11 | **Master of Business Administration** | 36 | | | | | | | 12 | | | | 4 | 9 | | 45 | | 106± 5 | 5.5 |
| | **Master of Business Administration (Innovation, Entrepreneurship &Venture Development)** | 15 | 12 | | | | | | 50 | | | | | | | 27 | | 104 | 5.5 |
| 12 | **B.Tech** | 12 | 6 | 6 | 3 | 2 | 3 | 1 | 16 | - | 20 | - | 16 | 21± 5 | 30± 5 | 39 | 12 | 165± 5 | 5.25 |
| | **B.Tech(Hons)** | 12 | 6 | 6 | 3 | 2 | 3 | 1 | 16 | - | 20 | - | 16 | 21± 5 | 30± 5 | 59* | 12 | 185± 5 | 8.5 |
| | **B.Tech(Minor)** | 12 | 6 | 6 | 3 | 2 | 3 | 1 | 16 | - | 20 | - | 16 | 21± 5 | 30± 5 | 59$ | 12 | 185± 5 | 6.75 |
| | **B.Tech(Specilization)** | 18@ | 6 | 6 | 3 | 2 | 3 | 1 | 16 | - | 20 | - | 16 | 21± 5 | 30± 5 | 39 | 12 | 171± 5 | 6.75 |
| | **M.Tech** | 12 | | | | | | | 42 | | | | 32 | | | | | 84 | 5.5 |
| 2 | **Bachelor of Fine Arts (BFA)** | | | | | | | | | | | | | | | | | | |
| | Animation | 38 | | | | | | | 20 | | | | 19 | 1 | | 91 | | 169 | 5.25 |
| | Filmmaking | 42 | | | | | | | 20 | | | | 19 | 1 | | 91 | | 173 | 5.25 |
| | Painting | 42 | | | | | | | 16 | | | | 19 | 1 | | 85 | | 163 | 5.25 |
| | Sculpture | 42 | | | | | | | 16 | | | | 19 | 1 | | 85 | | 163 | 5.25 |
| | **Bachelor of Science – Visual** | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Communications** | | | | | | | | | | | | | | | | | | |
| | Advertising | 12 | | | | | | | 22 | | | | 16 | 1 | | 78 | | 129 | 5.25 |
| | Animation | 12 | | | | | | | 22 | | | | 16 | 1 | | 78 | | 129 | 5.25 |
| | Filmmaking | 12 | | | | | | | 22 | | | | 16 | 1 | | 78 | | 129 | 5.25 |
| 3 | **Bachelor of Pharmacy (B.Pharm)** | 8 | 3 | | | | | | 24 | | | | | | | 181-183 | | 222-224 | 5.00 |
| 4 | **Bachelor of Business Administration-Bachelor of Law (BBA-LLB)** | | | | | | | | | | | | | | | | | | |

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**I**

**n the core of that same branch of engineering.**

**$ 20 credit should be from the core of another branch of engineering.**

**@ All electives must be from same stream of specialization.**

A. Professional elective courses
B. Skilling course
C. Open electives
D. Management electives
E. Foreign language elective
F. Certificate course for domain
G. Certificate course yoga /sports/fine arts
H. Industrial training / term paper/ project / practice school
I. Studio
J. Honors
K. Specialization
L. Humanities & social sciences
M. Basic sciences
N. Engineering sciences
O. Professional core
P. Flexi-core

**B.Tech Degree with specialization is offered in the following areas**:

| S. No. | Area of Specialization | Eligible departments |
|---|---|---|
| 1 | Bioinformatics | BT |
| 2 | Genetic Engineering | BT |
| 3 | Industrial Bio-Technology | BT |
| 4 | Medical Bio-Technology | BT |
| 5 | Water Resources Engineering | CE |
| 6 | Geotechnical Engineering | CE |
| 7 | Structural Engineering | CE |
| 8 | Transportation Engineering | CE |
| 9 | Environmental Engineering | CE |
| 10 | Software Modeling & DevOps | CSE, ECM |
| 11 | Computer Communications | ECE, ECM, CSE |
| 12 | Graphics & UX Design | CSE, ECM |
| 13 | Data Sciences & Big Data Analytics | CSE, ECM, ME, ECE |
| 14 | Cloud & Edge Computing | CSE, ECM |
| 15 | Artificial Intelligence& Intelligent Process Automation | CSE, ECE, ECM, EEE, ME |
| 16 | Cyber Security& Block chain technology | CSE, ECM |
| 17 | Internet of Things | ECM, CSE, ECE |
| 18 | Web Technologies | ECM, CSE |
| 19 | Embedded Systems | ECM,ECE, CSE, EEE |
| 20 | Mobile Communications | ECE, ECM |
| 21 | Signal & Image Processing | ECE, ECM, EEE |
| 22 | VLSI Design | ECE, ECM, EEE |
| 23 | Control Systems | EEE, ECE, ECM |
| 24 | Energy Systems | EEE |
| 25 | Power Electronics | EEE |
| 26 | Power Systems | EEE |
| 27 | Automobile Engineering | ME |
| 28 | Engineering Design | ME |

| S. No. | Area of Specialization | Eligible departments |
|---|---|---|
| 29 | Robotics & Mechatronics | ME |
| 30 | Strategic Manufacturing | ME |
| 31 | Autotronics | ME |
| 32 | Product Design | ME |
| 33 | Soft Computing & Data Analytics | ME |

## CHAPTER 7

## PROGRAM CURRICULUM

For an academic program the curriculum is the basic framework that will stipulate the credits, category, course code, course title, course delivery (Lectures / Tutorials / Practice / Skill/ Project/ Self Study / Capstone Design etc.), in the Choice Based Credit System. However, all such are essentially designed, implemented and assessed in Outcome Based Education Framework.

### 7.1 Program Structure

a. An Academic Year is made of Two semesters each is of, approximately 16±1 week duration and each semester is classified as:
   - Odd Semester (July –December)
   - Even Semester (December – May).

b. KLEF may offer summer term between May and June.

c. All courses are offered under three categories vis-à-vis. even, odd and dual semester courses.

d. Students have the flexibility to choose courses of their own choice prescribed by the KLEF.

e. From 3rd Semester onwards a student can register for a maximum of 30 credits, other than audited and certificate courses per semester. This is not applicable when student exercises the overloading option (while doing project work/practice school/Minor degree/Honors degree program/specialization).

f. Every course has a Lecture-Tutorial-Practice-Skill (L-T/ST-P-S) component attached to it.

g. Based upon the L-T-P-S structure the credits are allotted to a course using the following criteria.
   - Every Lecture / Tutorial hour is equivalent to one credit.
   - Every Practical hour is equivalent to half credit.
   - Every skill-based practice hour is equivalent to quarter credit.
   - If the calculated value of credit is a fraction, it is rounded to the next integer.
   - Every (ST) Studio hour is equivalent to one and a half credit.

**h. Audit Courses**

Any course offered in the University that doesn't fall under the prescribed program structure can be audited by a student without acquiring any credits but obtaining either "Satisfactory" or "Not Satisfactory" result.

**i. Induction Courses:**

A student who gets admitted into B.Tech. program must complete a set of Induction

courses for a minimum period of 3 weeks and obtain a "Satisfactory" result prior to registering into 1st Semester of the Program.

**j. Value-Added courses:**

Courses leading to global certification and those which are conducted exclusively for employability are referred to as value added courses. Though "Satisfactory" completion of value added courses doesn't acquire any credit but they are part of the graduation requirements. Refer Section 3.1 for list of Value-added courses.

**k. Bridge Courses:**

Courses which are required to bridge the continuity among the Basic sciences/Engineering Sciences/professional courses (both core and electives) and are identified through gap analysis carried out using feedback obtained from various academic stakeholders are termed as Bridge Courses. These courses also do not yield any credits but require a "Satisfactory" result to register into the attached professional courses.

### 7.4 Course Precedence

The following are the guidelines for registering into courses with pre-requisites.

a. Every course can have one or more of its preceding course(s) as pre-requisite(s).
b. To register for a course, the student must successfully be promoted in the course(s) earmarked as pre-requisite(s) for that course.

### 7.5 Summer Term Courses

KLEF offers summer term courses during May and June. The following are the guidelines to register in to courses offered in Summer Semester.

a. A student may register for course/s in each summer term by paying the stipulated fee. Students registering for more than one (1) summer course must ensure that there is no clash in the time table.
b. A student can register into a detained course or a not-registered course (course offered in regular semester, but student failed to register due to the non-compliance of pre-requisite condition but has paid the fee.) A student can also register for other than the above two mentioned categories of courses only if they are permitted for acceleration.
c. In any case, a student can register only for a maximum of 12 credits during summer term.
d. Attendance & Promotion policy for summer term is same as compared to the regular semester except for condonation policy. Condonation is not applicable for summer term courses.

## 7.6 Practice School

The Practice School (PS) program forms an important component of education at KLEF. It is an attempt to bridge the gap between an academic institution and the industry. The Program, which would be a simulation of real work environment, requires the students to undergo the rigor of professional environment, both in form and in substance. In the process, it provides an opportunity for the students to satisfy their inquisitiveness about the corporate world provides exposure to practicing professional skills and helps them acquire social skills by being in constant interaction with the professionals of an organization. During Practice School, some of the students may be offered stipend and/or job offer as per the discretion of the concerned industry.

### 7.6.1 Practice School Duration

Practice School is offered usually for a period of one semester. Should the need be, a student may put a request through the organization and the Head of the Department to the Dean Academics requesting for extension of the duration.

### 7.6.2 Eligibility:

**For B.Tech Program**

a. Students who have not registered with placement (IRP) can only apply for PS-1 in (VII semester).
b. Students who have registered with placement (IRP) and after getting placement will be allowed in PS-2 (VIII semester).

**For Except (B.Tech), the remaining UG & PG Programs**

As per the academic program eligibility, the final year students are only eligible to register for Practice School over the period of one /two semesters.

### 7.6.3 Guidelines

The following guidelines are followed attending Practice-School.

a) Practice School program carries06 credits for a semester. Therefore, it involves substantial effort and requires seriousness, commitment and dedication from the students. One has to hard work for good experience and better placement opportunities.

b) Students must be disciplined, hardworking and possess attitude to undergo On the Engineering Training (OJET).

c) Students must abide by the rules and regulations of the company and the University.

d) Practice School is not mandatory for the students. However, Practice School experience enhances the opportunities for placement.

e) Some Practice School companies for the selection for Practice School program. In such cases, the notices will be sent to the Departments, PS-Notice Board, PS-Website

& SMS regarding schedule of the selections as and when a company is visiting the campus. Interested students shall attend the selection process for the companies.

f) The students who were not selected by the companies in the campus will be allotted a company by the Director, Practice School. Allotment of company is done basing on the CGPA of the students and the availability of vacancies in the companies of their relevant branch of engineering.

g) Students who have submitted the Registration-cum-Data Form will not guarantee the Practice School. The number of students sent to the practice school purely depends on the number of permissions obtained in various companies for different branches of engineering.

h) At the time of allotment of companies, the students should be ready for opting companies in any location (Hyderabad, Bengaluru, Vizag, Chennai and Vijayawada etc.) depending on the availability of the vacancies in their respective branches.

i) Once the students are selected by a company or allotted to a company shall not be allowed either to change the company or to cancel from the practice school.

### 7.7 Award Of Degree

#### 7.7.1 For B.Tech, M.Tech, B.Arch, all B.sc and M.sc , Arts,B.com, MBA:

A student having cleared all the courses and met all the requirements for the award of degree with

a. $5.25 \leq CGPA < 5.75$ will be awarded Pass class
b. $5.75 \leq CGPA < 6.75$ will be awarded Second-class
c. $6.75 \leq CGPA < 7.75$ will be awarded First class
d. $CGPA \geq 7.75$ will be awarded First class with Distinction provided the student has cleared all the courses in first attempt and must have fulfilled all the program requirements in program specified minimum years duration.

#### 7.7.2 For BBA-LLB

a. $5.0 \leq CGPA < 5.5$ will be awarded Pass class
b. $5.5 \leq CGPA < 6.5$ will be awarded Second-class
c. $6.5 \leq CGPA < 8.0$ will be awarded First class
**d.** $CGPA \geq 8.0$ will be awarded First class with Distinction.

#### 7.7.3 For B.Pharmacy

a. $5.0 \leq CGPA \leq 5.99$ will be awarded Second-class
b. $6.0 \leq CGPA \leq 7.49$ will be awarded First class
**c.** $CGPA \geq 7.5$ will be awarded First class with Distinction.

## CHAPTER 8

### 8.1 Attendance Rules

The following Attendance Policy for promotion of very course

| S.No | Program | Minimum Attendance % Required for promotion of every course |
|---|---|---|
| 1 | All Programs except BBA-LLB | 85 |
| 2 | BBA-LLB | 70 |

The Student must maintain a minimum attendance of 85% for all programs, except for BBA-LLB which is 70%, in every course. In case of medical exigencies, the student/parent should inform the Principal within a week by submitting necessary proofs and in such cases the attendance can be condoned up to an extent of 10%. by Principal on the recommendation of the Head of the Department.

1. Attendance in a course shall be counted from the date of commencement of the classwork.
2. Attendance for the students who are transferred from other institutes and for new admissions, attendance must be considered from the date of her/his admission.
3. In case of attendance falling marginally below 75% for all programs(for BBA-LLB is 65%) due to severe medical reasons or any other valid reasons, the Principal/Program chair may bring such cases, along with valid and adequate evidence, to the notice of the Dean Academics. The condonation board formed by Vice-Chancellor under the chairman ship of Dean-Academics will consider any further relaxation in attendance from the minimum attendance percentage requirement condition after going through case by case.

### 8.2 Attendance Marks

There are no specific marks attached to attendance as such, however, if the Course Coordinator of a course desires to award certain marks, for attendance in a course, s/he can do so based on following guidelines, which thereby must be clearly reflected in the respective course handouts which should duly be approved by Dean Academics. For any course, not more than 5% marks can be allotted for attendance.

For BBA- and LLB the distribution of marks, if the attendance percentage is >76 is 1 mark, >81 is 2 marks. >86 is 3 marks,>91 is 4 marks and >96 is 5 marks, other wise 0 marks.

For all other programs the distribution of marks for attendance is [85, 88] = 1 mark, [89, 91] = 2 marks, [92, 94] =3 marks, [95, 97] =4marks and [98,100] =5marks, below 85%, even in case of condonation,"0" marks.

The marks, if allotted for attendance will have to be considered for all L-T/ST-P-S

components of a course cumulatively but not specifically for theory component for any course.

**8.3 Attendance Waiver**

Students maintaining a CGPA ≥ 9.00 and SGPA ≥ 9.00 in the latest completed semester get a waiver for attendance in the following semester. Students who thus utilize an attendance waiver will be awarded the marks allocated for attendance based on their performance in an advanced assignment specified by the course coordinator (emerging topics related to the course). S/he can appear in all assessments and evaluation components without being marked ineligible due to attendance-based regulations.

**8.4 Attendance Condonation For Participation In KLEF / National/ International Events**

Only those students nominated/sponsored by the KLEF to represent in various forums like seminars/conferences/workshops/competitions or taking part in co-curricular/ extra-curricular events will be given compensatory attendance provided the student applies in writing for such a leave in advance and obtain sanction from the Principal basing on the recommendations of the Head of the Department (HoD) for academic related requests; or from the Dean Student Affairs for extra-curricular related requests. For participation in the KLEF's placement process the names of students will be forwarded by the placement cell in-charge to the respective Heads of the Departments.

Students participating in KLEF/National/International events like technical fests, workshops, conferences etc., will be condoned for 9 instructional days per semester, and in Entrepreneurship related activities a maximum of 18 instructional days per semester. This condonation is not applicable for summer term.

**8.5 Eligibility For Appearing In Sem-End Examination**

A Student registered for a course is eligible to write the Semester-End Examination for that course unless found ineligible due to one or more of the following reasons:

a. Shortfall of attendance
b. Acts of indiscipline
c. Withdrawal from a course

**8.6 Absence In Assessment & Examination**

If a student fails to take any formative assessment component (due to ill-health or any valid reason), no second chance will be given and zero marks will be awarded for the same. In cases of excused absence, the instructor may provide an opportunity to the student to reappear in quizzes or assignments or any other internal assessment criteria based on the approval from the Principal on the basis of recommendations made by the concerned Head of the Department.

If a student fails to write Sem-In Exam-I or obtained less than 50% marks in Sem-In Exam-I, he

has to attend remedial classes and score a minimum 85% of attendance in remedial classes to be eligible for Make-up test for Sem-In exam-I. Further, the number of remedial classes to be conducted shall be 50% of regular classes held till the SEM-In exam-I. However, there is no make-up test for Sem-In Exam-II or for all the Laboratory exam.

1. A student is in genuine absence for a Sem-In Exam only under the following circumstances:
    a. Pre-approved participation in University/State/National/International co-curricular and extra-curricular activities
    b. Ill health and medical emergencies for the student leading to hospitalization with certification by the doctor stating inability of student to attend Sem-In exams clearly within the necessary dates.
    c. Death of immediate family member

**8.7 Remedial Classes:**

The following categories of students are recommended to attend Remedial classes:

- ✓ Students who did not attend or obtain a minimum of 50% marks in the Sem-In exam 1
- ✓ Students those for whom CO1/CO2 is(are) not attained in Sem-In Exam 1
- ✓ Any other student may also be permitted to attend remedial classes as per the discretion of the Principal.

The following are the guidelines to conduct remedial classes:

- ✓ Remedial classes which are scheduled to be conducted usually one- or two-weeks post conclusion of Sem-In exam 1.
- ✓ The number of remedial classes to be conducted shall be 50% of regular classes held till the Sem-In exam-I.
- ✓ Remedial classes MUST NOT be scheduled during regular class work hours.

The following ALMs are recommended for slow learners:

- One minute paper
- Think/Plan/Share
- Role play
- Focused listening and Listening for specifics
- Just-in time teaching
- Models
- Sheets
- Hands on activity

Course coordinators may also include alternate Active learning Methods based on the course being taught.

## CHAPTER 9

## ASSESSMENT & EVALUATION PROCESS

The assessment in each theory subject consists of two Sem-In Exams (Sem-in Exam-I and Sem-In Exam -II), in-class quizzes/tutorials/home-assignments/Active Learning Methods (continues assessment), and the Semester-End Exanimation(SEE). The distribution of weight age for each assessment step is listed below. The distribution of internal marks in the table below is only a guideline. Instructors at their discretion may apportion some marks for attendance beyond 75%. In such cases, the marks shown for quizzes and assignments will be accordingly be adjusted. Students are advised to consult the course handout to get more detailed information on assessment.

a. The Sem-In tests and the Semester-End Examinations will be conducted as per the Academic Calendar.

b. As per the necessity, the Supplementary examinations will be conducted at the discretion of Dean Academics with the approval of the Vice-Chancellor.

c. Students may have to take more than one examination in a day either during Sem-In exams, Semester-End Examinations /Supplementary examinations.

### 9.1 Semester-In Evaluation

The following guidelines are followed for the Semester-In evaluation.

a. The process of evaluation is continuous throughout the semester.

b. The distribution of marks for Semester-In evaluation is 60% of aggregate marks of the course for all the programs except B.Arch (50%), B.Pharmacy (25 %) & BBA-LLB (40%).

| Sl No. | College/School Name | Semester-In Evaluation (Weightage %) (A) | Sem End Examination (Weightage %) (B) | Minimum requirement for pass % | |
|---|---|---|---|---|---|
| | | | | (A+B) | B |
| 1 | School of Architecture (B.Arch) | **50** | **50** | **50** | **50** |
| 2 | College of Pharmacy (B.Pharm) | **25** | **75** | **50** | **50** |
| 3 | College of Law (BBA-LLB) | **40** | **60** | **40** | **40** |
| 4 | For all Others | **60** | **40** | **50** | **40** |

c. The distribution of weight age for various evaluation components are decided and notified by the course coordinator through the course handout after approval by the

Dean Academics, prior to the beginning of the semester.

d. In order to maintain transparency in evaluation, answer scripts are shown to the students for verification, within one week of conduct of exam. If there is any discrepancy in evaluation, the student can request the course-coordinator tore-evaluate.

e. The solution key and scheme of evaluation for all examinations are displayed by the Course-Coordinator in the appropriate web portal of the course, on the day of the conduct of examination.

f. In case the student is unable to appear for any evaluation component owing to hospitalization, participation in extra/ co-curricular activities representing KLEF/ state/ country; the Dean Academics can permit to conduct of re-examination for such students.

g. In case a student has missed any of the two semester in evaluations, S/he is eligible for and will be provided with an opportunity of appearing for re-examination. However such a facility is applicable for only one semester in evaluation tests.

## 9.2 Semester End Examination

a. The pattern and duration of such examination are decided and notified by the Course Coordinator through the Course handout, after approval from the Dean Academic.

b. To maintain transparency in evaluation, answer scripts are shown to the students for verification. If there is any discrepancy in evaluation, the student can request the Controller of Examinations tore-evaluate.

c. If a student earns F grade in any of the courses of a semester, an instant supplementary exam (for only Semester End Exam component) will be provided within one fortnight of the declaration of the results.

### 9.2.1 Assessment Of Project/Research-Based Subjects

All project or research-based subjects must have a defined time-limit for completion. The specific time limits for completion and schedule for monitoring and evaluation of performance of students will be announced by the school each term. The final project report, after getting the plagiarism certificate only will be considered and evaluated by a panel of examiners including external experts. Student project reports must be as prescribed by the office of Dean Academics. Students conducting their projects outside the campus can participate in project reviews through an online video conferencing tool.

## 9.3 Grading Process

At the end of all evaluation components based on the performance of the student, each student is awarded based on absolute/relative grading system. Relative grading is only applicable to a section of a course in which the number of registered students is greater than or equal to 25. Choice of grading system is decided by the Course-Coordinator with due approval of Dean Academics and is specified in the course handout.

### 9.3.1 Absolute Grading

The list of absolute grades and its connotation are given below for B.Tech ,M.Tech, M.Sc, BCA, BA, B.Sc HM, BBA, B.Com(Hon's), MBA programs

**School Of Architecture (B.Arch)**

| Performance | Letter Grade | Grade Point | Percentage of marks |
|---|---|---|---|
| Outstanding | O | 10 | 90 - 100 |
| Excellent | A+ | 9 | 80 - 89 |
| Very Good | A | 8 | 70 - 79 |
| Good | B+ | 7 | 60 - 69 |
| Above Average | B | 6 | 56 - 59 |
| Pass | P | 5 | 50 - 55 |
| Fail | F | 0 | 0 – 49 |
| Fail | AB | 0 | Absent |

**College of Pharmacy (B.Pharm)**

| Performance | Letter Grade | Grade Point | Percentage of marks |
|---|---|---|---|
| Outstanding | O | 10 | 90 – 100 |
| Excellent | A | 9 | 80– 89 |
| Good | B | 8 | 70– 79 |
| Fair | C | 7 | 60– 69 |
| Average | D | 6 | 50– 59 |
| Fail | F | 0 | Less than 50 |
| Fail | AB | 0 | Absent |

**For all other Programs**

| Performance | Letter Grade | Grade Point | Percentage of marks |
|---|---|---|---|
| Outstanding | O | 10 | 90 - 100 |

| | | | |
|---|---|---|---|
| Excellent | A+ | 9 | 80 - 89 |
| Very Good | A | 8 | 70 - 79 |
| Good | B+ | 7 | 60 - 69 |
| Above Average | B | 6 | 50 - 59 |
| Average | C | 5 | 46 - 49 |
| Pass | P | 4 | 40 - 45 |
| Failed | F | 0 | 0 – 39 |
| Absent | AB | 0 | Absent |

### 9.3.2 RELATIVE GRADING

a. The following table lists the grades and its connotation for relative grading:

| Letter Grade | Grade Point | Grade Calculation |
|---|---|---|
| O | 10 | total marks >= 90% and total marks >= mean + 1.50σ |
| $A^+$ | 9 | μ+0.50σ <= total marks < μ+1.50σ |
| A | 8 | μ <= total marks < μ+0.50σ |
| $B^+$ | 7 | μ-0.50σ <= total marks < μ |
| B | 6 | μ-1.00σ <= total marks < μ-0.50σ |
| C | 5 | μ-1.25σ <= total marks < μ-1.00σ |
| P | 4 | μ-1.50σ <= total marks < μ-1.25σ or ≥40 |
| F | 0 | total marks <μ-1.50σ or total marks <=39 |
| Ab | 0 | Absent |

μ is the mean mark of the class excluding the marks of those students who scored ≥ 90% and ≤40% after rounding the percentages to the next highest integer. σ is the standard deviation of the marks from theμ.

### 9.3.3 SGPA & CGPA

The SGPA is the ratio of sum of the product of the number of credit s with the grade points scored by a student in all the courses and the sum of the number of credits of all the courses undergone by a student, in a semester.

$$SGPA(S_i) = \frac{\sum C_i * G_i}{\sum C_i}$$

Where'Ci' is the number of credits of the $i^{th}$ course and *'Gi'* is the grade point scored by

the student in the $i^{th}$course.

The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a program,

$$CGPA(S_i) = \frac{\sum C_i * S_i}{\sum C_i}$$

Where 'S'iis the SGPA of the $i^{th}$ semester and *'Ci'* is the total number of credits in that semester.

a. The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.
b. CGPA can be converted to percentage of marks: 10 X CGPA -7.5
c. A student appearing for a course having lab integrated with theory and in case obtains less than 40% in either of lab or theory component of semester end examination, and in such case the student has to reappear for the component only in which he has secured less than 40%. Till successful attainment of minimum 40% of both components, the student remains in the F grade for that course.
d. Audit/Certificate courses are graded as satisfactory (S) or non-satisfactory(NS) only.
e. At the end of each semester, the KLEF issues grade sheet indicating the SGPA and CGPA of the student. However, grade sheet will not be issued to the student if he/she has any outstanding dues.

### 9.3.3.1 Illustration Of Computation Of SGPA AND CGPA

Computation of SGPA and CGPA Illustration for SGPA

| COURSE | CREDITS | GRADE LETTER | GRADE POINT | CREDITPOINT (Credit x Grade) |
|---|---|---|---|---|
| Course 1 | **3** | A | **8** | 3 X 8 = 24 |
| Course 2 | **4** | B+ | **7** | 4 X 7 = 28 |
| Course 3 | **3** | B | **6** | 3 X 6 = 18 |
| Course 4 | **3** | O | **10** | 3 X 10 = 30 |
| Course 5 | **3** | C | **5** | 3 X 5 = 15 |
| Course 6 | **4** | B | **6** | 4 X 6 = 24 |
| | **20** | | | 139 |

Thus,

SGPA =139/20 =6.95

Illustration for CGPA

| Item | Semester | | | | | |
|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI |

| | | | | | | |
|---|---|---|---|---|---|---|
| Credits | 20 | 22 | 25 | 26 | 26 | 25 |
| SGPA | 6.9 | 7.8 | 5.6 | 6.0 | 6.3 | 8.0 |

Thus,

$$CGPA = \frac{(20*6.9+22*7.8+25*5.6+26*6.0+26*6.3+25*8.0)}{(20+22+25+26+26+25)} = 6.73$$

### 9.4 Betterment

A student may reappear for semester end examination for betterment only in the theory part of the course for improving the grade, subject to the condition that, the student has passed the course, his/her CGPA is ≤ 6.75 and the grade in the respective course to be equal to or lower than "C". In the case of reappearing, the better of the two grades is considered.

A Student can re-register in any course in any semester during the program for improvement of grade if the current grade in the course is lower than $B^+$ and with due approval from Dean Academics in accord of academic regulations.

A student cannot reappear for semester end examination in courses like Industrial Training, courses with their L-T/ST-P-S Structure like 0-0-X-X, Project, Practice School and Term Paper.

A student is not eligible for award of B.Tech. Degree with Honors, and any Program Degree with distinction, in case s/he takes up the betterment option.

### 9.5 Course Based Detention Policy

In any course, a student must maintain a minimum attendance as per the attendance policy referred in Chapter 5.1 and 5.4, to be eligible for appearing in the Sem-End examination, failing to fulfill this condition, will deem such student to be detained in that course. He/she is thereby ineligible to take semester end exam.

# CHAPTER 10
# PROMOTION

## 10.1 Change Of Branch

A student admitted to a particular Branch of the B.Tech. Program will normally continue studying in that branch until the completion of the program. However, in special cases the KLEF may permit a student to change from one branch to another after the second semester, provided s/he has fulfilled admission requirement for the branch into which the change is requested. For all UG /PG remaining programs, the change of branch is not applicable.

The rules governing change of branch are as listed below:

a. Top 1% (based on CGPA until 2$^{nd}$ semester) students will be permitted to change to any branch of their choice within the program discipline.
b. Apart from students mentioned in clause (a) above, those who have successfully completed all the first and second semester courses and with CGPA $\geq$ 8 are also eligible to apply, but the change of Branch in such case is purely at the discretion of the KLEF.
c. All changes of Branch will be effective from third semester. Change of branch shall not be permitted thereafter.
d. Change of branch once made will be final and binding on the student. No student will be permitted, under any circumstances, to refuse the change of branch offered.
e. Students in clause a and b may be permitted subject to the availability of seats in the desired branch.

## 10.2 Credit transfer

### 10.2.1 Credit transfer between KLEF and other institution

a. Credit transfer from other institutions to KLEF or vice versa is permitted only for under graduate program.
b. Credit transfer from KLEF to other institutions: Student studying in KLEF can take transfer to another institution under the following conditions:
    - KLEF has signed MOU with the institution.
    - However, a student, after seeking transfer from KLEF can return to KLEF after a semester or year. Based on courses done in the other institution, equivalent credits shall be awarded to such students.
c. Credit transfer from another institution to KLEF: A student studying in another institution can take transfer to KLEF under the following conditions:
    - When a student seeks transfer, equivalent credits will be assigned to the student

based on the courses studied by the student.

- The student, when transferred from other institutions, has to stick to the rules and regulations of KLEF.
- To graduate from KLEF, a student must study at least half of the minimum duration prescribed for a program at KLEF.

### 10.2.2 Credit Transfer Through MOOCs:

Under graduate students can get credits for MOOCs courses recommended by KLEF up to a maximum of 20% of their minimum credits required for graduation. The discretion of allocation of MOOCs courses equivalent to the courses in the curriculum lies with the office of the Dean Academics.

A student may also be permitted to obtain 20 credits through MOOCs in addition to the minimum credits required for graduation. These 20 credits can also be utilized to acquire a Minor degree or an Honors degree if the courses are pronounced equivalent to those specified for the respective degrees by the office of the Dean Academics. These additional credits through MOOCs if to be considered for CGPA/Minor/Honors degree must be approved by Dean Academics prior to enrollment in the respective MOOCs.

Students acquiring additional credits for Honors/Minor degree must adhere to the rules governing the award of the respective degree, otherwise, a student applying for registering into additional credits through MOOCs must possess a minimum CGPA of 7.5 till that semester.

### 10.2.3 Course Credit

A credit is a unit that gives weight to the value, level or time requirements of an academic course. The number of 'Contact Hours' in a week of a particular course determines its credit value. One credit is equivalent to one lecture hour per week or one tutorial hour per week or two hours per week of practical/ field work or four hours per week of skilling during a semester.

## 10.3 Promotion Policy

A student shall be eligible for provisional promotion for registration of courses in the next semester subject to the following criterion:

| Sl No. | College Name | Promotion Policy – Year / Semester |
|---|---|---|
| 1 | College of Architecture (B.Arch) | A student shall not be permitted to enroll for the tenth semester Architectural Design Thesis unless he / she has successfully completed Practical Training/ Practices School / Internship. |

| | | |
|---|---|---|
| | | |
| 2 | College of Arts, Humanities & Sciences (BA., BCA, MA-English, M.Sc Chemistry, M.Sc Applied Mathematics, M.Sc Physics) | **For BCA,** A student is eligible for provisional promotion to a higher semester if S/he: Earns a minimum of 28 credits prior to registration of III semester.<br><br>For remaining programs, Promotion Policy is Not Applicable. |
| 3 | College of Business School (BBA, B.Com (H), B.Sc HM, MBA, M.Sc (Finance & Control) | **NA** |
| 4 | College of Engineering (B.Tech, M.Tech) | For B.Tech:<br><br>A student is eligible for provisional promotion to a higher semester if s/he:<br>1. Earns a minimum of 40 credits prior to registration of V semester<br>2. Earns a minimum of 70 credits prior to registration of VII semester.<br><br>**Note:** In case a student is unable to secure minimum P grade for a particular course even after three consecutive attempts, s/he has to repeat the course by re-registration.<br><br>For M.Tech, there is no Promotion Policy. |
| 5 | College of Fine Arts (BFA & B.Sc-VC) | **NA** |
| 6 | College of Pharmacy (B.Pharm) | 1.He/she shall not be eligible to attend the courses of V semester until all the courses of I and II semesters are successfully completed.<br>2. He/she shall not be eligible to attend the courses of VII semester until all the courses of I, II, III and IV semesters are successfully completed.<br>3. A lateral entry student shall be eligible to carry forward all the courses of III, IV and V semesters till the VI semester examinations. However, he/she shall not be eligible to attend the courses of VII semester until all the courses of III and IV semesters are successfully completed.<br>4. Any student who has given more than 4 chances for successful completion of I / III semester courses and more than 3 chances for successful completion of II / IV semester courses shall be permitted to attend V / VII semester classes ONLY during the subsequent academic year as the case may be. In simpler terms there shall NOT be any ODD BATCH for any semester. |
| 7 | College of Law (BBA-LLB) | **NA** |

- For other remaining programs. A student shall be eligible for provisional promotion for registration of courses in the next semester irrespective of detentions/ backlogs.

### 10.4 Re-Evaluation

Students desirous of seeing their Semester-End Examination answer scripts have to apply online to the COE for the same within the timeframe as declared by the COE by paying the prescribed fee. Student applications must be forwarded by the Head of the Department and the Principal of the School and then re-evaluation fees are to be paid. The application along with the attached fee receipt must be submitted to the office of the COE.

There is no provision for re-evaluation in case of Lab/Practical/skilling exams, student project, viva-voce exam or seminar/design/mini-project courses.

The final grades awarded to each course shall be announced by the COE and the same will be made available to students through the website/notice boards.

### 10.5 Academic Counseling Board (ACB)

Academic Counseling Board is constituted by the Dean Academics, for each program separately. This board shall comprise of the respective Chairmen, Board of Studies, two Professors and two Associate Professors of the program.

A student will be put under Academic Counseling Board in the following circumstances:

- Secured a CGPA of less than 6.00.
- Secured 'F' grade in 3 or more courses.

The students under Academic Counseling Board may not be allowed to register for all regular courses in the semester, based on the recommendation of Academic Counseling Board and decision of Dean Academics.

#### 10.5.1 Backlog Courses

A course is considered to be a backlog if the student has obtained 'F' grade in the course.

#### 10.5.2 Rustication

A student may be rusticated from the KLEF on disciplinary grounds, based on the recommendations of any empowered committee, by the Vice Chancellor.

### 10.6 Award Of Medals

KLEF awards Gold and silver medals to the top two students based on CGPA. However,

a. The grade obtained by betterment, will not be considered for this award.

b. S/he must have obtained first class with distinction for the award of Gold or Silver-medal.

## CHAPTER 11

## STUDENT COUNSELLING

Guidelines for effective counseling for students on academic and non-academic activities Student counseling ensures that every student gets to know the academic structure of the University and utilize maximum opportunities that the institute offers to fulfill their career and personal life goals. The objective of "Student Counseling/Mentoring Service" is to provide friendly support to the students for their well-being during their stay in the campus and for their holistic development. Student counseling promotes the development of students in the following aspects:

**11.1: Academic**: It disseminates information about different academic programs of the Institute and provides efficient time management and learning skills. It also addresses academic issues of students, e. g. inadequate academic performance, fall of attendance, lack of basic IT skills and language skills of students, particularly from non-English background. Besides, counseling helps students to take proper direction as they leave the campus, viz. higher education in a specialized field (both in India and abroad), job (different types of career options), entrepreneurship,etc.

**11.2: Co-Curricular & Extra-Curricular**: It strives to develop talents in students and encourages them to discover their extra-curricular interests/hobbies, viz. sports, fine-arts, etc.

**11.3: Personal**: It provides a cushion against homesickness and assists in adjusting to the new environment by providing personalized guidance. The following Orientation/training programs could be organized:

a. Counseling for Academic Excellence - Closely monitoring the Academic Progress of the students
b. Orientation Program for new students to acquaint them with the Institute
c. Awareness on Anti-ragging, gender sensitization,etc.
d. Stress and time management
e. Health care and hygiene
f. Career counseling
g. Motivational lectures by eminent speakers.

Every student should approach her/his counselor only, for any of his/ her requirements. One slot of 50 minutes duration per week is provided in the time-table for counseling.

## CHAPTER 12

## COURSE STRUCTURE

| KONERU LAKSHMAIAH EDUCATION FOUNDATION | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2019-20 COURSE STRUCTURE** | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | **Credits** | | | | | | | | | |
| SNO | **COURSE CODE** | **COURSE NAME** | **L** | **T** | **P** | **S** | **Cr** | **Pre requisites** | **OFFERED TO** | **BT** | **CE** | **CSE** | **ECE** | **ECM** | **EEE** | **ME** | **PE** |
| **I** | | **HUMANITIES & SOCIAL SCIENCES** | | | | | | | | | | | | | | | | | |
| 1 | 19UC1101 | Basic English | 0 | 0 | 4 | 0 | 2 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 2 | 19UC1202 | English Proficiency | 0 | 0 | 4 | 0 | 2 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 19UC2103 | Professional Communication Skills | 0 | 0 | 4 | 0 | 2 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 4 | 19UC2204 | Aptitude Builder-I | 0 | 0 | 4 | 0 | 2 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 5 | 19UC3105 | Aptitude Builder-Ii | 0 | 0 | 4 | 0 | 2 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 6 | 19UC3206 | Campus To Corporate | 0 | 0 | 4 | 0 | 2 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 7 | 19UC0009 | Ecology & Environment | 2 | 0 | 0 | 0 | 0 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | 19UC0008 | Indian Constitution | 2 | 0 | 0 | 0 | 0 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 19UC0007 | Indian Heritage And Culture | 2 | 0 | 0 | 0 | 0 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 19UC0010 | Universal Human Values & Professional Ethics | 2 | 0 | 0 | 0 | 0 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 19UC0011 | Entrepreneurship | 2 | 0 | 0 | 0 | 0 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 19GN1101 | Counselling | 0 | 0 | 0 | 4 | 0 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Credits** | | | | | | | | | | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **II** | | **BASIC SCIENCES** | | | | | | | | | | | | | | | | |
| 1 | 19MT1101 | Mathematics For Computing | 3 | 1 | 0 | 4 | 5 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 2 | 19MT2102 | Mathematics For Engineers | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 3 | 19BT1001 | Biology For Engineers | 2 | 0 | 0 | 0 | 2 | NIL | CE, CSE, ECE, ECM, EEE, ME,PE | | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 4 | 19CS2104 | Mathematical Programming - 1 | 2 | 0 | 0 | 0 | 2 | NIL | CSE,ECM | | | 2 | | 2 | | | |
| 5 | 19CS2204 | Mathematical Programming - 2 | 2 | 0 | 0 | 0 | 2 | NIL | CSE,ECM | | | 2 | | 2 | | | |
| 6 | 19MT2011 | Bio Statistics | 2 | 1 | 0 | 0 | 3 | NIL | BT | 3 | | | | | | | |
| 7 | 19MT2007 | Probability And Optimization Techniques | 2 | 1 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | |
| | | **Science Elective - 1** | | | | | | | **OFFERED TO** | | | | | | | | |
| 1 | 19PH1005 | Physics | 3 | 0 | 2 | 0 | 4 | NIL | CSE, BT | 4 | | 4 | | | | | |
| 2 | 19PH1004 | Solid State Physics | 3 | 0 | 2 | 0 | 4 | NIL | ECE,ECM | | | | 4 | 4 | | | |
| 3 | 19PH1010 | Mechanics | 3 | 1 | 0 | 0 | 4 | NIL | ME,CE,PE | | 4 | | | | | 4 | 4 |
| 4 | 19PH1006 | Materials And Measurements | 3 | 0 | 2 | 0 | 4 | NIL | EEE | | | | | | 4 | | |
| | | **Science Elective - 2** | | | | | | | **OFFERED TO** | | | | | | | | |
| 1 | 19CY1101 | Engineering Chemistry | 3 | 0 | 2 | 0 | 4 | NIL | BT,EEE,CE,ECE,CSE, ECM | 4 | 4 | 4 | 4 | 4 | 4 | | |
| 2 | 19PH2007 | Materials For Mechanical Engineering Applications | 2 | 0 | 2 | 0 | 3 | NIL | ME,PE | | | | | | | 3 | 3 |
| | | | | | | | | | | | | | | | | | | |
| | | **Science Elective - 3** | | | | | | | **OFFERED TO** | | | | | | | | |
| 1 | 19EE2205 | Circuits And Electronics | 3 | 0 | 2 | 0 | 4 | NIL | ME,PE | | | | | | | 4 | 4 |
| 2 | 19EE2101 | Electrical Circuits | 3 | 0 | 2 | 0 | 4 | NIL | EEE | | | | | | 4 | | |
| **Total Credits** | | | | | | | | | | 19 | 21 | 22 | 18 | 22 | 22 | 21 | 21 |
| **III** | | **ENGINEERING SCIENCES** | | | | | | | | | | | | | | | |
| 1 | 19SC1101 | Problem Solving And Computer Programming | 3 | 0 | 2 | 0 | 4 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 2 | 19SC1202 | Data Structures | 3 | 0 | 2 | 3 | 4.75 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 4.75 | 4.75 | 4.75 | 4.75 | 4.75 | 4.75 | 4.75 | 4.75 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 19ME1103 | Design Tools Workshop - I | 0 | 0 | 4 | 0 | 2 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 4 | 19SC1209 | Design Tools Workshop - Ii | 0 | 0 | 4 | 0 | 2 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 5 | 19SC1106 | Technical Skills-1(Coding) | 0 | 0 | 0 | 6 | 1.5 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 6 | 19SC1203 | Object Oriented Programming | 3 | 0 | 2 | 3 | 4.75 | NIL | BT, CE, CSE, ECE, ECM, EEE | 4.75 | 4.75 | 4.75 | 4.75 | 4.75 | 4.75 | | |
| 7 | 19ME1204 | Computational Thinking And Data Sciences | 3 | 0 | 2 | 3 | 4.75 | 19SC1101 | ME,PE | | | | | | | 4.75 | 4.75 |
| 8 | 19EC1101 | Digital Logic & Processors | 3 | 0 | 2 | 0 | 4 | NIL | CSE,ECE,ECM,EEE | | | 4 | 4 | 4 | 4 | | |
| | 19CE2101 | Solid Mechanics | 3 | 0 | 2 | 0 | 4 | NIL | CE | | 4 | | | | | | |
| 10 | 19ME1201 | Mechanics Of Solids - I | 2 | 0 | 2 | 0 | 3 | 19PH1010 | ME,PE | | | | | | | 3 | 3 |
| 11 | 19BT2103 | Biochemical Thermodynamics | 3 | 1 | 0 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 12 | 19EC1213 | Basic Electonic Circuits | 3 | 0 | 0 | 0 | 3 | NIL | CSE,ECE,ECM,EEE | | | 3 | 3 | 3 | 3 | | |
| 13 | 19ME1002 | Engineering Graphics For Mechanical Engineers | 1 | 0 | 2 | 0 | 2 | NIL | ME,PE | | | | | | | 2 | 2 |
| 14 | 19CE1002 | Engineering Graphics For Civil Engineers | 0 | 0 | 2 | 0 | 1 | NIL | CE | | 1 | | | | | | |
| 15 | 19BT2101 | Process Engineering Principles | 2 | 1 | 0 | 0 | 3 | NIL | BT | 3 | | | | | | | |
| 16 | 19BT2102 | Transport Processes In Biological Systems | 3 | 0 | 2 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 17 | 19CS2205 | Data Science | 2 | 0 | 2 | 2 | 3.5 | NIL | CSE,ECM | | | 3.5 | | 3.5 | | | |
| 18 | 19EC2111 | Electronic Workshop-Ii (Electronic System Design Workshop) | 1 | 0 | 2 | 2 | 2.5 | NIL | ECE, ECM | | | | 2.5 | 2.5 | | | |
| 19 | 19EC2214 | Electronic Workshop-Iii (Iot Applications) | 1 | 0 | 0 | 4 | 2 | NIL | ECE | | | | 2 | | | | |
| 20 | 19EC2112 | It Workshop-I (Html,Xml,Web Design) | 1 | 0 | 2 | 0 | 2 | NIL | ECE | | | | 2 | | | | |
| 21 | 19ME2003 | Workshop Practices For Mechanical Engineers | 0 | 0 | 4 | 0 | 2 | NIL | ME | | | | | | | 2 | |
| 22 | 19ME2205 | Numerical Computation For Mechanical Engineers | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 23 | 19ME2108 | Mechanics Of Solids - Ii | 3 | 0 | 2 | 0 | 4 | 19ME1201 | ME | | | | | | | 4 | |
| 24 | 19ME2110 | Machine Drawing | 0 | 0 | 4 | 0 | 2 | 19ME1002 | ME | | | | | | | 2 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 19PE2102 | Momentum Transfer | 2 | 2 | 2 | 0 | 5 | NIL | PE | | | | | | | | 5 |
| 26 | 19PE2103 | Thermodynamics Of Reservoir Fluids | 3 | 1 | 0 | 0 | 4 | NIL | PE | | | | | | | | 4 |
| 27 | 20UC1101 | Design Thinking & Innovation -1 | 1 | 0 | 0 | 4 | 2 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 28 | 20UC1203 | Design Thinking & Innovation -2 | 1 | 0 | 0 | 4 | 2 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 29 | 19CE2105 | AI & ML Applications In Civil Engineering | 2 | 0 | 0 | 4 | 3 | NIL | CE | | 3 | | | | | | |
| **Total Credits** | | | | | | | | | | 34 | 31 | 33.5 | 36.5 | 36 | 30 | 39 | 37 |
| | | PROFESSIONAL CORE COURSES | | | | | | | | | | | | | | | |
| 1 | 19BT1201 | Cell Biology | 3 | 1 | 0 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 2 | 19BT2105 | Biochemistry | 3 | 0 | 2 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 3 | 19BT2106 | Microbiology | 3 | 0 | 2 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 4 | 19BT2107 | Bioanalytical Techniques | 3 | 0 | 2 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 5 | 19BT2109 | Immunology | 3 | 0 | 2 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 6 | 19BT3110 | Bioinformatics | 3 | 0 | 2 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 7 | 19BT3111 | Genetic Engineering | 3 | 0 | 2 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 8 | 19BT3112 | Fermentation Technology | 3 | 0 | 2 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 9 | 19BT3113 | Biochemical Reaction Engineering | 3 | 0 | 2 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 10 | 19BT3201 | Plant Biotechnology | 3 | 0 | 2 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 11 | 19BT3202 | Downstream Processing | 3 | 0 | 2 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 12 | 19CE2201 | Structural Analysis | 3 | 1 | 0 | 0 | 4 | NIL | CE | | 4 | | | | | | |
| 13 | 19CE2102 | Fluid Mechanics | 3 | 0 | 2 | 0 | 4 | NIL | CE | | 4 | | | | | | |
| 14 | 19CE2103 | Surveying | 3 | 0 | 2 | 0 | 4 | NIL | CE | | 4 | | | | | | |
| 15 | 19CE2104 | Construction Materials & Concrete Technology | 3 | 0 | 2 | 0 | 4 | NIL | CE | | 4 | | | | | | |
| 16 | 19CE2202 | Building Planning, Drawing & Construction Management | 3 | 0 | 2 | 0 | 4 | NIL | CE | | 4 | | | | | | |
| 17 | 19CE2203 | Hydraulic Engineering | 3 | 0 | 2 | 0 | 4 | NIL | CE | | 4 | | | | | | |
| 18 | 19CE2204 | Environmental Engineering | 3 | 0 | 2 | 0 | 4 | NIL | CE | | 4 | | | | | | |
| 19 | 19CE2205 | Engineering Geology | 3 | 0 | 2 | 0 | 4 | NIL | CE | | 4 | | | | | | |

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| 20 | 19CE2206 | Geotechnical Engineering | 3 | 0 | 2 | 0 | 4 | NIL | CE | | 4 | | | | | | |
| 21 | 19CE3101 | Design Of Reinforced Concrete Structures | 3 | 0 | 2 | 0 | 4 | 19CE2201 | CE | | 4 | | | | | | |
| 22 | 19CE3103 | Transportation Engineering | 3 | 0 | 2 | 0 | 4 | NIL | CE | | 4 | | | | | | |
| 23 | 19CE3201 | Quantity Surveying Estimation | 3 | 0 | 2 | 0 | 4 | NIL | CE | | 4 | | | | | | |
| 24 | 19CE3102 | Water Resource Engineering | 3 | 1 | 0 | 0 | 4 | NIL | CE | | 4 | | | | | | |
| 25 | 19CE3203 | Design Of Steel Structures | 3 | 1 | 0 | 0 | 4 | 19CE2201 | CE | | 4 | | | | | | |
| 26 | 19EC1202 | Computer Organization & Architecture | 2 | 0 | 0 | 0 | 2 | 19EC1101 | CSE, ECM, ECE, EEE | | | 2 | 2 | 2 | 2 | | |
| 27 | 19CS2106 | Operating Systems | 3 | 0 | 2 | 2 | 4.5 | 19EC1202 | CSE, ECM | | | 4.5 | | 4.5 | | | |
| 28 | 19CS2107 | Enterprise Programming | 3 | 0 | 2 | 4 | 5 | 19SC1201 | CSE | | | 5 | | | | | |
| 29 | 19CS2108 | Database Management Systems | 2 | 1 | 2 | 2 | 4.5 | 19SC1202 | CSE, ECM | | | 4.5 | | 4.5 | | | |
| 30 | 19CS2109 | Computer Networks & Security | 3 | 1 | 0 | 0 | 4 | NIL | CSE | | | 4 | | 4 | | | |
| 31 | 19CS2210 | Parallel & Distributed Computing | 3 | 0 | 2 | 4 | 5 | 19CS2106 | CSE | | | 5 | | | | | |
| 32 | 19CS2211 | Software Engineering | 2 | 2 | 0 | 0 | 4 | NIL | CSE, ECM | | | 4 | | 4 | | | |
| 33 | 19CS2212 | Artificial Intelligence | 2 | 0 | 2 | 0 | 3 | 19MT1101 | CSE,ECM | | | 3 | | 3 | | | |
| 34 | 19CS3113 | Design & Analysis Of Algorithms | 3 | 0 | 2 | 6 | 5.5 | 19SC1202 | CSE | | | 5.5 | | | | | |
| 35 | 19CS3214 | Automata Theory & Compiler Design | 3 | 1 | 2 | 0 | 5 | 19SC1202 | CSE | | | 5 | | | | | |
| 36 | 19CS2104 | Mathematical Programming-1 | 2 | 2 | 0 | 0 | 4 | 19MT1101 | CSE | | | 4 | | | | | |
| 37 | 19EC2103 | Analog Electronic Circuit Design | 3 | 0 | 2 | 2 | 4.5 | NIL | ECE, ECM, EEE | | | | 4.5 | 4.5 | 4.5 | | |
| 38 | 19EC2104 | Communication Signals & System Design | 3 | 1 | 0 | 0 | 4 | NIL | ECE | | | | 4 | | | | |
| 39 | 19EC2105 | Embedded Controllers | 2 | 0 | 3 | 2 | 4 | NIL | ECE, EEE,ECM | | | | 4 | 4 | 4 | | |
| 40 | 19EC2106 | Analog And Digital Communication | 3 | 0 | 3 | 0 | 4.5 | NIL | ECE | | | | 4.5 | 4.5 | | | |
| 41 | 19EC2207 | Electromagnetic Field & Applications | 3 | 1 | 0 | 0 | 4 | NIL | ECE | | | | 4 | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 42 | 19EC2208 | Digital Signal Processing | 3 | 0 | 2 | 0 | 4 | NIL | ECE | | | | 4 | | | | |
| 43 | 19EC2209 | Statistics, Ai & Ann-Basic Course | 3 | 0 | 0 | 2 | 3.5 | NIL | ECE | | | | 3.5 | | | | |
| 44 | 19EC2223 | Introduction To Ai & Ann Tools And Applications | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | | | | | |
| 45 | 19EC2210 | Data Networks & Protocols | 3 | 0 | 2 | 0 | 4 | NIL | ECE,ECM | | | | 4 | | | | |
| 46 | 19EE2102 | Electrical Power Engineering | 3 | 1 | 0 | 0 | 4 | NIL | EEE | | | | | | 4 | | |
| 47 | 19EE2103 | Electrical Machines | 3 | 0 | 2 | 0 | 4 | NIL | EEE | | | | | | 4 | | |
| 48 | 19EE2201 | Industrial Application Of Electrical Machines | 3 | 0 | 2 | 0 | 4 | 19EE2103 | EEE | | | | | | 4 | | |
| 49 | 19EE2202 | Power Electronics | 3 | 0 | 2 | 2 | 4.5 | 19EE2101 | EEE | | | | | | 4.5 | | |
| 50 | 19EE2203 | Computer Applications In Power Systems | 3 | 0 | 2 | 0 | 4 | NIL | EEE | | | | | | 4 | | |
| 51 | 19EE2204 | Control Systems | 3 | 0 | 2 | 2 | 4.5 | NIL | EEE | | | | | | 4.5 | | |
| 52 | 19EE3101 | Ai Techniques In Electrical Engineering | 3 | 0 | 2 | 0 | 4 | 19EE2203 | EEE | | | | | | 4 | | |
| 53 | 19EM2201 | Web Application Development | 2 | 0 | 2 | 2 | 3.5 | 19SC1201 | ECM | | | | | 3.5 | | | |
| 54 | 19EM3201 | Signal Processing | 3 | 0 | 2 | 0 | 4 | NIL | ECM, EEE | | | | | 4 | 4 | | |
| 55 | 19ME2106 | Metrology And Measurements | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 56 | 19ME2107 | Thermal-Fluids Engineering-I | 3 | 0 | 2 | 0 | 4 | NIL | ME | | | | | | | 4 | |
| 57 | 19ME2127 | Engineering In The Physical World | 1 | 0 | 2 | 4 | 3 | NIL | ME | | | | | | | 3 | |
| 58 | 19ME2109 | Kinematics And Dynamics Of Machines | 3 | 0 | 2 | 0 | 4 | NIL | ME | | | | | | | 4 | |
| 59 | 19ME2211 | Manufacturing Techniques | 3 | 0 | 2 | 0 | 4 | NIL | ME | | | | | | | 4 | |
| 60 | 19ME2212 | Thermal-Fluids Engineering-Ii | 3 | 0 | 2 | 0 | 4 | 19ME2107 | ME | | | | | | | 4 | |
| 61 | 19ME2213 | Vibrations And Controls | 3 | 0 | 0 | 0 | 3 | 19ME2109 | ME | | | | | | | 3 | |
| 62 | 19ME3114 | Machine Design | 3 | 1 | 0 | 0 | 4 | 19ME2108 | ME | | | | | | | 4 | |
| 63 | 19ME3115 | Design For Manufacturing | 3 | 0 | 2 | 0 | 4 | 19ME2211 | ME | | | | | | | 4 | |
| 64 | 19ME3116 | Robotics And Artificial Intelligence | 3 | 0 | 0 | 0 | 3 | NIL | ME | | | | | | | 3 | |

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| 65 | 19ME3218 | Engineering Management | 2 | 0 | 0 | 0 | 2 | NIL | ME | | | | | | | 2 | |
| 66 | 19ME3219 | Heat Transfer | 3 | 0 | 2 | 0 | 4 | 19ME 2107 | ME | | | | | | | 4 | |
| 67 | 19PE2106 | Surveying And Petroleum Geophysics | 3 | 0 | 2 | 0 | 4 | NIL | PE | | | | | | | | 4 |
| 68 | 19PE2207 | Material & Energy Flow Computation | 3 | 2 | 0 | 0 | 5 | NIL | PE | | | | | | | | 5 |
| 69 | 19PE2208 | Petroleum Exploration Methods | 3 | 0 | 0 | 0 | 3 | 19PE2 104 | PE | | | | | | | | 3 |
| 70 | 19PE3110 | Heat Transfer | 2 | 2 | 2 | 0 | 5 | NIL | PE | | | | | | | | 5 |
| 71 | 19PE3214 | Mass Transfer | 2 | 2 | 2 | 0 | 5 | NIL | PE | | | | | | | | 5 |
| 72 | 19PE3217 | Petroleum Refining & Petrochemical Technology | 3 | 0 | 2 | 0 | 4 | 19PE3 110 | PE | | | | | | | | 4 |
| 73 | 19PE3218 | Petroleum Asset Management | 3 | 0 | 0 | 0 | 3 | NIL | PE | | | | | | | | 3 |
| 74 | 19PE4119 | Petroleum Production Equipment Design | 3 | 0 | 0 | 0 | 3 | 19PE2 210 | PE | | | | | | | | 3 |
| 75 | 19PE4120 | Petroleum Reservoir Modelling And Simulation | 2 | 2 | 2 | 0 | 5 | NIL | PE | | | | | | | | 5 |
| 76 | 19PE4121 | Health Safety & Environment In Petroleum Industry | 3 | 0 | 0 | 0 | 3 | NIL | PE | | | | | | | | 3 |
| **Total Credits** | | | | | | | | | | 44 | 56 | 46.5 | 34.5 | 42.5 | 43.5 | 42 | 40 |
| **Skilling Courses** | | | | | | | | | | | | | | | | | |
| 1 | 19TS1001 | Skilling For Engineers-1 | 0 | 0 | 0 | 4 | 1 | NIL | BT | 1 | | | | | | | |
| 2 | 19TS1002 | Skilling For Engineers-2 | 0 | 0 | 0 | 4 | 1 | NIL | BT | 1 | | | | | | | |
| 3 | 19TS1003 | Skilling For Engineers-3 | 0 | 0 | 0 | 4 | 1 | NIL | BT | 1 | | | | | | | |
| 4 | 19TS1004 | Skilling For Engineers-4 | 0 | 0 | 0 | 4 | 1 | NIL | BT | 1 | | | | | | | |
| 5 | 19TS1005 | Technical Proficiency & Training- 1 | 0 | 0 | 0 | 4 | 1 | NIL | BT | 1 | | | | | | | |
| 6 | 19TS1006 | Technical Proficiency & Training-2 | 0 | 0 | 0 | 4 | 1 | NIL | BT | 1 | | | | | | | |
| 7 | 19TS2001 | Skilling For Engineers-1 | 0 | 0 | 0 | 4 | 1 | NIL | CE | | 1 | | | | | | |
| 8 | 19TS2002 | Skilling For Engineers-2 | 0 | 0 | 0 | 4 | 1 | NIL | CE | | 1 | | | | | | |
| 9 | 19TS2003 | Skilling For Engineers-3 | 0 | 0 | 0 | 4 | 1 | NIL | CE | | 1 | | | | | | |
| 10 | 19TS2004 | Skilling For Engineers-4 | 0 | 0 | 0 | 4 | 1 | NIL | CE | | 1 | | | | | | |
| 11 | 19TS2005 | Technical Proficiency & Training- 1 | 0 | 0 | 0 | 4 | 1 | NIL | CE | | 1 | | | | | | |

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| 12 | 19TS2006 | Technical Proficiency & Training-2 | 0 | 0 | 0 | 4 | 1 | NIL | CE | | 1 | | | | | | |
| 13 | 19TS3001 | Skilling For Engineers-1 | 0 | 0 | 0 | 4 | 1 | 19SC1203 | CSE | | | 1 | | | | | |
| 14 | 19TS3002 | Skilling For Engineers-2 | 0 | 0 | 0 | 4 | 1 | NIL | CSE | | | 1 | | | | | |
| 15 | 19TS3003 | Skilling For Engineers-3 | 0 | 0 | 0 | 4 | 1 | NIL | CSE | | | 1 | | | | | |
| 16 | 19TS3004 | Skilling For Engineers-4 | 0 | 0 | 0 | 4 | 1 | NIL | CSE | | | 1 | | | | | |
| 17 | 19TS3005 | Technical Proficiency & Training- 1 | 0 | 0 | 0 | 4 | 1 | NIL | CSE | | | 1 | | | | | |
| 18 | 19TS3006 | Technical Proficiency & Training-2 | 0 | 0 | 0 | 4 | 1 | NIL | CSE | | | 1 | | | | | |
| 19 | 19TS4001 | Skilling For Engineers-1 | 0 | 0 | 0 | 4 | 1 | NIL | ECE | | | | 1 | | | | |
| 20 | 19TS4002 | Skilling For Engineers-2 | 0 | 0 | 0 | 4 | 1 | NIL | ECE | | | | 1 | | | | |
| 21 | 19TS4003 | Skilling For Engineers-3 | 0 | 0 | 0 | 4 | 1 | NIL | ECE | | | | 1 | | | | |
| 22 | 19TS4004 | Skilling For Engineers-4 | 0 | 0 | 0 | 4 | 1 | NIL | ECE | | | | 1 | | | | |
| 23 | 19TS4005 | Technical Proficiency & Training- 1 | 0 | 0 | 0 | 4 | 1 | NIL | ECE | | | | 1 | | | | |
| 24 | 19TS4006 | Technical Proficiency & Training-2 | 0 | 0 | 0 | 4 | 1 | NIL | ECE | | | | 1 | | | | |
| 25 | 19TS5001 | Skilling For Engineers-1 | 0 | 0 | 0 | 4 | 1 | NIL | ECM | | | | | 1 | | | |
| 26 | 19TS5002 | Skilling For Engineers-2 | 0 | 0 | 0 | 4 | 1 | NIL | ECM | | | | | 1 | | | |
| 27 | 19TS5003 | Skilling For Engineers-3 | 0 | 0 | 0 | 4 | 1 | NIL | ECM | | | | | 1 | | | |
| 28 | 19TS5004 | Skilling For Engineers-4 | 0 | 0 | 0 | 4 | 1 | NIL | ECM | | | | | 1 | | | |
| 29 | 19TS5005 | Technical Proficiency & Training- 1 | 0 | 0 | 0 | 4 | 1 | NIL | ECM | | | | | 1 | | | |
| 30 | 19TS5006 | Technical Proficiency & Training-2 | 0 | 0 | 0 | 4 | 1 | NIL | ECM | | | | | 1 | | | |
| 31 | 19TS6001 | Skilling For Engineers-1 | 0 | 0 | 0 | 4 | 1 | NIL | EEE | | | | | | 1 | | |
| 32 | 19TS6002 | Skilling For Engineers-2 | 0 | 0 | 0 | 4 | 1 | NIL | EEE | | | | | | 1 | | |
| 33 | 19TS6003 | Skilling For Engineers-3 | 0 | 0 | 0 | 4 | 1 | NIL | EEE | | | | | | 1 | | |
| 34 | 19TS6004 | Skilling For Engineers-4 | 0 | 0 | 0 | 4 | 1 | NIL | EEE | | | | | | 1 | | |
| 35 | 19TS6005 | Technical Proficiency & Training- 1 | 0 | 0 | 0 | 4 | 1 | NIL | EEE | | | | | | 1 | | |
| 36 | 19TS6006 | Technical Proficiency & Training-2 | 0 | 0 | 0 | 4 | 1 | NIL | EEE | | | | | | 1 | | |
| 37 | 19TS701 | Skilling For Engineers-1 | 0 | 0 | 0 | 4 | 1 | NIL | ME | | | | | | | 1 | |
| 38 | 19TS702 | Skilling For Engineers-2 | 0 | 0 | 0 | 4 | 1 | NIL | ME | | | | | | | 1 | |
| 39 | 19TS703 | Skilling For Engineers-3 | 0 | 0 | 0 | 4 | 1 | NIL | ME | | | | | | | 1 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | 19TS704 | Skilling For Engineers-4 | 0 | 0 | 0 | 4 | 1 | NIL | ME | | | | | | | 1 | |
| 41 | 19TS705 | Technical Proficiency & Training- 1 | 0 | 0 | 0 | 4 | 1 | NIL | ME | | | | | | | 1 | |
| 42 | 19TS706 | Technical Proficiency & Training-2 | 0 | 0 | 0 | 4 | 1 | NIL | ME | | | | | | | 1 | |
| 43 | 19TS8001 | Skilling For Engineers-1 | 0 | 0 | 0 | 4 | 1 | NIL | PE | | | | | | | | 1 |
| 44 | 19TS8002 | Skilling For Engineers-2 | 0 | 0 | 0 | 4 | 1 | NIL | PE | | | | | | | | 1 |
| 45 | 19TS8003 | Skilling For Engineers-3 | 0 | 0 | 0 | 4 | 1 | NIL | PE | | | | | | | | 1 |
| 46 | 19TS8004 | Skilling For Engineers-4 | 0 | 0 | 0 | 4 | 1 | NIL | PE | | | | | | | | 1 |
| 47 | 19TS8005 | Technical Proficiency & Training- 1 | 0 | 0 | 0 | 4 | 1 | NIL | PE | | | | | | | | 1 |
| 48 | 19TS8006 | Technical Proficiency & Training-2 | 0 | 0 | 0 | 4 | 1 | NIL | PE | | | | | | | | 1 |
| **Total Credits** | | | | | | | | | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| **TERM PAPER & PROJECT** | | | | | | | | | | | | | | | | | |
| 1 | 19IE2246 | Industrial Training | 0 | 0 | 4 | 0 | 2 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 2 | 19IE3247 | Term Paper | 0 | 0 | 4 | 0 | 2 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 19IE4048 | Project (Part I) | 0 | 0 | 0 | 24 | 6 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 4 | 19IE4049 | Project (Part Ii) | 0 | 0 | 0 | 24 | 6 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | |
| 5 | 19IE4050 | Practice School | 0 | 0 | 0 | 24 | 6 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | |
| 6 | 19IE4051 | Internship | 0 | 0 | 0 | 24 | 6 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 19PR3080 | Mid-Grad Capstone Project | 0 | 0 | 4 | 0 | 2 | NIL | CSE,ECM | | | 2 | | | | | |
| **Total Credits** | | | | | | | | | | 16 | 16 | 18 | 16 | 16 | 16 | 16 | 16 |
| **FLEXI-CORE** | | | | | | | | | | | | | | | | | |
| 1 | FC-1 | Flexi-Core-1 | | | | | 4 | | BT,CSE, ECE, ECM, EEE, ME,PE | 4 | 0 | 4 | 4 | 4 | 4 | 4 | 4 |
| 2 | FC-2 | Flexi-Core-2 | | | | | 4 | | BT, CSE, ECE, ECM, EEE, ME,PE | 4 | 0 | 4 | 4 | 4 | 4 | 4 | 4 |
| 3 | FC-3 | Flexi-Core-3 | | | | | 4 | | BT, CSE, ECE, ECM, EEE, ME,PE | 4 | 0 | 4 | 4 | 4 | 4 | 4 | 4 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Credits** | | | | | | | | | | 12 | 0 | 12 | 12 | 12 | 12 | 12 | 12 |
| **OPEN ELECTIVES** | | | | | | | | | | | | | | | | | | |
| 1 | OE-1 | Open Elective-1 | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 2 | OE-2 | Open Elective-2 | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 3 | | Open Elective-3 | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 4 | OE-3 | Management Elective | 3 | 0 | 0 | 0 | 3 | | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 5 | OE-4 | Foreign Langauge Elective | 2 | 0 | 0 | 0 | 2 | | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| **Total Credits** | | | | | | | | | | 11 | 11 | 11 | 14 | 11 | 11 | 11 | 11 |
| **PROFESSIONAL ELECTIVES** | | | | | | | | | | | | | | | | | |
| 1 | PE-1 | Professional Elective-1 | | | | | 3 | | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 2 | PE-2 | Professional Elective-2 | | | | | 3 | | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 3 | PE-3 | Professional Elective-3 | | | | | 3 | | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | PE-4 | Professional Elective-4 | | | | | 3 | | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 5 | PE-5 | Professional Elective-5 | | | | | 3 | | BT, CE, CSE, ECE, ECM, EEE, ME,PE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 6 | PE-6 | Professional Elective-6 | | | | | 3 | | ECE | | | | 3 | 3 | | | |
| **Total Credits** | | | | | | | | | | 15 | 15 | 15 | 18 | 18 | 15 | 15 | 15 |
| **Grand Total Credits** | | | | | | | | | | **169** | **168** | **176** | **167** | **176** | **168** | **174** | **170** |

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| **Flexi Core** | | | | | | | | | | | | | | | | | | |
| 1 | 19BT2108 | Molecular Biology | 4 | 0 | 0 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 2 | 19BT3058 | Dna Forensics | 4 | 0 | 0 | 0 | 4 | NIL | BT | 4 | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 19BT4159 | Applied Bioinformatics | 4 | 0 | 0 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 4 | 19BT3069 | Pharmacovigilence And Safety | 4 | 0 | 0 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 5 | 19BT3264 | Healthcare Biotechnology | 4 | 0 | 0 | 0 | 4 | NIL | BT | 4 | | | | | | | |
| 9 | 19EM5201 | Embedded System Design With Arm | 2 | 0 | 2 | 0 | 3 | 19CS1205 | CSE,ECM,EEE,ECE | | | 3 | | | | | |
| 10 | 19EM5101 | Fundamentals Of Internet Of Things | 2 | 0 | 2 | 0 | 3 | 19CS1205 | CSE,ECM,EEE,ECE | | | 3 | | | | | |
| 11 | 19EM5104 | Web Intelligence | 3 | 0 | 0 | 0 | 3 | 19SC1201 | CSE,ECM,EEE,ECE | | | 3 | | | | | |
| 12 | 19CS3021 | Machine Learning | 2 | 0 | 2 | 0 | 3 | 19CS2212 | CSE,ECM,ECE | | | 3 | | | | | |
| 13 | 19CS3040 | Crypt Analysis And Cyber Defence | 2 | 0 | 2 | 2 | 3.5 | 19CS2109 | CSE,ECM,ECE | | | 3.5 | | | | | |
| 14 | 19CS3050R | Data Warehousing & Mining (Regular) | 2 | 0 | 2 | 2 | 3.5 | 19ES2204 | CSE,ECM | | | 3.5 | | | | | |
| 15 | 19CS3050A | Data Warehousing & Mining (Advanced) | 3 | 0 | 4 | 2 | 5.5 | 19ES2204 | CSE,ECM | | | 5.5 | | | | | |
| 16 | 19CS3060R | Docker Devops (Regular) | 2 | 0 | 2 | 0 | 3 | NIL | CSE,ECM | | | 3 | | | | | |
| 17 | 19CS3060A | Docker Devops (Advanced) | 3 | 0 | 4 | 0 | 5 | NIL | CSE,ECE | | | 5 | | | | | |
| 18 | 19EC3101 | Tcp/Ip Protocol Suite | 3 | 0 | 0 | 0 | 3 | NIL | CSE,ECM,ECE | | | 3 | | | | | |
| 19 | 19EC2208 | Vlsi Design | 2 | 1 | 2 | 0 | 4 | NIL | ECE,ECM | | | | 4 | | | | |
| 20 | 19EC4111 | Wireless Communications | 3 | 0 | 2 | 0 | 4 | NIL | ECE | | | | 4 | | | | |
| 21 | 19EC3015 | Rf System Design | 3 | 0 | 2 | 0 | 4 | NIL | ECE | | | | 4 | | | | |
| 22 | 19EC3016 | Biomedical Electronics & Iot For Healthcare | 3 | 0 | 2 | 0 | 4 | NIL | ECE | | | | 4 | | | | |
| 23 | 19EC3017 | Electronics Instruments & Automation | 3 | 0 | 2 | 0 | 4 | NIL | ECE | | | | 4 | | | | |
| 24 | 19EC3018 | System Engineering, Operation Research & Designing | 3 | 0 | 2 | 0 | 4 | NIL | ECE | | | | 4 | | | | |
| 25 | 19EC3019 | Electrical Technologies & Solar Power Systems | 3 | 0 | 2 | 0 | 4 | NIL | ECE | | | | 4 | | | | |
| 26 | 19EC3020 | Advance Course In Soft-Computing (Ai, Ann, Fuzzy Logic & Genetic Algorithms) | 3 | 0 | 2 | 0 | 4 | NIL | ECE | | | | 4 | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 27 | 19EC3071 | Control Systems & Introduction To Robotics | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 28 | 19EC3109 | Data Networks And Protocols | 3 | 0 | 2 | 0 | 4 | NIL | EEE | | | | | | 4 | | |
| 29 | 19CS2212 | Artificial Intelligence | 2 | 0 | 2 | 4 | 4 | 19MT 2102 | | | | | | | 4 | | |
| 30 | 19EE3102 | Electric Drives | 3 | 0 | 2 | 0 | 4 | 19EE2 202 | EEE | | | | | | 4 | | |
| 31 | 19EE3103 | Restructered Power Systems | 3 | 1 | 0 | 0 | 4 | NIL | EEE | | | | | | 4 | | |
| 32 | 19EE3104 | Utilisation Of Electrical Energy | 3 | 1 | 0 | 0 | 4 | 19EE2 101 | EEE | | | | | | 4 | | |
| 33 | 19EE3105 | Power Quality | 3 | 1 | 0 | 0 | 4 | NIL | EEE | | | | | | 4 | | |
| 34 | 19EE3106 | Sensors & Instrumentation | 3 | 1 | 0 | 0 | 4 | NIL | EEE | | | | | | 4 | | |
| 35 | 19ME3221 | Internet Of Things | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 36 | 19ME3220 | Machine Learning | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 37 | 19ME3117 | Product Design & Development | 0 | 0 | 8 | 0 | 4 | NIL | ME | | | | | | | 4 | |
| 38 | 19ME3222 | Computer Aided Design | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 39 | 19ME3223 | Geometric Dimensioning And Tolerancing | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 40 | 19ME3224 | Automotive Transmission | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 41 | 19ME3225 | Autotronics | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 42 | 19ME3226 | Automation System Design | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 43 | 19PE2104 | Petroleum Geology | 3 | 0 | 2 | 0 | 4 | NIL | PE | | | | | | | | 4 |
| 44 | 19PE2105 | Drilling Engineering-I | 3 | 1 | 2 | 0 | 5 | NIL | PE | | | | | | | | 5 |
| 45 | 19PE2209 | Drilling Engineering-Ii | 2 | 2 | 2 | 0 | 5 | 19PE2 105 | PE | | | | | | | | 5 |
| 46 | 19PE2210 | Petroleum Reservoir Engineering | 2 | 2 | 2 | 0 | 5 | NIL | PE | | | | | | | | 5 |
| 47 | 19PE3112 | Petroleum Production Engineering-I | 3 | 0 | 0 | 0 | 3 | NIL | PE | | | | | | | | 3 |
| 48 | 19PE3113 | Offshore Petroleum Operations | 3 | 0 | 0 | 0 | 3 | NIL | PE | | | | | | | | 3 |
| 49 | 19PE3114 | Petroleum Formation Evaluation | 3 | 0 | 0 | 0 | 3 | 19PE2 208 | PE | | | | | | | | 3 |
| 50 | 19PE3215 | Petroleum Production Engineering-Ii | 3 | 0 | 0 | 0 | 3 | 19PE3 112 | PE | | | | | | | | 3 |

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| 51 | 19PE3216 | Oil And Gas Well Testing | 3 | 0 | 0 | 0 | 3 | NIL | PE | | | | | | | | | 3 |

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| **Professional Electives** | | | | | | | | | | | | | | | | | | |
| | | DEPARTMENT OF BIOTECHNOLOGY | | | | | | | | | | | | | | | | |
| **GENETIC ENGINEERING** | | | | | | | | | | | | | | | | | | |
| 1 | 19BT3252 | Transgenic Technology | 3 | 0 | 0 | 0 | 3 | 19BT3111 | BT | | | | | | | | | |
| 2 | 19BT3253 | Molecular Expression Technology | 3 | 0 | 0 | 0 | 3 | 19BT3111 | BT | | | | | | | | | |
| 3 | 19BT3254 | Genomics And Proteomics | 3 | 0 | 0 | 0 | 3 | 19BT3111 | BT | | | | | | | | | |
| 4 | 19BT4150 | Molecular Markers And Diagnostics | 3 | 0 | 0 | 0 | 3 | 19BT3111 | BT | | | | | | | | | |
| 5 | 19BT4151 | Gene And The Environment | 3 | 0 | 0 | 0 | 3 | 19BT3111 | BT | | | | | | | | | |
| 6 | 19BT4152 | Microbial Genetics | 3 | 0 | 0 | 0 | 3 | 19BT3111 | BT | | | | | | | | | |
| 7 | 19BT4153 | Dna Forensics | 3 | 0 | 0 | 0 | 3 | 19BT3111 | BT | | | | | | | | | |
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| **INDUSTRIAL BIOTECHNOLOGY** | | | | | | | | | | | | | | | | | | |
| 1 | 19BT3256 | Pharmaceutical Biotechnology | 3 | 0 | 0 | 0 | 3 | 19BT2106 | BT | | | | | | | | | |
| 2 | 19BT3257 | Metabolic Engineering | 3 | 0 | 0 | 0 | 3 | 19BT2106 | BT | | | | | | | | | |
| 3 | 19BT3258 | Bioresource Technology | 3 | 0 | 0 | 0 | 3 | 19BT2106 | BT | | | | | | | | | |
| 4 | 19BT4154 | Bioprocess Economics And Plant Design | 3 | 0 | 0 | 0 | 3 | 19BT2106 | BT | | | | | | | | | |
| 5 | 19BT4155 | Enzyme Engineering | 3 | 0 | 0 | 0 | 3 | 19BT2106 | BT | | | | | | | | | |
| 6 | 19BT4156 | Bioprocess Validation And Cgmp | 3 | 0 | 0 | 0 | 3 | 19BT2106 | BT | | | | | | | | | |

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| 7 | 19BT4157 | Food Technology | 3 | 0 | 0 | 0 | 3 | 19BT2106 | BT | | | | | | | | | |
| 8 | 19BT4158 | Pharmacovigilance And Safety | 3 | 0 | 0 | 0 | 3 | 19BT2106 | BT | | | | | | | | | |
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| **BIOINFORMATICS** | | | | | | | | | | | | | | | | | | |
| 1 | 19BT3259 | Perl And Bioperl Programming | 3 | 0 | 0 | 0 | 3 | 19BT3110 | BT | | | | | | | | | |
| 2 | 19BT3260 | Biomedical Informatics | 3 | 0 | 0 | 0 | 3 | 19BT3110 | BT | | | | | | | | | |
| 3 | 19BT3261 | Molecular Modelling And Drug Design | 3 | 0 | 0 | 0 | 3 | 19BT3110 | BT | | | | | | | | | |
| 4 | 19BT3262 | Structural Biology | 3 | 0 | 0 | 0 | 3 | 19BT3110 | BT | | | | | | | | | |
| 5 | 19BT4160 | Applied Bioinformatics | 3 | 0 | 0 | 0 | 3 | 19BT3110 | BT | | | | | | | | | |
| 6 | 19BT4161 | Python And R Programming | 3 | 0 | 0 | 0 | 3 | 19BT3110 | BT | | | | | | | | | |
| 7 | 19BT4162 | Data Base Management System | 3 | 0 | 0 | 0 | 3 | 19BT3110 | BT | | | | | | | | | |
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| **MEDICAL BIOTECHNOLOGY** | | | | | | | | | | | | | | | | | | |
| 1 | 19BT3263 | Stem Cell Technology | 3 | 0 | 0 | 0 | 3 | 19BT2015 | BT | | | | | | | | | |
| 2 | 19BT3265 | Cancer Biology | 3 | 0 | 0 | 0 | 3 | 19BT2015 | BT | | | | | | | | | |
| 3 | 19BT3266 | Neurobiology | 3 | 0 | 0 | 0 | 3 | 19BT2015 | BT | | | | | | | | | |
| 4 | 19BT4163 | Bioelectronics & Biosensors | 3 | 0 | 0 | 0 | 3 | 19BT2015 | BT | | | | | | | | | |
| 5 | 19BT4164 | Tissue Engineering | 3 | 0 | 0 | 0 | 3 | 19BT2015 | BT | | | | | | | | | |
| 6 | 19BT4165 | Virology | 3 | 0 | 0 | 0 | 3 | 19BT2015 | BT | | | | | | | | | |
| 7 | 19BT4166 | Nanobiotechnology | 3 | 0 | 0 | 0 | 3 | 19BT2015 | BT | | | | | | | | | |

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| | **DEPARTMENT OF CIVIL ENGINEERING** | | | | | | | | | | | | | | | | | |
| **STRUCTURAL ENGINEERING** | | | | | | | | | | | | | | | | | | |
| 1 | 19CE3211 | Pre-Fabricated Structures | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 2 | 19CE3221 | Masonry Structures | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 3 | 19CE3231 | Prestressed Concrete | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 4 | 19CE4141 | Bridge Engineering | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 5 | 19CE4151 | Sustainable Construction Technologies | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 6 | 19CE4161 | Construction Project Planning&Systems | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| **GEOTECHNICAL ENGINEERING** | | | | | | | | | | | | | | | | | | |
| 1 | 19CE3212 | Geosynthetics And Reinforced Soil Structures | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 2 | 19CE3222 | Foundation Engineering | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 3 | 19CE3232 | Ground Improvement Techniques | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 4 | 19CE4142 | Rock Mechanics | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 5 | 19CE4152 | Geotechnical Earthquake Engineering | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 6 | 19CE4162 | Advanced Foundation Engineering | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| **ENVIRONMENTAL ENGINEERING** | | | | | | | | | | | | | | | | | | |
| 1 | 19CE3213 | Sustainable Engineering & Technology | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 2 | 19CE3223 | Environmental Impact Assessment And Life Cycle Analyses | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 3 | 19CE3233 | Rural Water Supply And Onsite Sanitation Systems | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 4 | 19CE4143 | Solid And Hazardous Waste Management | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 5 | 19CE4153 | Air And Noise Pollution And Control | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 6 | 19CE4163 | Physico-Chemical Processes For Water And Wastewater Treatment | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| **HYDRAULICS** | | | | | | | | | | | | | | | | | | |

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| 1 | 19CE3214 | River Engineering | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 2 | 19CE3224 | Urban Water Hydrology And Hydraulics | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 3 | 19CE3234 | Water Resources Field Methods | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 4 | 19CE4144 | Design Of Hydraulic Structures | 3 | 0 | 0 | 0 | 3 | 19CE2203 | CE | | 3 | | | | | | | |
| 5 | 19CE4154 | Groundwater Hydrology | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 6 | 19CE4164 | Water Quality Engineering | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| **TRANSPORTATION ENGINEERING** | | | | | | | | | | | | | | | | | | |
| 1 | 19CE3215 | Intelligent Transportation Systems | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 2 | 19CE3225 | Pavement Materials &Design | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 3 | 19CE3235 | Soil Stabilization Techniques | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 4 | 19CE4145 | Traffic Engineering And Management | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 5 | 19CE4155 | Urban Transportation Planning. | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
| 6 | 19CE4165 | Railway Engineering Airport Planning And Design | 3 | 0 | 0 | 0 | 3 | NIL | CE | | 3 | | | | | | | |
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| | | **DEPARTMENT OF COMPUTER SCIENCE ENGINEERING** | | | | | | | | | | | | | | | | |
| **ARTIFICIAL INTELLIGENCE** | | | | | | | | | | | | | | | | | | |
| 1 | 19CS3022R | Deep Learning (Regular) | 2 | 0 | 2 | 2 | 3.5 | 19CS2212 | CSE,ECM | | | 3.5 | | 3.5 | | | | |
| **2** | 19CS3022A | Deep Learning (Advanced) | 2 | 0 | 2 | 2 | 3.5 | 19CS2212 | CSE,ECM | | | 3.5 | | 3.5 | | | | |
| 3 | 19CS3023 | Cognitive Computing | 3 | 0 | 0 | 0 | 3 | 19CS2212 | CSE,ECM | | | 3 | | 3 | | | | |
| **4** | 19CS3024 | Pattern Recognition | 3 | 0 | 0 | 0 | 3 | 19CS2212 | CSE,ECM | | | 3 | | 3 | | | | |
| 5 | 19CS3025 | Intelligent Process Automation | 3 | 0 | 0 | 0 | 3 | 19CS2212 | CSE,ECM | | | 3 | | 3 | | | | |
| **6** | 19CS3026R | Computer Vision(Regular) | 2 | 0 | 2 | 0 | 3 | 19CS2212 | CSE,ECM | | | 3 | | 3 | | | | |
| 7 | 19CS3026A | Computer Vision(Advanced) | 2 | 0 | 2 | 4 | 4 | 19CS2212 | CSE,ECM | | | 3 | | 3 | | | | |

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| **8** | 19CS3027 | Reinforcement Learning | 3 | 0 | 0 | 0 | 3 | 19CS2212 | CSE,ECM | | | 3 | | 3 | | | |
| 9 | 19CS3028 | Soft Computing | 3 | 0 | 0 | 0 | 3 | 19CS2212 | CSE,ECM | | | 3 | | 3 | | | |
| **10** | 19CS3029R | Natural Language Processing(Regular) | 3 | 0 | 0 | 0 | 3 | 19CS2212 | CSE,ECM | | | 3 | | 3 | | | |
| 11 | 19CS3029A | Natural Language Processing(Advanced) | 3 | 0 | 0 | 0 | 3 | 19CS2212 | CSE,ECM | | | 3 | | 3 | | | |
| **CLOUD & EDGE COMPUTING** | | | | | | | | | | | | | | | | | | |
| 1 | 19CS3030 | Distributed File System | 2 | 0 | 2 | 0 | 3 | CS | CSE | | | 3 | | | | | |
| 2 | 19CS3031 | Edge Computing | 3 | 0 | 0 | 0 | 3 | 19CS2210 | CSE | | | 3 | | | | | |
| 3 | 19CS3032 | High Performance Computing | 2 | 0 | 2 | 0 | 3 | 19CS2210 | CSE | | | 3 | | | | | |
| 4 | 19CS3033 | Advanced Computer Architecture | 2 | 0 | 2 | 0 | 3 | 19CS1205 | CSE | | | 3 | | | | | |
| 5 | 19CS3034 | Cloud Computing | 2 | 0 | 2 | 0 | 3 | 19CS2210 | CSE | | | 3 | | | | | |
| 6 | 19CS3035R | Cloud Networking (Regular) | 2 | 0 | 2 | 2 | 3.5 | 19CS2210 | CSE | | | 3.5 | | | | | |
| 7 | 19CS3035A | Cloud Networking (Advanced) | 3 | 0 | 4 | 3 | 5.75 | 19CS3034 | CSE | | | 5.75 | | | | | |
| 8 | 19CS3036R | Cloud System And Infrastructure (Regular) | 2 | 0 | 2 | 0 | 3 | 19CS3034 | CSE | | | 3 | | | | | |
| 9 | 19CS3036A | Cloud System And Infrastructure (Advanced) | 2 | 0 | 2 | 4 | 4 | 19CS3034 | CSE | | | 4 | | | | | |
| 10 | 19CS3037 | Fog Computing | 2 | 0 | 2 | 0 | 3 | 19CS3034 | CSE | | | 3 | | | | | |
| 11 | 19CS3038 | Parallel Computing | 3 | 0 | 0 | 0 | 3 | 19CS2106 | CSE | | | 3 | | | | | |
| **CYBER SECURITY & BLOCKCHAIN TECHNOLOG Y** | | | | | | | | | | | | | | | | | | |
| 1 | 19CS3041 | Digital Forensics | 2 | 0 | 2 | 4 | 4 | 19CS2109 | CSE,ECM,ECE | | | 4 | 4 | 4 | | | |
| **2** | 19CS3042R | Database Security (Regular) | 2 | 0 | 2 | 0 | 3 | 19CS2108 | CSE,ECM,ECE | | | 3 | 3 | 3 | | | |

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| 3 | 19CS3042A | Database Security (Advanced) | 3 | 0 | 4 | 0 | 5 | 19CS2108 | CSE,ECM,ECE | | | 5 | 5 | 5 | | | |
| **4** | 19CS3043 | Secure Software Engineering | 3 | 0 | 0 | 0 | 3 | 19CS2211 | CSE,ECM,ECE | | | 3 | 3 | 3 | | | |
| 5 | 19CS3044 | System Security | 2 | 0 | 2 | 0 | 3 | 19CS2109 | CSE,ECM,ECE | | | 3 | 3 | 3 | | | |
| **6** | 19CS3045 | Security Policy And Governance | 3 | 0 | 0 | 0 | 3 | 19CS2109 | CSE,ECM,ECE | | | 3 | 3 | 3 | | | |
| 7 | 19CS3046R | Network Security (Regular) | 2 | 0 | 2 | 0 | 3 | 19CS2109 | CSE,ECM,ECE | | | 3 | 3 | 3 | | | |
| **8** | 19CS3046A | Network Security (Advanced) | 3 | 0 | 4 | 0 | 5 | 19CS2109 | CSE,ECM,ECE | | | 5 | 5 | 5 | | | |
| 9 | 19CS3047R | Blockchain And Cryptocurrency (Regular) | 2 | 0 | 2 | 0 | 3 | 19CS3040 | CSE,ECM,ECE | | | 3 | 3 | 3 | | | |
| **10** | 19CS3047A | Blockchain And Cryptocurrency (Advanced) | 3 | 0 | 4 | 0 | 5 | 19CS3040 | CSE,ECM,ECE | | | 5 | 5 | 5 | | | |
| 11 | 19CS3048 | Defensive Programming | 2 | 0 | 2 | 0 | 3 | 19SC1201 19CS2108 | CSE,ECM,ECE | | | 3 | 3 | 3 | | | |
| **DATA SCIENCE AND BIG DATA ANALYTICS** | | | | | | | | | | | | | | | | | |
| 1 | 19CS3051R | Big Data Optimization (Regular) | 3 | 0 | 0 | 0 | 3 | NIL | CSE,ECM,ECE | | | 3 | 3 | 3 | | | |
| 2 | 19CS3051A | Big Data Optimization (Advanced) | 3 | 0 | 2 | 0 | 4 | NIL | CSE,ECM,ECE | | | 4 | 4 | 4 | | | |
| 3 | 19CS3052 | Graph & Web Analytics | 3 | 0 | 0 | 0 | 3 | NIL | CSE,ECM,ECE | | | 3 | 3 | 3 | | | |
| 4 | 19CS3053 | Spatial Data Science | 2 | 0 | 2 | 0 | 3 | 19ES2204 | CSE,ECM,ECE | | | 3 | 3 | 3 | | | |
| 5 | 19CS3054 | Information Storage And Retrieval | 2 | 0 | 2 | 0 | 3 | 19CS2108 | CSE,ECM,ECE | | | 3 | 3 | 3 | | | |
| 6 | 19CS3055R | Big Data Analytics (Regular) | 2 | 0 | 2 | 4 | 4 | 19ES2204 19SC1201 | CSE,ECM,ECE | | | 4 | 4 | 4 | | | |
| 7 | 19CS3055A | Big Data Analytics (Advanced) | 3 | 0 | 4 | 4 | 6 | 19ES2204 19SC1 | CSE,ECM,ECE | | | 6 | 6 | 6 | | | |

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| 8 | 19CS3056 | Advanced Databases | 2 | 0 | 2 | 0 | 3 | NIL | CSE,ECM,ECE | | | 3 | 3 | 3 | | | |
| 9 | 19CS3057 | Data Modelling And Visualization | 2 | 0 | 2 | 0 | 3 | 19ES2204 | CSE,ECM,ECE | | | 3 | 3 | 3 | | | |
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| **SOFTWARE MODELLING & DEVOPS** | | | | | | | | | | | | | | | | | | |
| 1 | 19CS3061 | Formal Methods & Requirements Engineering | 2 | 0 | 2 | 0 | 3 | 19CS2211 | CSE | | | 3 | | | | | | |
| 2 | 19CS3062 | Software Architecture & Design | 2 | 0 | 2 | 0 | 3 | 19CS2211 | CSE | | | 3 | | | | | | |
| 3 | 19CS3063 | Ui & Ux Design | 2 | 0 | 2 | 0 | 3 | 19CS2211 | CSE | | | 3 | | | | | | |
| 4 | 19CS3064 | Design Patterns | 2 | 0 | 2 | 2 | 3.5 | 19SC1201 | CSE | | | 3.5 | | | | | | |
| 5 | 19CS3065 | Software Project Management | 2 | 0 | 2 | 0 | 3 | 19CS2211 | CSE | | | 3 | | | | | | |
| 6 | 19CS3066 | Software Fault Tolerance & Reliability | 2 | 0 | 2 | 0 | 3 | 19CS2211 | CSE | | | 3 | | | | | | |
| 7 | 19CS3067R | Full Stack Web Development (Regular) | 2 | 0 | 2 | 4 | 4 | 19SC1201 | CSE | | | 4 | | | | | | |
| 8 | 19CS3067A | Full Stack Web Development (Advanced) | 3 | 0 | 4 | 4 | 6 | 19SC1201 | CSE | | | 6 | | | | | | |
| 9 | 19CS3068R | Software Verification And Validation (Regular) | 2 | 0 | 2 | 0 | 3 | NIL | CSE | | | 3 | | | | | | |
| 10 | 19CS3068A | Software Verification And Validation (Advanced) | 3 | 0 | 4 | 0 | 5 | NIL | CSE | | | 5 | | | | | | |
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| | | **DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING** | | | | | | | | | | | | | | | | |
| **EMBEDDED CONTROLLERS, IOTS & POWER ELECTRONICS** | | | | | | | | | | | | | | | | | | |
| 1 | 19EC3051 | Wireless Sensor Networks & Iot Applications | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | | |

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| 2 | 19EC3052 | Solar Photo-Voltaic Cells & Solar Power Arrays | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 3 | 19EC3053 | Electronic Systems For Renewable Energy & Smart Grid | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 4 | 19EC4054 | IOT Applications For Smart Cities | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 5 | 19EC4055 | Systems For Smart Cities & Smart Villages | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| | | | | | | | | | | | | | | | | | |
| **VLSI & MICRO - ELECTRONICS** | | | | | | | | | | | | | | | | | |
| 1 | 19EC3061 | Low Power Vlsi | 3 | 0 | 0 | 0 | 3 | NIL | ECE,ECM | | | | 3 | 3 | | | |
| 2 | 19EC3062 | Algorithms For Vlsi Design Automation | 3 | 0 | 0 | 0 | 3 | NIL | ECE,ECM | | | | 3 | 3 | | | |
| 3 | 19EC3063 | Ic Deisgn & Applictions | 3 | 0 | 0 | 0 | 3 | NIL | ECE,ECM | | | | 3 | 3 | | | |
| 4 | 19EC4064 | Vlsi Sub-System Design And Design For Testability | 3 | 0 | 0 | 0 | 3 | NIL | ECE,ECM | | | | 3 | 3 | | | |
| 5 | 19EC4065 | Semiconductor Memories & Mems | 3 | 0 | 0 | 0 | 3 | NIL | ECE,ECM | | | | 3 | 3 | | | |
| **Automation & Robotics** | | | | | | | | | | | | | | | | | |
| 1 | 19EC3072 | Autonomous Vehicles & Automotive Electronics | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 2 | 19EC4073 | Advanced Robotics | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 3 | 19EC4074 | Computer Vision & Applications | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 4 | 19EC4075 | Human Machine Interface & Brain Machine Interface | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 5 | 19EC4076 | Designing Automation Systems & Assistive Robotic Systems | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| **Signal Processing** | | | | | | | | | | | | | | | | | |
| 1 | 19EC3081 | Speech Signal Processing | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 2 | 19EC3082 | Digital Image Processing | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 3 | 19EC3083 | Biomedical Image Processing | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 4 | 19EC4084 | Statical Signal Processing | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 5 | 19EC4085 | Adaptive Signal Processing | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |

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| 6 | 19EC4086 | Detection And Estimation Of Signals | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| **Communication & Wireless** | | | | | | | | | | | | | | | | | | | |
| 1 | 19EC3091 | Information Theory & Coding | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 2 | 19EC3092 | Wireless Architecture & Cellular Communications | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 3 | 19EC4093 | Satellite Communications | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 4 | 19EC4094 | Optical Communication | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 5 | 19EC4095 | Wireless Technologies (Wcdma, Gprs, Gsm, Umts) | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| **Data Communication & Networks** | | | | | | | | | | | | | | | | | | | |
| 1 | 19EC3102 | Voip Systems & Broad Band Networks | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 2 | 19EC4103 | 5g Mobile, Wireless Technologies & Ieee 802 Standards | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 3 | 19EC4104 | Cloud-Computing & Network Security | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 4 | 19EC4105 | Ip Multimedia Sub-System & Emerging Technologies (Cloud, Iot, Nfv, Sdn) | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| **Rf, Microwave & Radars** | | | | | | | | | | | | | 3 | | | | |
| 1 | 19EC3111 | Microwave Engineering | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 2 | 19EC3112 | Antenna Design & Wave Propagation | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 3 | 19EC4113 | Radar Engineering & Navigational Aids | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 4 | 19EC4114 | Millimeter Waves And Applications | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 5 | 19EC4115 | Electronic Warefare, Emi & Emc | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| **Data-Computing & Application Tools** | | | | | | | | | | | | | | | | | | | |
| 1 | 19EC3121 | Machine Learning | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 2 | 19EC3122 | Data Sciences & Big-Data | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 3 | 19EC3123 | Pattern Recognition | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 4 | 19EC4124 | Block-Chain & Cyber Security | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 5 | 19EC4125 | Video Surveillance | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| **Instrumentation & Bio-Medical Electronics** | | | | | | | | | | | | | | | | | | | |

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| 1 | 19EC4131 | Automated Vehicles & Avionics | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 2 | 19EC4132 | Calibrations And Designing Advanced Instruments | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| 3 | 19EC4133 | Biological & Cyber-Physical Systems | 3 | 0 | 0 | 0 | 3 | NIL | ECE | | | | 3 | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | **Department Of Electronics And Computer Engineering** | | | | | | | | | | | | | | | | | |
| **Embedded Systems** | | | | | | | | | | | | | | | | | | | |
| 1 | 19EM5102 | Embedded Linux | 2 | 0 | 2 | 0 | 3 | NIL | ECM,ECE | | | | 3 | 3 | | | |
| 2 | 19EM5103 | Hardware And Software Co-Design | 2 | 0 | 2 | 0 | 3 | NIL | ECM,ECE | | | | 3 | 3 | | | |
| 3 | 19EM5210 | Networking Of Embedded Systems | 2 | 0 | 2 | 0 | 3 | NIL | ECM,ECE | | | | 3 | 3 | | | |
| 4 | 19EM5212 | System On Chip | 2 | 0 | 2 | 0 | 3 | NIL | ECM,ECE | | | | 3 | 3 | | | |
| 5 | 19EM5217 | Embedded Security | 2 | 0 | 2 | 0 | 3 | NIL | ECM,ECE | | | | 3 | 3 | | | |
| **Web Technologies** | | | | | | | | | | | | | | | | | | | |
| 1 | 19EM5105 | Web Programming With Python And Django | 2 | 0 | 2 | 0 | 3 | 19SC1201 | ECM | | | | | 3 | | | |
| 2 | 19EM5106 | Fundamentals Of Angularjs | 2 | 0 | 2 | 0 | 3 | NIL | ECM | | | | | 3 | | | |
| 3 | 19EM5213 | Fundamentals Of Mongodb | 2 | 0 | 2 | 0 | 3 | NIL | ECM | | | | | 3 | | | |
| 4 | 19EM5211 | Web Services | 2 | 0 | 2 | 0 | 3 | NIL | ECM | | | | | 3 | | | |
| 5 | 19EM5216 | Big Data Analytics | 2 | 0 | 2 | 0 | 3 | NIL | ECM | | | | | 3 | | | |
| **Internet Of Things** | | | | | | | | | | | | | | | | | | | |
| 1 | 19EM5107 | Iot Sensing And Actuating Devices | 2 | 0 | 2 | 0 | 3 | NIL | ECM,ECE,CSE | | | 3 | 3 | 3 | | | |
| 2 | 19EM5108 | Internet Of Things: Architectures And Protocols | 2 | 0 | 2 | 0 | 3 | NIL | ECM,ECE,CSE | | | 3 | 3 | 3 | | | |
| 3 | 19EM5109 | Wireless Sensor Network | 2 | 0 | 2 | 0 | 3 | NIL | ECM,ECE,CSE | | | 3 | 3 | 3 | | | |
| 4 | 19EM5214 | Security In Internet Of Things | 2 | 0 | 2 | 0 | 3 | NIL | ECM,ECE,CSE | | | 3 | 3 | 3 | | | |
| 5 | 19EM5215 | Cloud Computing And Big Data Analytics | 2 | 0 | 2 | 0 | 3 | NIL | ECM,ECE,CSE | | | 3 | 3 | 3 | | | |
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| | | **Department Of Electrical And Electronics Engineering** | | | | | | | | | | | | | | | | | |

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| **Industrial Automation** | | | | | | | | | | | | | | | | | | | |
| 1 | 19EE3111 | Industrial Communication Protocals & Cyber Security | 3 | 0 | 0 | 0 | 3 | NIL | EEE | | | | | | 3 | | |
| 2 | 19EE3112 | Iot For Industrial Automation | 3 | 0 | 0 | 0 | 3 | NIL | EEE | | | | | | 3 | | |
| 3 | 19EE3113 | Scada And Dcs | 3 | 0 | 0 | 0 | 3 | NIL | EEE | | | | | | 3 | | |
| 4 | 19EE3211 | Industrial Drives And Control | 3 | 0 | 0 | 0 | 3 | 19EE3102 | EEE | | | | | | 3 | | |
| 5 | 19EE3212 | Industrial Process Control And Automation | 3 | 0 | 0 | 0 | 3 | NIL | EEE | | | | | | 3 | | |
| **Green Energy Technologies** | | | | | | | | | | | | | | | | | | | |
| 1 | 19EE3121 | Solar Pv And Thermal Technologies | 3 | 0 | 0 | 0 | 3 | NIL | EEE | | | | | | 3 | | |
| 2 | 19EE3122 | Wind & Micro Energy Sources | 3 | 0 | 0 | 0 | 3 | NIL | EEE | | | | | | 3 | | |
| 3 | 19EE3123 | Energy Conservation & Audit | 3 | 0 | 0 | 0 | 3 | NIL | EEE | | | | | | 3 | | |
| 4 | 19EE3221 | Energy Storage Systems | 3 | 0 | 0 | 0 | 3 | 19EE3121 | EEE | | | | | | 3 | | |
| 5 | 19EE3222 | Energy Management Systems | 3 | 0 | 0 | 0 | 3 | 19EE3123 | EEE | | | | | | 3 | | |
| **Smart Grid Technologies** | | | | | | | | | | | | | | | | | | | |
| 1 | 19EE3131 | Energy Accounting And Management Systems | 3 | 0 | 0 | 0 | 3 | NIL | NIL | | | | | | 3 | | |
| 2 | 19EE3132 | Substation Practice | 3 | 0 | 0 | 0 | 3 | 19EE2102 | EEE | | | | | | 3 | | |
| 3 | 19EE3133 | Distribution System Testing And Safety Practices | 3 | 0 | 0 | 0 | 3 | NIL | EEE | | | | | | 3 | | |
| 4 | 19EE3231 | Smart Grid Communication And Cyber Security | 3 | 0 | 0 | 0 | 3 | NIL | EEE | | | | | | 3 | | |
| 5 | 19EE3232 | Smart Distribution Systems | 3 | 0 | 0 | 0 | 3 | 19EE3133 | EEE | | | | | | 3 | | |
| **Eelctric Vehicle Technologies** | | | | | | | | | | | | | | | | | | | |
| 1 | 19EE3141 | Introduction To Electric Vehicles | 3 | 0 | 0 | 0 | 3 | NIL | EEE | | | | | | 3 | | |
| 2 | 19EE3142 | Battery Modelling For Electric Vehicles | 3 | 0 | 0 | 0 | 3 | NIL | EEE | | | | | | 3 | | |
| 3 | 19EE3143 | Charging Station For Electric Vehicles | 3 | 0 | 0 | 0 | 3 | 19EE2 | EEE | | | | | | 3 | | |

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| 4 | 19EE3241 | Battery States Estimation | 3 | 0 | 0 | 0 | 3 | 19EE3141 | EEE | | | | | | 3 | | |
| 5 | 19EE3242 | Electric Vehicle Fault Diagnosis And Control | 3 | 0 | 0 | 0 | 3 | NIL | EEE | | | | | | 3 | | |
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| | | **Department Of Mechanical Engineering** | | | | | | | | | | | | | | | | |
| **Engineering Design Specialization** | | | | | | | | | | | | | | | | | | |
| 1 | 19ME4051 | Design Of Transmission Elements | 2 | 0 | 2 | 0 | 3 | 19ME3114 | ME | | | | | | | 3 | | |
| 2 | 19ME4052 | Theory Of Elasticity And Plasticity | 3 | 0 | 0 | 0 | 3 | 19ME2108 | ME | | | | | | | 3 | | |
| 3 | 19ME4053 | Advanced Vibrations And Noise Control | 2 | 0 | 2 | 0 | 3 | 19ME2213 | ME | | | | | | | 3 | | |
| 4 | 19ME4054 | Creep, Fatigue And Fracture Mechanics | 3 | 0 | 0 | 0 | 3 | 19ME2108 | ME | | | | | | | 3 | | |
| 5 | 19ME4055 | Advanced Strength Of Materials | 2 | 0 | 2 | 0 | 3 | 19ME2108 | ME | | | | | | | 3 | | |
| 6 | 19ME4056 | Mechanics Of Composite Materials | 2 | 0 | 2 | 0 | 3 | 19ME2108 | ME | | | | | | | 3 | | |
| **Strategic Manufacturing (3d Printing & Rapid Prototyping) Specialization** | | | | | | | | | | | | | | | | | | |
| 1 | 19ME4061 | Modern Manufacturing Processes | 2 | 0 | 2 | 0 | 3 | 19ME1003 | ME | | | | | | | 3 | | |
| 2 | 19ME4062 | Advanced Materials | 3 | 0 | 0 | 0 | 3 | NIL | ME | | | | | | | 3 | | |
| 3 | 19ME4063 | Additive Manufacturing | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | | |
| 4 | 19ME4064 | Tool Engineering And Design | 2 | 0 | 2 | 0 | 3 | 19ME3115 | ME | | | | | | | 3 | | |
| 5 | 19ME4065 | Flexible Manufacturing Systems | 2 | 0 | 2 | 0 | 3 | 19ME2211 | ME | | | | | | | 3 | | |
| 6 | 19ME4066 | Reverse Engineering And Rapid Prototyping | 3 | 0 | 0 | 0 | 3 | NIL | ME | | | | | | | 3 | | |
| **Automobile Engineering Specialization** | | | | | | | | | | | | | | | | | | |
| 1 | 19ME4071 | Automobile Engineering | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | | |
| 2 | 19ME4072 | Automobile Engine Design | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | | |

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| 3 | 19ME4073 | Autotronics & Safety | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 4 | 19ME4074 | Alternative Energy Sources For Automobiles | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 5 | 19ME4075 | Automotive Electrical And Electronics System | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 6 | 19ME4076 | Automobile Engine System And Performance | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| **Autotronics (Ai & Data Science Applications) Specialization** | | | | | | | | | | | | | | | | | | |
| 1 | 19ME4081 | Automotive Sesnsor And Applications | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 2 | 19ME4082 | Electronic Engine Management System | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 3 | 19ME4083 | Instrumentation In Automotive Industries | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 4 | 19ME4084 | Autotronics And Vehicle Intelligence | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 5 | 19ME4085 | Automotive Systems | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 6 | 19ME4086 | Programmable Logic Controller | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| **Robotics And Mechatronics Specialization** | | | | | | | | | | | | | | | | | | |
| 1 | 19ME4091 | Artificial Intelligence For Robotics | 2 | 0 | 2 | 0 | 3 | 19ME 3116 | ME | | | | | | | 3 | |
| 2 | 19ME4092 | Industrial Automation And Control | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 3 | 19ME4093 | Industrial Hydraulic And Pneumatic Systems | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 4 | 19ME4094 | Industrial Robotics And Material Handling Systems | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 5 | 19ME4095 | Micro Controllers And Plc | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 6 | 19ME4096 | Mechatronics System Design | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| **Soft Computing (Ai & Ml Applications For Problem Solving In Design) Specialization** | | | | | | | | | | | | | | | | | | |
| 1 | 19ME4101 | Programming Skills | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 2 | 19ME4102 | Data Analytics | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |
| 3 | 19ME4103 | Python | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | |

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| 4 | 19ME4104 | Machine Learning | 2 | 0 | 2 | 0 | 3 | 19ME 4102 | ME | | | | | | | 3 | | |
| 5 | 19ME4105 | Artificial Intelligence | 2 | 0 | 2 | 0 | 3 | 19ME 4102 | ME | | | | | | | 3 | | |
| 6 | 19ME4106 | Fuzzy Logic And Neural Networks | 2 | 0 | 2 | 0 | 3 | NIL | ME | | | | | | | 3 | | |
| **Product Design Specialization** | | | | | | | | | | | | | | | | | | |
| 1 | 19ME4201 | Design For Quality And Reliability | 3 | 0 | 0 | 0 | 3 | NIL | ME | | | | | | | 3 | | |
| 2 | 19ME4202 | Designing Intelligence Systems | 3 | 0 | 0 | 0 | 3 | NIL | ME | | | | | | | 3 | | |
| 3 | 19ME4203 | Sustainable Design | 3 | 0 | 0 | 0 | 3 | NIL | ME | | | | | | | 3 | | |
| 4 | 19ME4204 | Systems Thinking For Design | 3 | 0 | 0 | 0 | 3 | NIL | ME | | | | | | | 3 | | |
| 5 | 19ME4205 | Design With Advanced Engineering Materials | 3 | 0 | 0 | 0 | 3 | NIL | ME | | | | | | | 3 | | |
| 6 | 19ME4206 | Design For Manufacture And Assembly | 3 | 0 | 0 | 0 | 3 | NIL | ME | | | | | | | 3 | | |
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| | | **Department Of Petroleum Engineering** | | | | | | | | | | | | | | | | |
| **Up Stream** | | | | | | | | | | | | | | | | | | |
| 1 | 19PE4151 | Drilling Fluids & Cementing Technology | 3 | 0 | 0 | 0 | 3 | 19PE2 209 | PE | | | | | | | | | 3 |
| 2 | 19PE3256 | Advanced Drilling Operations | 3 | 0 | 0 | 0 | 3 | 19PE2 209 | PE | | | | | | | | | 3 |
| 3 | 19PE4159 | Geothermal Reservoir Engineering | 3 | 0 | 0 | 0 | 3 | 19PE2 207 | PE | | | | | | | | | 3 |
| 4 | 19PE4157 | Unconventional Energy Resources | 3 | 0 | 0 | 0 | 3 | NIL | PE | | | | | | | | | 3 |
| 5 | 19PE4161 | Equipment & Machinery Maintenance | 3 | 0 | 0 | 0 | 3 | NIL | PE | | | | | | | | | 3 |
| **Mid Stream** | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| 1 | 19PE3252 | Flow & Transport Through Porous Medium | 3 | 0 | 0 | 0 | 3 | 19PE2 102 | PE | | | | | | | | | 3 |
| 2 | 19PE3255 | Transport Phenomenon | 3 | 0 | 0 | 0 | 3 | 19PE2 102, 19PE2 207, | PE | | | | | | | | | 3 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 19PE3110 | | | | | | | | | | | |
| 3 | 19PE4153 | Oil And Gas Processing Plant Design | 3 | 0 | 0 | 0 | 3 | 19PE3217 | PE | | | | | | | | | | 3 |
| 4 | 19PE4155 | Pipeline Engineering | 3 | 0 | 0 | 0 | 3 | 19PE2102 | PE | | | | | | | | | | 3 |
| 5 | 19PE4152 | Oil And Gas Field Development | 3 | 0 | 0 | 0 | 3 | NIL | PE | | | | | | | | | | 3 |
| 6 | 19PE4160 | Defect Assessment & Maintenance In Pipelines | 3 | 0 | 0 | 0 | 3 | NIL | PE | | | | | | | | | | 3 |
| | | | | | | | | | | | | | | | | | | | |
| **Down Stream** | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 1 | 19PE4158 | Work Over And Stimulation Operations | 3 | 0 | 0 | 0 | 3 | 19PE3215 | PE | | | | | | | | | | 3 |
| 2 | 19PE4156 | Fuel Technology | 3 | 0 | 0 | 0 | 3 | NIL | PE | | | | | | | | | | 3 |
| 3 | 19PE3251 | Enhanced Oil Recovery | 3 | 0 | 0 | 0 | 3 | 19PE3111 | PE | | | | | | | | | | 3 |
| 4 | 19PE3253 | Oil & Gas Marketing And Resource Management | 3 | 0 | 0 | 0 | 3 | NIL | PE | | | | | | | | | | 3 |
| 5 | 19PE3254 | $Co_2$ Sequestration | 3 | 0 | 0 | 0 | 3 | NIL | PE | | | | | | | | | | 3 |
| 6 | 19PE4154 | Natural Gas Engineering And Processing | 3 | 0 | 0 | 0 | 3 | 19PE3215 | PE | | | | | | | | | | 3 |

| **Open Elective, Management Elective & Foreign Language** | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **List Of Open Electives** | | | | | | | | | | | | | | | | | | | |
| 1 | 19BT40A1 | Ipr & Patent Laws | 3 | 0 | 0 | 0 | 3 | NIL | CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | | |
| 2 | 19CE40A2 | Environmental Pollution Control Methods | 3 | 0 | 0 | 0 | 3 | NIL | BT, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | | |
| 3 | 19CE40A3 | Solid And Hazardous Waste Management | 3 | 0 | 0 | 0 | 3 | NIL | BT, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | | |

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| 4 | 19CE40A4 | Remote Sensing & Gis | 3 | 0 | 0 | 0 | 3 | NIL | BT, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | |
| 5 | 19CE40A5 | Disaster Management | 3 | 0 | 0 | 0 | 3 | NIL | BT, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | |
| 6 | 19CS40A6 | Fundamentals Of Dbms | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, ECE,EEE, ME,PE | | | | | | | | |
| 7 | 19CS40A7 | Fundamentals Of Software Engineering | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, ECE,EEE, ME,PE | | | | | | | | |
| 8 | 19CS40A8 | Fundamentals Of Information Technology | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, ECE,EEE, ME,PE | | | | | | | | |
| 9 | 19EC40A9 | Image Processing | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, ECE,EEE, ME,PE | | | | | | | | |
| 10 | 19EM40B1 | Linux Programming | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, EEE, ME,PE | | | | | | | | |
| 11 | 19EM40B2 | E-Commerce | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, EEE, ME,PE | | | | | | | | |
| 12 | 19EE40B3 | Renewable Energy Sources | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM,ME,PE | | | | | | | | |
| 13 | 19ME40B4 | Robotics | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE | | | | | | | | |
| 14 | 19ME40B5 | Mechatronics | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE | | | | | | | | |
| 15 | 19ME40B6 | Operations Research | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE | | | | | | | | |
| 16 | 19PH40B7 | Nano Materials & Technology | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | |
| 17 | 19PE40B8 | Subsea Engineering | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME | | | | | | | | |
| 18 | 19PE40B9 | Oil And Gas Management | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME | | | | | | | | |
| 19 | 19GN40C1 | Self-Development | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | |
| 20 | 19GN40C2 | Indian Culture And History | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | |
| 21 | 19GN40C3 | Emotional Intelligence | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | |
| 22 | 19GN40C4 | Professional Ethics And Values | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | ECM, EEE, ME,PE | | | | | | | | | |
| 23 | 19GN40C5 | Behavioural Sciences | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 24 | 19GN40C6 | Gender Sensitization | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| **List Of Management Electives** | | | | | | | | | | | | | | | | | | |
| 1 | 19MB4051 | Paradigms In Management Thought | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 2 | 19MB4052 | Indian Economy | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 3 | 19MB4053 | Managing Personal Finances | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 4 | 19MB4054 | Basics Of Marketing For Engineers | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 5 | 19MB4055 | Organization Management | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 6 | 19MB4056 | Resources Safety And Quality Management | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 7 | 19MB4057 | Economics For Engineers | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| **List Of Foreign Languages** | | | | | | | | | | | | | | | | | | |
| 1 | 19GN3051 | Arabic Language | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 2 | 19GN3052 | Bengali Language | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 3 | 19GN3053 | Chinese Language | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 4 | 19GN3054 | French Language | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 5 | 19GN3055 | German Language | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 6 | 19GN3056 | Hindi Language | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 7 | 19GN3057 | Italian Language | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 8 | 19GN3058 | Japanese Language | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | ECM, EEE, ME,PE | | | | | | | | | |
| 9 | 19GN3059 | Kannada Language | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 10 | 19GN3060 | Russian Language | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 11 | 19GN3061 | Simhali Language | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |
| 12 | 19GN3062 | Spanish Language | 3 | 0 | 0 | 0 | 3 | NIL | BT, CE, CSE, ECE, ECM, EEE, ME,PE | | | | | | | | | |

| 2019-20 COURSE STRUCTURE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ARCHITECTURE | | | | | | | | | |
| **SNO** | **COURSE CODE** | **COURSE NAME** | **L** | **T** | **P** | **S** | **Cr** | **Pre requisites** | **OFFERED TO** |
| **HUMANITIES & SOCIAL SCIENCES** | | | | | | | | | |
| 1 | 19UC1101 | Basic English | 0 | 0 | 4 | 0 | 2 | NIL | B.ARCH |
| 2 | 19UC1202 | English Proficiency | 0 | 0 | 4 | 0 | 0 | NIL | B.ARCH |
| **PROFESSIONAL CORE COURSES** | | | | | | | | | |
| 1 | 19AR1101 | Climatology | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 2 | 19AR1103 | Building Materials - I | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 3 | 19AR1204 | Mechanics of Structures - I | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 4 | 19AR1206 | Building Materials - II | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 5 | 19AR2107 | Mechanics of Structures - II | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 6 | 19AR2210 | Design of Structures - I | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 7 | 19AR2211 | Building Services - I | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 8 | 19AR3114 | Design of Structures - II | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 9 | 19AR3115 | Building Services - II | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 10 | 19AR3219 | Building Services - III | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 11 | 19AR4123 | Building Services - IV | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 12 | 19AR2137 | Building Construction - I | 0 | 4 | 0 | 0 | 6 | NIL | B.ARCH |
| 13 | 19AR2240 | Building Construction - II | 0 | 4 | 0 | 0 | 6 | NIL | B.ARCH |
| 14 | 19AR3143 | Building Construction - III | 0 | 4 | 0 | 0 | 6 | NIL | B.ARCH |
| 15 | 19AR3246 | Building Construction - IV | 0 | 4 | 0 | 0 | 6 | NIL | B.ARCH |
| 16 | 19AR4149 | Advanced Building Techniques | 0 | 0 | 4 | 0 | 2 | NIL | B.ARCH |
| 17 | 19UC0009 | Ecology & Environment | 2 | 0 | 0 | 0 | 0 | NIL | B.ARCH |
| 18 | 19AR4226 | Building Construction and Management | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 19 | 19AR5228 | Architecture Professional Practice | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 20 | 19AR4252 | Dissertation | 0 | 4 | 0 | 0 | 6 | NIL | B.ARCH |
| 21 | 19AR5154 | Practical Training / Internship | 0 | 0 | 40 | 0 | 20 | 19AR4253 | B.ARCH |
| 22 | 19AR1102 | History of Architecture - I | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 23 | 19AR1205 | History of Architecture - II | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 24 | 19AR2108 | History of Architecture - III | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 25 | 19AR2212 | Site Analysis and Planning | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 26 | 19AR3218 | Specification, Estimation and Costing | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 27 | 19AR3220 | Human Settlements and | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |

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|---|---|---|---|---|---|---|---|---|---|
| | | Planning | | | | | | | |
| 28 | 19AR4122 | Housing | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 29 | 19AR4225 | Urban Design | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 30 | 19AR1130 | Architectural Drawing - I | 0 | 0 | 6 | 0 | 3 | NIL | B.ARCH |
| 31 | 19AR1131 | Architectural Design Studio -I (Basic Design) | 0 | 8 | 0 | 0 | 12 | NIL | B.ARCH |
| 32 | 19AR1232 | Model Making Workshop | 0 | 0 | 4 | 0 | 2 | NIL | B.ARCH |
| 33 | 19AR1233 | Architectural Drawing - II | 0 | 0 | 4 | 0 | 2 | NIL | B.ARCH |
| 34 | 19AR1234 | Architectural Design Studio -II | 0 | 8 | 0 | 0 | 12 | 19AR1131 | B.ARCH |
| 35 | 19AR2138 | Architectural Design Studio -III | 0 | 8 | 0 | 0 | 12 | 19AR1234 | B.ARCH |
| 36 | 19AR2241 | Architectural Design Studio -IV | 0 | 8 | 0 | 0 | 12 | 19AR2138 | B.ARCH |
| 37 | 19AR3144 | Architectural Design Studio -V | 0 | 8 | 0 | 0 | 12 | 19AR2241 | B.ARCH |
| 38 | 19AR3142 | Interior Design Studio | 0 | 0 | 4 | 0 | 2 | NIL | B.ARCH |
| 39 | 19AR3245 | Landscape Design Studio | 0 | 0 | 4 | 0 | 2 | NIL | B.ARCH |
| 40 | 19AR3247 | Architectural Design Studio -VI | 0 | 8 | 0 | 0 | 12 | 19AR3144 | B.ARCH |
| 41 | 19AR4150 | Architectural Design Studio -VII | 0 | 10 | 0 | 0 | 15 | 19AR3247 | B.ARCH |
| 42 | 19AR4253 | Urban Design Studio | 0 | 8 | 0 | 0 | 12 | 19AR4150 | B.ARCH |
| 43 | 19AR5255 | Architectural Thesis | 0 | 12 | 0 | 0 | 18 | 19AR5154 | B.ARCH |
| 44 | 19AR1129 | Art and Visual Graphic Studio | 0 | 0 | 6 | 0 | 3 | NIL | B.ARCH |
| 45 | 19AR2135 | Surveying and Levelling | 0 | 0 | 4 | 0 | 2 | NIL | B.ARCH |
| 46 | 19AR2136 | Computer Studio - I | 0 | 0 | 4 | 0 | 2 | NIL | B.ARCH |
| 47 | 19AR2239 | Computer Studio - II | 0 | 0 | 4 | 0 | 2 | NIL | B.ARCH |
| 48 | 19AR4148 | Working Drawing - I | 0 | 0 | 4 | 0 | 2 | NIL | B.ARCH |
| 49 | 19AR4251 | Working Drawing - II | 0 | 0 | 4 | 0 | 2 | NIL | B.ARCH |
| **OPEN ELECTIVES** | | | | | | | | | |
| 1 | 19UC0010 | Universal Human Values and Professional Ethics | 1 | 0 | 2 | 0 | 2 | NIL | B.ARCH |
| 2 | 19HC210 | Self-Management | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 1 | 19FL4001 | Foreign Language - French | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 2 | 19FL4002 | Foreign Language - German | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 3 | 19BB32C1 | Human Resource Management | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 4 | 19BB32C3 | Innovation and Entrepreneurship | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 5 | 19UC0008 | Indian Constitution | 0 | 0 | 2 | 0 | 2 | NIL | B.ARCH |
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| PROFESSIONAL ELECTIVES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 19AR2213 | Contemporary Indian Architecture | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 2 | 19AR3116 | Contemporary Western Architecture | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 3 | 19AR3117A | Vernacular Architecture | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 4 | 19AR3117B | Sustainable Architecture - I | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 5 | 19AR3221A | Appropriate Building Technologies | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 6 | 19AR3221B | Sustainable Architecture - II | 2 | 0 | 0 | 0 | 2 | NIL | B.ARCH |
| 7 | 19AR4124A | Architectural Conservation | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 8 | 19AR4124B | Set Design | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 9 | 19AR4227A | Behavioral Architecture | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
| 10 | 19AR4227B | Disaster Mitigation and Management | 3 | 0 | 0 | 0 | 3 | NIL | B.ARCH |
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| BCA | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **SNO** | **COURSE CODE** | **COURSE NAME** | **L** | **T** | **P / S** | **S** | **Cr** | **Pre requisites** | **OFFERED TO** |
| **HUMANITIES & SOCIAL SCIENCES** | | | | | | | | | |
| 1 | 19UC1101 | Basic English | 0 | 0 | 4 | | 2 | nil | BCA |
| 2 | 19MT1105 | Fundamentals of Mathematics | 3 | 0 | 2 | | 4 | nil | BCA |
| 3 | 19UC1202 | English Proficiency | 0 | 0 | 4 | | 2 | nil | BCA |
| 4 | 19CA1205 | Probability and Statistics | 2 | 0 | 2 | | 3 | nil | BCA |
| 5 | 19UC0010 | Universal Human Values & Professional Ethics | 1 | 0 | 2 | | 2 | nil | BCA |
| 6 | 19UC2204 | Aptitude Builder – 1 | 0 | 0 | 4 | | 2 | nil | BCA |
| 7 | 19UC3105 | Aptitude Builder – 2 | 0 | 0 | 4 | | 2 | nil | BCA |
| **BASIC SCIENCES** | | | | | | | | | |
| 1 | 19UC0009 | Ecology & Environment | 2 | 0 | 0 | | 2 | nil | BCA |
| **MANAGEMENT ELECTIVE -1** | | | | | | | | | |
| 1 | | Management elective-1 | 3 | 0 | 0 | | 3 | | BCA |
| 2 | | Management elective-2 | 3 | 0 | 0 | | 3 | | BCA |
| **PROFESSIONAL CORE COURSES** | | | | | | | | | |
| 1 | 19CA1101 | Programming in C | 3 | 0 | 2 | | 4 | nil | BCA |
| 2 | 19CA1201 | Object Oriented Programming Using Java | 2 | 0 | 4 | | 4 | 19CA1101 | BCA |
| 3 | 19CA1202 | Data Structures | 2 | 0 | 4 | | 4 | 19CA1101 | BCA |
| 4 | 19CA1102 | Operating Systems | 2 | 1 | 2 | 4 | 4 | nil | BCA |
| 5 | 19CA1103 | Database Management System | 3 | 0 | 2 | 4 | 4 | nil | BCA |

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|---|---|---|---|---|---|---|---|---|---|
| 6 | 19CA1104 | Digital Logic Design | 3 | 0 | 0 | 3 | 3 | nil | BCA |
| 7 | 19CA1203 | Computer Networks | 3 | 1 | 0 | 4 | 4 | nil | BCA |
| 8 | 19CA1207 | Computer Architecture & Organization | 3 | 1 | 0 | | 4 | nil | BCA |
| 9 | 19CA2106 | Linux Administration | 3 | 0 | 2 | | 4 | nil | BCA |
| 10 | 19CA2116 | Information Storage and Management | 3 | 0 | 0 | | 3 | nil | BCA |
| 11 | 19CA2117 | Principles of Virtualization | 2 | 0 | 2 | | 3 | nil | BCA |
| 12 | 19CA2118 | Network & Information Security | 3 | 1 | 0 | | 4 | 19CA1203 | BCA |
| 13 | 19CA2119 | Installation and Configuration of Server | 2 | 0 | 2 | | 3 | nil | BCA |
| 14 | 19CA2120 | Client Side Scripting | 3 | 0 | 2 | | 4 | 19CA1201 | BCA |
| 15 | 19UC1102 | Design Thinking & Innovation-1 | 1 | 0 | 0 | 4 | 2 | nil | BCA |
| 16 | 19CA2201 | Python Programming | 2 | 0 | 4 | | 4 | 19CA1101 | BCA |
| 17 | 19CA2214 | Cloud Computing | 2 | 0 | 2 | | 3 | nil | BCA |
| 18 | 19CA2219 | Ethical Hacking | 2 | 0 | 2 | | 3 | 19CA2118 | BCA |
| 19 | 19CA2220 | Cloud Web Services | 3 | 0 | 0 | | 3 | nil | BCA |
| 20 | 19CA2221 | Powershell Scripting | 3 | 0 | 2 | | 4 | 19CA2119 | BCA |
| 21 | | Design Thinking & Innovation-2 | | | | | 2 | nil | BCA |
| 22 | 19CA3119 | Virtualization and Cloud Security | 2 | 1 | 0 | | 3 | 19CA2117 | BCA |
| 23 | 19CA3120 | Cloud Deployment | 3 | 0 | 2 | | 4 | 19CA2214 | BCA |
| 24 | 19CA3121 | Digital Forensics | 2 | 0 | 2 | | 3 | nil | BCA |
| 25 | 19CA3122 | Software Engineering | 3 | 0 | 0 | | 3 | nil | BCA |
| 26 | 19CA3123 | Hybrid Cloud Computing | 3 | 0 | 0 | | 3 | 19CA2220 | BCA |
| 27 | 19CA3126 | Internship | 0 | 0 | 0 | | 2 | nil | BCA |
| **TERM PAPER & PROJECT** | | | | | | | | | |
| 1 | 19IE4048 | Major Project /Internship | 0 | 0 | 28 | | 14 | nil | BCA |
| **PROFESSIONAL ELECTIVES** | | | | | | | | | |
| 1 | 19CA3124 | Administrating Cloud Services(Elec-I) | 3 | 0 | 2 | | | | BCA |
| 2 | 19CA3125 | Google App Engine (Elec-I) | 3 | 0 | 2 | | 4 | | BCA |
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| | | | | | | | | | |
| **B PHARMACY** | | | | | | | | | |
| **SNO** | **COURSE CODE** | **COURSE NAME** | **L** | **T** | **P** | **S** | **Cr** | **Pre requisites** | **OFFERED TO** |
| **HUMANITIES & SOCIAL SCIENCES** | | | | | | | | | |
| 1 | 19UC3005 | Aptitude builder | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 2 | 19UC0010 | Universal Human Values and Professional Ethics | 2 | 0 | 0 | 0 | 0 | | B PHARMACY |
| **BASIC SCIENCES** | | | | | | | | | |
| 1 | 19PY1106RBT/RMT | Remedial Biology/Remedial Mathematics* (Theory) | 2 | 0 | 0 | 0 | 2 | | B PHARMACY |

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|---|---|---|---|---|---|---|---|---|---|
| 2 | 19PY1106RBP | Remedial Biology* (Practical) | 0 | 0 | 2 | 0 | 1 | | B PHARMACY |
| 3 | 19PY1212T | Environmental sciences * (Theory) | 3 | 0 | 0 | 0 | 3 | | B PHARMACY |
| 4 | 19UC1202 | English Proficiency | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| **PROFESSIONAL CORE COURSES** | | | | | | | | | |
| 1 | 19PY1101T | Human Anatomy and Physiology I (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 2 | 19PY1101P | Human Anatomy and Physiology I (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 3 | 19PY1102T | Pharmaceutical Analysis I (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 4 | 19PY1102P | Pharmaceutical Analysis I (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 5 | 19PY1103T | General Pharmaceutics (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 6 | 19PY1103P | General Pharmaceutics (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 7 | 19PY1104T | Pharmaceutical Inorganic Chemistry (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 8 | 19PY1104P | Pharmaceutical Inorganic Chemistry (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 9 | 19PY1207T | Human Anatomy and Physiology II (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 10 | 19PY1207P | Human Anatomy and Physiology II (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 11 | 19PY1208T | Pharmaceutical Organic Chemistry I (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 12 | 19PY1208P | Pharmaceutical Organic Chemistry I (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 13 | 19PY1209T | Biochemistry (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 14 | 19PY1209P | Biochemistry (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 15 | 19PY1210T | Pathophysiology (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 16 | 19PY1211T | Computer Applications in Pharmacy* (Theory) | 3 | 0 | 0 | 0 | 3 | | B PHARMACY |
| 17 | 19PY1211P | Computer Applications in Pharmacy* (Practical) | 0 | 0 | 2 | 0 | 1 | | B PHARMACY |
| 18 | 19PY2113T | Pharmaceutical Organic Chemistry II (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 19 | 19PY2113P | Pharmaceutical Organic Chemistry II (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 20 | 19PY2114T | Physical Pharmaceutics I (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 21 | 19PY2114P | Physical Pharmaceutics I (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 22 | 19PY2115T | Pharmaceutical Microbiology (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 23 | 19PY2115P | Pharmaceutical Microbiology (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 24 | 19PY2116T | Pharmaceutical Engineering (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 25 | 19PY2116P | Pharmaceutical Engineering (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |

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|---|---|---|---|---|---|---|---|---|---|
| 26 | 19PY2217T | Pharmaceutical Organic Chemistry III (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 27 | 19PY2218T | Medicinal Chemistry I (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 28 | 19PY2218P | Medicinal Chemistry I (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 29 | 19PY2219T | Physical Pharmaceutics II (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 30 | 19PY2219P | Physical Pharmaceutics II (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 31 | 19PY2220T | Pharmacology I (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 32 | 19PY2220P | Pharmacology I (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 33 | 19PY2221T | Pharmacognosy and Phytochemistry I (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 34 | 19PY2221P | Pharmacognosy and Phytochemistry I (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 35 | 19PY3122T | Medicinal Chemistry II (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 36 | 19PY3123T | Industrial Pharmacy I (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 37 | 19PY3123P | Industrial Pharmacy I (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 38 | 19PY3124T | Pharmacology II (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 39 | 19PY3124P | Pharmacology II (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 40 | 19PY3125T | Pharmacognosy and Phytochemistry II (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 41 | 19PY3125P | Pharmacognosy and Phytochemistry II (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 42 | 19PY3126T | Pharmaceutical Jurisprudence (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 43 | 19PY3227T | Medicinal Chemistry III (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 44 | 19PY3227P | Medicinal chemistry III (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 45 | 19PY3228T | Pharmacology III (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 46 | 19PY3228P | Pharmacology III (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 47 | 19PY3229T | Herbal Drug Technology (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 48 | 19PY3229P | Herbal Drug Technology (Practical) | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| 49 | 19PY3230T | Biopharmaceutics and Pharmacokinetics (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 50 | 19PY3231T | Pharmaceutical Biotechnology (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 51 | 19PY3232T | Quality Assurance (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 52 | 19PY4133T | Instrumental Methods of Analysis (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 53 | 19PY4133P | Instrumental Methods of | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |

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| | | Analysis (Practical) | | | | | | | |
| 54 | 19PY4134T | Industrial Pharmacy II (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 55 | 19PY4135T | Pharmacy Practice (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 56 | 19PY4136T | Novel Drug Delivery System (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 57 | 19PY4137PS | Practice School* | 0 | 0 | 12 | 0 | 6 | | B PHARMACY |
| 58 | 19PY4238T | Biostatistics and Research Methodology (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 59 | 19PY4239T | Social and Preventive Pharmacy (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| **SKILLING COURSES** | | | | | | | | | |
| 1 | 19PY1105T | Communication skills * (Theory) | 2 | 0 | 0 | 0 | 2 | | B PHARMACY |
| 2 | 19PY1105P | Communication skills* (Practical) | 0 | 0 | 2 | 0 | 1 | | B PHARMACY |
| 3 | 19UC2103 | Professional Communication skills | 0 | 0 | 4 | 0 | 2 | | B PHARMACY |
| **TERM PAPER & PROJECT** | | | | | | | | | |
| 1 | 19PY4250PW | Project Work | 0 | 0 | 12 | 0 | 6 | | B PHARMACY |
| **PROFESSIONAL ELECTIVES** | | | | | | | | | |
| 1 | 19PY4240ET | Pharma Marketing Management (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 2 | 19PY4241ET | Pharmaceutical Regulatory Science (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 3 | 19PY4242ET | Pharmacovigilance (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 4 | 19PY4243ET | Quality Control and Standardization of Herbals (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 5 | 19PY4244ET | Computer Aided Drug Design (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 6 | 19PY4245ET | Cell and Molecular Biology (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 7 | 19PY4246ET | Cosmetic Science (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 8 | 19PY4247ET | Experimental Pharmacology (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 9 | 19PY4248ET | Advanced Instrumentation Techniques (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| 10 | 19PY4249ET | Dietary Supplements and Nutraceuticals (Theory) | 3 | 1 | 0 | 0 | 4 | | B PHARMACY |
| | | | | | | | | | |
| **BSc Visual Communication** | | | | | | | | | |
| **S.No** | **Course Code** | **Name of the Course** | **L** | **T** | **P** | **S** | **Cr** | **Pre- Requisites** | **Offered to** |
| **HUMANITIES & SOCIAL SCIENCES** | | | | | | | | | |
| 1 | 18UC1101 | Basic English | 0 | 0 | 4 | 0 | 2 | NIL | B.Sc VC |
| 2 | 18UC1202 | English Proficiency | 0 | 0 | 4 | 0 | 2 | NIL | B.Sc VC |

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|---|---|---|---|---|---|---|---|---|---|
| 3 | 19UC2103 | Professional Communication Skills | 0 | 0 | 4 | 0 | 2 | NIL | B.Sc VC |
| 4 | 18UC0009 | Ecology & Environment | 2 | 0 | 0 | 0 | 2 | NIL | B.Sc VC |
| 5 | 18SC1105 | Logic & Reasoning | 0 | 0 | 2 | 0 | 1 | NIL | B.Sc VC |
| 6 | 19UC2204 | Aptitude Builder -I | 0 | 0 | 4 | 0 | 2 | NIL | B.Sc VC |
| **OPEN ELECTIVE** | | | | | | | | | |
| 1 | 18LN1206/1207 | Language -Telugu/French | 2 | 0 | 0 | 0 | 2 | NIL | B.Sc VC |
| 2 | 18UC0010 | Universal Human Values & Professional Ethics | 1 | 0 | 2 | 0 | 2 | NIL | B.Sc VC |
| **PROFESSIONAL CORE** | | | | | | | | | |
| 1 | 19BM1101 | Digital Literacy | 3 | 0 | 0 | 0 | 3 | NIL | B.Sc VC |
| 2 | 19BM1102 | Introduction to Visual Communication | 3 | 0 | 0 | 0 | 3 | NIL | B.Sc VC |
| 3 | 19BM1103 | Design Basics | 1 | 0 | 6 | 0 | 4 | NIL | B.Sc VC |
| 4 | 19BM1104 | Drawing Basics | 1 | 0 | 6 | 0 | 4 | NIL | B.Sc VC |
| 5 | 19BM1105 | Basics of Photography | 1 | 0 | 6 | 0 | 4 | NIL | B.Sc VC |
| 6 | 19BM1201 | Introduction to film studies | 2 | 0 | 0 | 0 | 2 | NIL | B.Sc VC |
| 7 | 19BM1202 | Drawing – Advanced | 1 | 0 | 6 | 0 | 4 | NIL | B.Sc VC |
| 8 | 19BM1203 | Basics of Graphic Design | 1 | 0 | 4 | 0 | 3 | NIL | B.Sc VC |
| 9 | 19BM1204 | Photography Advance | 1 | 0 | 6 | 0 | 4 | 19BM1105 | B.Sc VC |
| 10 | **20UC1102** | **Design Thinking and Innovation - 1** | **1** | **0** | **0** | **4** | **2** | NIL | B.Sc VC |
| 11 | 19BM2101 | Art, Aesthetics and Media | 3 | 0 | 0 | 0 | 3 | NIL | B.Sc VC |
| 12 | 19BM2102 | Visual Analysis Tools | 3 | 0 | 0 | 0 | 3 | NIL | B.Sc VC |
| 13 | 19BM2103 | Graphic Design advanced | 0 | 0 | 6 | 0 | 3 | NIL | B.Sc VC |
| 14 | **20UC1203** | **Design Thinking and Innovation - 2** | **1** | **0** | **0** | **4** | **2** | NIL | B.Sc VC |
| 15 | 19BM2201 | Year End Project | 0 | 0 | 4 | 0 | 2 | NIL | B.Sc VC |
| 16 | 19BM2202 | Media Culture & Society | 3 | 0 | 0 | 0 | 3 | NIL | B.Sc VC |
| 17 | 19BM2203 | Medial Laws and Ethics | 3 | 0 | 0 | 0 | 3 | NIL | B.Sc VC |
| 18 | 19BM3101 | Media Management & Entrepreneurship | 3 | 0 | 0 | 0 | 3 | NIL | B.Sc VC |
| 19 | 19BM3102 | Media Research Methods | 3 | 0 | 0 | 0 | 3 | NIL | B.Sc VC |
| 20 | 19BM3103 | Term Paper | 0 | 0 | 4 | 0 | 2 | NIL | B.Sc VC |
| 21 | 19BM3104 | Design Thinking and Innovation - 2 | 1 | 0 | 0 | 0 | 4 | NIL | B.Sc VC |
| 22 | 19IE4051 | Internship | 0 | 0 | 24 | 0 | 6 | NIL | B.Sc VC |
| 23 | 19BM3202 | Major Project | 8 | 0 | 0 | 0 | 8 | NIL | B.Sc VC |
| 24 | 19BM3203 | Portfolio/Presentation | 8 | 0 | 0 | 0 | 8 | NIL | B.Sc VC |
| **PROFESSIONAL ELECTIVE** | | | | | | | | | |
| 1 | 19BM2104 | Media & Marketing Management | 3 | 0 | 0 | 0 | 3 | NIL | B.Sc VC |
| 2 | 19BM2105 | Advertising Basics and Concepts | 0 | 0 | 8 | 0 | 4 | NIL | B.Sc VC |
| 3 | 19BM2106 | Creative Communication | 3 | 0 | 0 | 0 | 3 | NIL | B.Sc VC |
| 4 | 19BM2107 | Understanding Still and Moving Images | 3 | 0 | 0 | 0 | 3 | NIL | B.Sc VC |

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|---|---|---|---|---|---|---|---|---|---|
| 5 | 19BM2108 | Audio Video Editing Techniques | 0 | 0 | 6 | 0 | 3 | NIL | B.Sc VC |
| 6 | 19BM2109 | Screen Writing and Story Boarding | 1 | 0 | 6 | 0 | 4 | NIL | B.Sc VC |
| 7 | 19BM2110 | Sketching for Animation | 0 | 0 | 6 | 0 | 3 | NIL | B.Sc VC |
| 8 | 19BM2111 | 2D Digital Animation | 0 | 0 | 6 | 0 | 3 | NIL | B.Sc VC |
| 9 | 19BM2112 | Concepts of 3D | 1 | 0 | 6 | 0 | 4 | NIL | B.Sc VC |
| 10 | 19BM2205 | PR Principles and Issues | 1 | 0 | 6 | 0 | 4 | NIL | B.Sc VC |
| 11 | 19BM2206 | Commercial Production | 0 | 0 | 6 | 0 | 3 | NIL | B.Sc VC |
| 12 | 19BM2207 | Print and Web Publishing | 3 | 0 | 0 | 0 | 3 | NIL | B.Sc VC |
| 13 | 19BM2208 | Indian Cinema | 3 | 0 | 0 | 0 | 3 | NIL | B.Sc VC |
| 14 | 19BM2209 | Television Production | 0 | 0 | 6 | 0 | 3 | NIL | B.Sc VC |
| 15 | 19BM2210 | Basics of Post Production Tools | 1 | 0 | 6 | 0 | 4 | NIL | B.Sc VC |
| 16 | 19BM2211 | Modelling and Texturing | 0 | 0 | 6 | 0 | 3 | NIL | B.Sc VC |
| 17 | 19BM2212 | Lighting & Rendering | 0 | 0 | 6 | 0 | 3 | NIL | B.Sc VC |
| 18 | 19BM2213 | Basic Animation and Simulation | 1 | 0 | 6 | 0 | 4 | NIL | B.Sc VC |
| 19 | 19BM3105 | Concepts of Event Planning | 3 | 0 | 0 | 0 | 3 | NIL | B.Sc VC |
| 20 | 19BM3106 | Audio Production | 0 | 0 | 8 | 0 | 4 | NIL | B.Sc VC |
| 21 | 19BM3107 | Marketing and Brand Management | 1 | 0 | 6 | 0 | 4 | NIL | B.Sc VC |
| 22 | 19BM3108 | Introduction to Film Genres | 3 | 0 | 0 | 0 | 3 | NIL | B.Sc VC |
| 23 | 19BM3109 | Practical Filmmaking | 0 | 0 | 8 | 0 | 4 | NIL | B.Sc VC |
| 24 | 19BM3110 | Advanced Post Production Tools | 1 | 0 | 6 | 0 | 4 | NIL | B.Sc VC |
| 25 | 19BM3111 | Advanced 3D Motion (Dynamics) | 0 | 0 | 6 | 0 | 3 | NIL | B.Sc VC |
| 26 | 19BM3112 | Advanced Character Animation | 0 | 0 | 8 | 0 | 4 | NIL | B.Sc VC |
| 27 | 19BM3113 | Advanced Post Production Tools | 1 | 0 | 6 | 0 | 4 | NIL | B.Sc VC |
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**B. Com. (H)**

| SNO | **COURSE CODE** | **COURSE NAME** | **L** | **T** | **P** | **S** | **CREDITS** | **Pre requisites** | **OFFERED TO** |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 19UC1101 | Basic English | 0 | 0 | 4 | 0 | 2 | | COMMERCE |
| 2 | 19CM1101 | Principles of Accounting | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 3 | 19CM1102 | Fundamentals of Business Economics | 3 | 0 | 0 | 0 | 3 | | COMMERCE |
| 4 | 19TS1151 | Technical Skill-1 (Business Information system) | 1 | 0 | 4 | 0 | 3 | | COMMERCE |
| 5 | 19CM1103 | Business Mathematics & Statistics | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 6 | 19CM1104 | Principles of Organization & Management | 3 | 0 | 0 | 0 | 3 | | COMMERCE |
| 7 | 19UC0007 | Indian heritage & culture | 0 | 0 | 2 | 0 | 1 | | COMMERCE |
| 8 | 19GN1101 | Counselling - 1 | 0 | 0 | 0 | 0 | 0 | | COMMERCE |

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|---|---|---|---|---|---|---|---|---|---|
| 9 | 19UC1202 | English Proficiency | 0 | 0 | 4 | 0 | 2 | | COMMERCE |
| 10 | 19CM1206 | Financial Accounting | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 11 | 19CM1207 | Macro-Economic Analysis | 3 | 0 | 0 | 0 | 3 | | COMMERCE |
| 12 | 19TS1252 | Technical Skills – 2 (Accounting Information System) | 1 | 0 | 4 | 0 | 3 | | COMMERCE |
| 13 | 19CM1210 | Banking Law & Practice | 3 | 0 | 0 | 0 | 3 | | COMMERCE |
| 14 | 19GN1202 | Counseling – 2 | 0 | 0 | 0 | 0 | 0 | | COMMERCE |
| 15 | 19PT1101 | Practice School / SIP (end of 1stYear) | 0 | 0 | 0 | 24 | 6 | | COMMERCE |
| 16 | 19CM2110 | Advanced Accounting | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 17 | 19CM2111 | Fundamentals of Cost Accounting | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 18 | 19CM2112 | Business Law | 3 | 0 | 0 | 0 | 3 | | COMMERCE |
| 19 | 19CM2114 | Corporate Financial Management | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 20 | 19CM2115 | Introduction to Auditing | 3 | 0 | 0 | 0 | 3 | | COMMERCE |
| 21 | 19CM2116 | Introduction to Income Tax | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 22 | 20UC1102 | Design thinking and Innovation - I | 1 | 0 | 0 | 4 | 2 | | COMMERCE |
| 23 | 19UC2203 | Professional Communication Skills | 0 | 0 | 4 | 0 | 2 | | COMMERCE |
| 24 | 19CM2213 | Management Accounting | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 25 | 19CM2219 | Advanced Corporate Accounting | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 26 | 19CM2220 | Advanced Cost Accounting | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 27 | 19CM2222 | Assessment of Direct Taxes | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 28 | 20UC1203 | Design thinking and Innovation - II | 1 | 0 | 0 | 4 | 2 | | COMMERCE |
| 29 | 19PT2101 | Practice School / SIP (end of 2nd Year) | 0 | 0 | 0 | 24 | 6 | | COMMERCE |
| 30 | 19FL1203 | French (Foreign Language) | 2 | 0 | 0 | 0 | 2 | | COMMERCE |
| 31 | 19CM3124 | Goods and service tax | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 32 | 19CM3125 | Business strategy | 3 | 0 | 0 | 0 | 3 | | COMMERCE |
| 33 | 19CM3126 | Accounting & Reporting standards | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 34 | 19CM31xx | Elective – I | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 35 | **19CM3127** | **Corporate Tax Planning & Management** | | | | | | | COMMERCE |
| 36 | 19CM3128 | Advanced Cost & Management Accounting | | | | | | | COMMERCE |
| 37 | 19CM3129 | Corporate Restructure | | | | | | | COMMERCE |
| 38 | 19CM3130 | Entrepreneurship Development | | | | | | | COMMERCE |
| 39 | 19CM31xx | Elective- II | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 40 | 19CM3131 | Financial Derivatives | | | | | | | COMMERCE |
| 41 | 19CM3132 | Strategic Financial Management | | | | | | | COMMERCE |
| 42 | 19CM3133 | Export and Import Documentation | | | | | | | COMMERCE |

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| 43 | **19CM3134** | **Security Analysis & Portfolio Management** | | | | | | | COMMERCE |
| 44 | 19PT3230 | Industrial Training | 0 | 0 | 0 | 72 | 18 | | COMMERCE |
| 45 | 18ACCAF3 | Financial Accounting | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 46 | 18ACCAF1 | Accountant in Business | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 47 | 18ACCAF2 | Management Accounting | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 48 | 18ACCAF7 | Financial Reporting | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 49 | 19CM2113 | Performance Management - I | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 50 | 18ACCAF4 | Corporate and Business Law | 4 | 0 | 0 | 0 | 4 | | COMMERCE |
| 51 | 18ACCAF8 | Audit and Assurance Standards | 4 | 0 | 0 | 0 | 4 | | COMMERCE |
| 52 | 18ACCAF9 | Financial Management | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 53 | 19CM2221 | Performance Management - II | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 54 | 18ACCAP1 | Strategic Business Leader | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 55 | 18ACCAP2 | Strategic Business Reporting | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 56 | 18ACCAP4 | Advanced Financial Management | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
| 57 | 18ACCAP5 | Advanced Performance Management | 3 | 2 | 0 | 0 | 5 | | COMMERCE |
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| **BBA** | | | | | | | | | |
| **SNO** | **COURSE CODE** | **COURSE NAME** | **L** | **T** | **P** | **S** | **Cr** | **Pre requisites** | **OFFERED TO** |
| **HUMANITIES & SOCIAL SCIENCES** | | | | | | | | | |
| 1 | 19BB11C0 | Business Communication Skills I | 0 | 0 | 4 | 0 | 2 | | KLBS |
| 2 | 19BB12C0 | Business Communication Skills II | 0 | 0 | 4 | 0 | 2 | | KLBS |
| 3 | 19BB21C0 | Business Communication Skills III | 0 | 0 | 4 | 0 | 2 | | KLBS |
| 4 | 19BB11K1 | Foreign Language I | 2 | 0 | 2 | 0 | 3 | | KLBS |
| 5 | 19BB12K2 | Foreign Language II | 2 | 0 | 2 | 0 | 3 | | KLBS |
| 6 | 19BB21K3 | Foreign Language III | 2 | 0 | 2 | 0 | 3 | | KLBS |
| 7 | 19BB22K4 | Foreign Language IV | 2 | 0 | 2 | 0 | 3 | | KLBS |
| **BASIC SCIENCES** | | | | | | | | | |
| 1 | 19BS114 | Business Mathematics | 3 | 1 | 0 | 0 | 4 | | KLBS |
| 2 | 19BS115 | Business Statistics | 3 | 1 | 0 | 0 | 4 | | KLBS |
| 3 | 19UC0009 | Ecology and Environment | 2 | 0 | 0 | 0 | 2 | | KLBS |
| **PROFESSIONAL CORE COURSES** | | | | | | | | | |
| 1 | 19BB11C2 | Business Environment | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 2 | 19BB11C3 | Business Economics | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 3 | 19BB11C4 | Perspectives of Management | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 4 | 19BB11C6 | Campus to Corporate 1 | 0 | 0 | 2 | 0 | 1 | | KLBS |

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|---|---|---|---|---|---|---|---|---|---|
| 5 | 19BB12C1 | Introduction to Financial Accounting | 3 | 1 | 0 | 0 | 4 | | KLBS |
| 6 | 19BB12C3 | Organizational Behaviour | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 7 | 19BB12C6 | Campus to Corporate 2 | 0 | 0 | 2 | 0 | 1 | | KLBS |
| 8 | 19BB21C1 | Management Accountancy | 3 | 1 | 0 | 0 | 4 | | KLBS |
| 9 | 19BB21C2 | Marketing Management | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 10 | 19BB21C3 | Human Resource Management | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 11 | 19BB21C4 | Business Research Methods | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 12 | 19BB21C6 | Campus to Corporate 3 | 0 | 0 | 2 | 0 | 1 | | KLBS |
| 13 | 19BB22C0 | Cost Accountancy | 3 | 1 | 0 | 0 | 4 | | KLBS |
| 14 | 19BB22C1 | Production and Operations Management | 3 | 1 | 0 | 0 | 4 | | KLBS |
| 15 | 19BB22C2 | Management Information Systems | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 16 | 19BB22C3 | Business Law | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 17 | 19BB22C4 | Financial Management | 3 | 1 | 0 | 0 | 4 | | KLBS |
| 18 | 19BB22C6 | Campus to Corporate 4 | 0 | 0 | 2 | 0 | 1 | | KLBS |
| 19 | 19BB31C0 | Business analytics | 3 | 1 | 0 | 0 | 4 | | KLBS |
| 20 | 19HS115 | Soft Skills | 2 | 0 | 2 | 0 | 3 | | KLBS |
| 21 | 19BB31C1 | Fundamentals of Digital Marketing | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 22 | 19BB31C5 | Introduction to Data Management | 2 | 0 | 2 | 0 | 3 | | KLBS |
| 23 | 19BB31C6 | Campus to Corporate 5 | 0 | 0 | 2 | 0 | 1 | | KLBS |
| 24 | 19BB32C0 | Entrepreneurship | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 25 | 19BB32C1 | Strategic Management | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 26 | 19BB32C7 | Campus to Corporate 6 | 0 | 0 | 2 | 0 | 1 | | KLBS |
| **PROFESSIONAL ELECTIVES** | | | | | | | | | |
| 1 | 19BU11C2 | Excel for Business Applications | 2 | 0 | 2 | 0 | 3 | | KLBS |
| 2 | 19BU21C1 | DBMS &SQL | 2 | 0 | 2 | 0 | 3 | | KLBS |
| 3 | 19BU21C4 | Research Methodology with SPSS | 2 | 0 | 2 | 0 | 3 | | KLBS |
| 4 | 19BU22C1 | Introduction to Business Analytics | 3 | 0 | 2 | 0 | 4 | | KLBS |
| 5 | 19BU22C2 | Basics of R programming | 2 | 0 | 4 | 0 | 4 | | KLBS |
| 6 | 19BU22C4 | Mini Project | | | | 0 | 8 | | KLBS |
| 7 | 19BU31C0 | Time Series Econometrics | 3 | 0 | 2 | 0 | 4 | | KLBS |
| 8 | 19BU31C1 | Client Relationship Management | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 9 | 19BU31C2 | Data Visualization with Tableau | 2 | 0 | 2 | 0 | 3 | | KLBS |
| 10 | 19BU31C3 | Spreadsheet Modeling Using VBA | 3 | 0 | 2 | 0 | 4 | | KLBS |
| 11 | 19BU31C5 | Optimization | 4 | 0 | 0 | 0 | 4 | | KLBS |
| 12 | 19BU32C0 | Business Intelligence & Data Mining | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 13 | 19BU32C2 | Predictive Analytics & | 2 | 0 | 4 | 0 | 4 | | KLBS |

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|---|---|---|---|---|---|---|---|---|---|
| | | Decision Making | | | | | | | |
| 14 | 19BU32C3 | Data Analysis with Python | 2 | 0 | 4 | 0 | 4 | | KLBS |
| 15 | 19BB31M0 | Product Management | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 16 | 19BB31H0 | Personal Effectiveness and Self-Leadership | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 17 | 19BB31M1 | Basics of Sales Mgt | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 18 | 19BB31F1 | Direct Taxation | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 19 | 19BB31H1 | Talent Acquisition | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 20 | 19BB32C2 | Enterprise Resource Planning | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 21 | 19BB32C3 | Creativity & Innovation | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 22 | 19BB32C4 | Yoga & Health | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 23 | 19BB32M2 | Integrated Marketing Communication | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 24 | 19BB32F2 | Financial Markets | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 25 | 19BB32H2 | Cross Cultural Management | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 26 | 19BB32M3 | Services Marketing | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 27 | 19BB32F3 | Management of Personal Finance | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 28 | 19BB32H3 | Legal Aspects of HRM | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 29 | 19LG11C2 | Fundamentals of Logistics | 3 | 0 | 0 | 0 | 3 | | KLBS |
| 30 | 19LG11C3 | Principles of Management | 3 | 0 | 0 | | 3 | | KLBS |
| 31 | 19LG11C4 | Business Statistics | 3 | 1 | 0 | | 4 | | KLBS |
| 32 | 19LG11C5 | Materials Management | 3 | 1 | 0 | | 4 | | KLBS |
| 33 | 19LG11C6 | Warehousing and Distribution Centre Operations | 3 | 0 | 0 | | 3 | | KLBS |
| 34 | 19LG12C0 | Materials Management – Practical | 0 | 0 | 4 | | 2 | | KLBS |
| 35 | 19LG12C1 | Warehousing Management – Practical | 0 | 0 | 4 | | 2 | | KLBS |
| 36 | 19LG12XX | Allied Course (1 out of 2) – MOOC* | - | - | - | | 3 | | KLBS |
| 37 | 19LG12C3 | Apprenticeship – I | - | - | - | | 34 | | KLBS |
| 38 | 19LG21C2 | Freight Forwarding (Ocean & Air Cargo) | 3 | 0 | 0 | | 3 | | KLBS |
| 39 | 19LG21C3 | Forecasting and Inventory Management | 3 | 1 | 0 | | 4 | | KLBS |
| 40 | 19LG21C4 | Surface Transportation | 3 | 0 | 0 | | 3 | | KLBS |
| 41 | 19LG21C5 | Human Resources Management | 3 | 0 | 0 | | 3 | | KLBS |
| 42 | 19LG21C6 | Management and Cost Accounting | 3 | 1 | 0 | | 4 | | KLBS |
| 43 | 19LG22C0 | Surface Transportation – Practical | 0 | 0 | 4 | | 2 | | KLBS |
| 44 | 19LG22C1 | Forecasting and Inventory Management – Practical | 0 | 0 | 4 | | 2 | | KLBS |
| 45 | 19LG22XX | Allied Course (1 out of 2) – MOOC | - | - | - | | 3 | | KLBS |
| 46 | 19LG22C3 | Apprenticeship – II | - | - | - | | 34 | | KLBS |

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|---|---|---|---|---|---|---|---|---|---|
| 47 | 19LG31C0 | MIS for Logistics | 3 | 1 | 0 | | 4 | | KLBS |
| 48 | 19LG31C3 | Marketing Management | 3 | 0 | 0 | | 3 | | KLBS |
| 49 | 19LG31C4 | Retail Logistics and E-Commerce | 3 | 0 | 0 | | 3 | | KLBS |
| 50 | 19LG31C5 | Logistics Network Design | 3 | 0 | 0 | | 3 | | KLBS |
| 51 | 19LG31C6 | Liner Logistics | 3 | 1 | 0 | | 4 | | KLBS |
| 52 | 19LG32C0 | Logistics Network Design-Practical | 0 | 0 | 4 | | 2 | | KLBS |
| 53 | 19LG32C1 | Freight Forwarding – Practical | 0 | 0 | 4 | | 2 | | KLBS |
| 54 | 19LG32XX | Allied Course (1 out of 2) – MOOC* | - | - | | | 3 | | KLBS |
| 55 | 19LG32XX | Apprenticeship - III | - | - | - | | 34 | | KLBS |
| 56 | 19CMA 1A | Financial Planning, Performance & Analytics | 3 | 1 | 0 | 0 | 4 | | KLBS |
| 57 | 19CMA 1B | Financial Reporting & Control | 3 | 1 | 0 | 0 | 4 | | KLBS |
| 58 | 19CMA 1A | Strategic Financial Management - I | 3 | 1 | 0 | 0 | 4 | | KLBS |
| 59 | 19CMA 1B | Strategic Financial Management - II | 3 | 1 | 0 | 0 | 4 | | KLBS |
| 60 | 19BB10E0 | Summer Internship Program | | | | | 6 | | KLBS |
| 61 | 19BB20P1 | Summer Internship Program | | | | | 6 | | KLBS |
| 62 | 19BB30P2 | Project Work | | | | | 6 | | KLBS |
| | | | | | | | | | |
| **BBA-LLB** | | | | | | | | | |
| SNO | **COURSE CODE** | **COURSE NAME** | **L** | **T** | **P** | **S** | **Cr** | **Pre requisites** | **OFFERED TO** |
| | | **HUMANITIES & SOCIAL SCIENCES** | | | | | | | |
| 1 | 18UC1101L | General English and Legal Language (Engish - I) | 1 | 0 | 4 | 0 | 3 | NIL | KLEF College of Law |
| 2 | 18UC2103L | Legal Professional Communication Skills (English – II) | 1 | 0 | 4 | 0 | 3 | NIL | KLEF College of Law |
| | | | | | | | **6** | | |
| **BASIC SCIENCES** | | | | | | | | | |
| 1 | 18BL11C2 | Introduction to I.T. | 2 | 0 | 2 | 0 | 3 | NIL | KLEF College of Law |
| **MANAGEMENT COURSES** | | | | | | | | | |
| 1 | 18BL11C1 | Principles of Management | 3 | 1 | 0 | 0 | 4 | NIL | KLEF College of Law |
| 2 | 18BL11C2 | Business Environment | 3 | 1 | 0 | 0 | 4 | NIL | KLEF College of Law |
| 3 | 18BL12C1 | Human Resource Management | 3 | 1 | 0 | 0 | 4 | NIL | KLEF College of Law |
| 4 | 18BL12C2 | Principles of Economics and Managerial Economics | 3 | 1 | 0 | 0 | 4 | NIL | KLEF College of Law |
| 5 | 18BL21C1 | Marketing Management | 3 | 1 | 0 | 0 | 4 | NIL | KLEF College of Law |
| 6 | 18BL21C2 | Macro Economics | 3 | 1 | 0 | 0 | 4 | NIL | KLEF College of |

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| | | | | | | | | | Law |
| 7 | 18BL21C3 | Financial and Cost Accountancy | 3 | 1 | 0 | 0 | 4 | NIL | KLEF College of Law |
| 8 | 18BL22C1 | Management Accounting | 3 | 1 | 0 | 0 | 4 | NIL | KLEF College of Law |
| 9 | 18BL22C2 | Management Information Systems | 3 | 1 | 0 | 0 | 4 | NIL | KLEF College of Law |
| 10 | 18BL31C1 | Organisational Behaviour | 3 | 1 | 0 | 0 | 4 | NIL | KLEF College of Law |
| 11 | 18BL31C2 | Financial Management | 3 | 1 | 0 | 0 | 4 | NIL | KLEF College of Law |
| 12 | 18BL32C1 | Quantitative Methods | 3 | 1 | 0 | 0 | 4 | NIL | KLEF College of Law |
| **PROFESSIONAL CORE COURSES** | | | | | | | | | |
| 1 | 18BL11C3 | Law of Contracts - I | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 2 | 18BL11C4 | Introduction to Law and Legal system | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 3 | 18BL12C3 | Sociology | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 4 | 18BL12C4 | Law of Contracts – II | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 5 | 18BL12C5 | Law of Torts | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 6 | 18BL21C4 | Constitutional Law - I | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 7 | 18BL21C5 | Law of Crimes – I | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 8 | 18BL21C6 | Family Law - I | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 9 | 18BL22C3 | Company Law | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 10 | 18BL22C4 | Constitutional Law – II | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 11 | 18BL22C5 | Jurisprudence | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 12 | 18BL22C6 | Family Law - II | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 13 | 18BL31C3 | Code of Civil Procedure and Law of Limitation | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 14 | 18BL31C4 | Law of crimes-II | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 15 | 18BL31C5 | Law of Evidence | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 16 | 18BL31C6 | Law of Property | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 17 | 18BL32C2 | Administrative Law | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 18 | 18BL32C3 | Labour Law - I | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 19 | 18BL32C4 | Law of Banking and N.I. Act | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 20 | 18BL41C1 | Intellectual Property Rights | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 21 | 18BL41C2 | Law of Insurance | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 22 | 18BL41C3 | Public International Law | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 23 | 18BL41C4 | Labour Laws-II | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 24 | 18BL42C1 | Corporate Law & Governance | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 25 | 18BL42C2 | Law of Taxation | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 26 | 18BL42C3 | Environmental Law | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 27 | 18BL51C1 | Alternate Dispute Resolution | 3 | 0 | 2 | 0 | 4 | NIL | College of Law |
| 28 | 18BL51C2 | Drafting, Pleading and Conveyance | 2 | 0 | 4 | 0 | 4 | NIL | College of Law |
| 29 | 18BL51C3 | I.T. Offences & Cyber Law | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |

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| 30 | 18BL52C1 | Professional Ethics and Professional Accountancy system | 2 | 0 | 4 | 0 | 4 | NIL | College of Law |
| 31 | 18BL52C3 | Higher Judiciary (Theory) | 2 | 1 | 0 | 0 | 3 | NIL | College of Law |
| **SKILLING COURSES** | | | | | | | | | |
| 1 | 18BL22C7 | Moot Court Training – I | 1 | 0 | 2 | 0 | 2 | NIL | College of Law |
| 2 | 18BL42C7 | Soft Skills-2 | 1 | 0 | 4 | 0 | 3 | NIL | College of Law |
| 3 | 18BL41C 7 | Soft Skills-1 | 1 | 0 | 4 | 0 | 3 | NIL | College of Law |
| 4 | 18BL42C6 | Moot Court Training -III | 1 | 0 | 2 | 0 | 2 | NIL | College of Law |
| 5 | 18BL42C7 | Soft Skills-2 | 1 | 0 | 4 | 0 | 3 | NIL | College of Law |
| 6 | 18BL42SI 4 | SIP-ADVOCATE/DISTRICT COURTS: 2 CREDITS | 0 | 0 | 4 | 0 | 2 | NIL | College of Law |
| 7 | 18BL32C6 | Moot Court Training - II | 1 | 0 | 2 | 0 | 2 | NIL | College of Law |
| 8 | 18BL51C4 | Aptitude for Advocacy - I | 2 | 1 | 0 | 0 | 3 | NIL | College of Law |
| 9 | 18BL51C7 | Moot Court - IV | 0 | 0 | 4 | 0 | 2 | NIL | College of Law |
| 10 | 18BL52C2 | Aptitude for Advocacy - II | 2 | 1 | 0 | 0 | 3 | NIL | College of Law |
| 11 | 18BL52C4 | Higher Judiciary (Internship) | 0 | 0 | 4 | 0 | 2 | NIL | College of Law |
| 12 | 18BL52C5 | Moot Court Exercise and Internship | 0 | 0 | 8 | 0 | 4 | NIL | College of Law |
| **OPEN Non- LAW ELECTIVES** | | | | | | | | | |
| 1 | 18BA11C2 | Current Affairs and General Studies-1 (India History) | 3 | 1 | 0 | 0 | 4 | | |
| 2 | 18BL41C6 | Current Affairs and GS-2 (Political Science and Public Administration) | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 3 | 18BL42C5 | Current Affairs and GS-3 (Geography and International Relations) | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 4 | 18BL51C6 | Current Affairs and General Studies -4 | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| **OPEN LAW/PROFESSIONAL ELECTIVES** | | | | | | | | | |
| 1 | 18BL32C5 | Law Elective - 1 (Women and Law) OR | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 2 | 18BL41C5 | Law Elective-2 (Juvenile Justice) | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 3 | 18BL42C4 | Law Elective-3 (Media Law and Right to Information) **(OR)** | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| 4 | 18BL51C5 | Law Elective - 4 (Criminology Victimology and Penology) | 3 | 1 | 0 | 0 | 4 | NIL | College of Law |
| | | | | | | | | | |
| **BFA** | | | | | | | | | |
| **S.No** | **Course Code** | **Name of the Course** | **L** | **T** | **P** | **S** | **Cr** | **Pre- Requisites** | **Offered to** |
| **HUMANITIES & SOCIAL SCIENCES** | | | | | | | | | |
| 1 | 18UC1101 | Basic English | 0 | 0 | 4 | 0 | 2 | NIL | BFA |
| 2 | 18UC1202 | English Proficiency | 0 | 0 | 4 | 0 | 2 | NIL | BFA |

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|---|---|---|---|---|---|---|---|---|---|
| 3 | 19UC2103 | Professional Communication Skills | 0 | 0 | 4 | 0 | 2 | NIL | BFA |
| 4 | 19SC1105 | Logic & Reasoning | 0 | 0 | 2 | 0 | 1 | NIL | BFA |
| 5 | 18UC0009 | Ecology & Environment | 2 | 0 | 0 | 0 | 2 | NIL | BFA |
| 6 | 19UC2204 | Aptitude Builder - I | 0 | 0 | 4 | 0 | 2 | NIL | BFA |
| **OPEN ELECTIVE** | | | | | | | | | |
| 1 | 18LN1206/ 18LN1207 | Language – Telugu/French | 2 | 0 | 0 | 0 | 2 | NIL | BFA |
| 2 | 18UC0010 | Universal Human Values & Professional Ethics | 1 | 0 | 2 | 0 | 2 | NIL | BFA |
| **PROFESSIONAL CORE** | | | | | | | | | |
| 1 | 19FA 1101 | Digital Literacy | 3 | 0 | 0 | 0 | 3 | NIL | BFA |
| 2 | 19FA1102 | Introduction to Visual Communication | 4 | 0 | 0 | 0 | 4 | NIL | BFA |
| 3 | 19FA 1103 | History of Art-I (Indian Art) | 3 | 0 | 0 | 0 | 3 | NIL | BFA |
| 4 | 19FA 1104 | Drawing Basics | 1 | 0 | 6 | 0 | 4 | NIL | BFA |
| 5 | 19FA 1105 | Advertising Art and Ideas | 1 | 0 | 4 | 0 | 3 | NIL | BFA |
| 6 | 19FA1201 | History of Art –II (Western Art) | 3 | 0 | 0 | 0 | 3 | NIL | BFA |
| 7 | 19FA 1202 | Color Theory | 1 | 0 | 6 | 0 | 4 | NIL | BFA |
| 8 | 19FA 1203 | Advanced Drawing | 2 | 0 | 4 | 0 | 4 | NIL | BFA |
| 9 | 19FA1204 | Introduction to Practical Filmmaking | 0 | 0 | 4 | 0 | 2 | NIL | BFA |
| 10 | 19FA 1205 | Sculpture | 1 | 0 | 6 | | 4 | NIL | BFA |
| 11 | **20UC1102** | **Design Thinking and Innovation - 1** | **1** | **0** | **0** | **4** | **2** | NIL | BFA |
| 12 | 19FA2101 | Drawing | 2 | 0 | 8 | 0 | 6 | NIL | BFA |
| 13 | 19FA2102 | History of Art (Indian) | 3 | 0 | 0 | 0 | 3 | NIL | BFA |
| 14 | **20UC1203** | **Design Thinking and Innovation - 2** | **1** | **0** | **0** | **4** | **2** | NIL | BFA |
| 15 | 19FA2202 | Drawing | 2 | 0 | 8 | 0 | 6 | NIL | BFA |
| 16 | 19FA2203 | Museum Studies | 2 | 0 | 0 | 0 | 2 | NIL | BFA |
| 17 | 19FA2204 | History of Art (Western) | 3 | 0 | 0 | 0 | 3 | NIL | BFA |
| 18 | 19FA3102 | Aesthetics (Indian) | 3 | 0 | 0 | 0 | 3 | NIL | BFA |
| 19 | 19FA3103 | Drawing | 2 | 0 | 8 | 0 | 6 | NIL | BFA |
| 20 | 19UC3205 | Campus to Corporate | 0 | 0 | 4 | 0 | 2 | NIL | BFA |
| 21 | 19FA3201 | Aesthetics (Western) | 3 | 0 | 0 | 0 | 3 | NIL | BFA |
| 22 | 19FA3202 | Drawing | 2 | 0 | 8 | 0 | 6 | NIL | BFA |
| 23 | 19FA4101 | Modern and Contemporary Art in India | 3 | 0 | 0 | 0 | 3 | NIL | BFA |
| 24 | 19FA4102 | Drawing | 2 | 0 | 8 | 0 | 6 | NIL | BFA |
| 25 | 19FA4103 | Folk Art | 3 | 0 | 0 | 0 | 3 | NIL | BFA |
| 26 | 19FA4201 | Final Exhibition &Jury | 8 | 0 | 0 | 0 | 8 | NIL | BFA |
| 27 | 19IE4051 | Internship | **0** | **0** | **0** | **0** | **6** | NIL | BFA |
| 28 | 19FA4202 | Portfolio/Presentation | 6 | 0 | 0 | 0 | 6 | NIL | BFA |
| **PROFESSIONAL ELECTIVE** | | | | | | | | | |
| 1 | 19FA2103 | Painting | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 2 | 19FA2104 | Composition | 0 | 0 | 10 | 0 | 5 | NIL | BFA |

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|---|---|---|---|---|---|---|---|---|---|
| 3 | 19FA2105 | Life Study | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 4 | 19FA2106 | Composition (Sculpture) | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 5 | 19FA2205 | Painting | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 6 | 19FA2206 | Composition | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 7 | 19FA2207 | Life Study | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 8 | 19FA2208 | Composition (Sculpture) | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 9 | 19FA3104 | Painting | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 10 | 19FA3105 | Composition | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 11 | 19FA3106 | Life Study | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 12 | 19FA3107 | Composition (Sculpture) | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 13 | 19FA3203 | Painting | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 14 | 19FA3204 | Composition | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 15 | 19FA3205 | Life Study | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 16 | 19FA3206 | Composition (Sculpture) | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 17 | 19FA4104 | Painting | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 18 | 19FA4105 | Composition | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 19 | 19FA4106 | Life Study | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
| 20 | 19FA4107 | Composition (Sculpture) | 0 | 0 | 10 | 0 | 5 | NIL | BFA |
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**BA**

| **SNO** | **COURSE CODE** | **COURSE NAME** | **L** | **T** | **P** | **S** | **Cr** | **Pre requisites** | **OFFERED TO** |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 19UC1101 | Basic English | 0 | 0 | 4 | 2 | 4 | | BA |
| 2 | 19GN11T1 | Telugu - 1 | 3 | 0 | 0 | 3 | 3 | | BA |
| 3 | 19GN11H1 | Hindi - 1 | | | | | | | BA |
| 4 | 19BA1101 | Ancient Indian History | 4 | 0 | 0 | 4 | 4 | | BA |
| 5 | 19BA1102 | Physical Geography | 4 | 0 | 0 | 4 | 4 | | BA |
| 6 | 19BA1103 | Introduction to Public Administration | 4 | 0 | 0 | 4 | 4 | | BA |
| 7 | 19UC0010 | Universal Human Values and Professional Ethics | 2 | 0 | 0 | 2 | 2 | | BA |
| 8 | 19UC1202 | English Proficiency | 0 | 0 | 4 | 2 | 4 | | BA |
| 9 | 19GN12T2 | Telugu - 2 | 3 | 0 | 0 | 3 | 3 | | BA |
| 10 | 19GN12H2 | Hindi -2 | | | | | | | BA |
| 11 | 19BA1201 | Medieval Indian History | 4 | 0 | 0 | 4 | 4 | | BA |
| 12 | 19BA1202 | Human Geography | 4 | 0 | 0 | 4 | 4 | | BA |
| 13 | 19BA1203 | Administrative Theory | 4 | 0 | 0 | 4 | 4 | | BA |
| 14 | 19UC0008 | Indian Constitution | 0 | 0 | 2 | 0 | 2 | | BA |
| 15 | 19UC2103 | Professional Communication | 0 | 0 | 4 | 2 | 4 | | BA |
| 16 | 19GN21T3 | Telugu - 3 | 3 | 0 | 0 | 3 | 3 | | BA |
| 17 | 19GN21H3 | Hindi -3 | | | | | | | BA |
| 18 | 19BA2101 | Indian History & Culture 1526 - 1857 | 4 | 0 | 0 | 4 | 4 | | BA |
| 19 | 19BA2102 | Physical & Industrial Geography of India | 4 | 0 | 0 | 4 | 4 | | BA |

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| 20 | 19BA2103 | Union Administration | 4 | 0 | 0 | 4 | 4 | | BA |
| 21 | 19UC2204 | Aptitude Builder –I | 0 | 0 | 4 | 2 | 4 | | BA |
| 22 | 19BA2204 | Fundamentals of Economics | 4 | 0 | 0 | 4 | 4 | | BA |
| 23 | 19GN2201 | Data Interpretation | 2 | 0 | 2 | 3 | 4 | | BA |
| 24 | 19BA2201 | History of Modern India 1858-1947 | 4 | 0 | 0 | 4 | 4 | | BA |
| 25 | 19BA2202 | Social Geography of India | 4 | 0 | 0 | 4 | 4 | | BA |
| 26 | 19BA2203 | State and Local Administration | 4 | 0 | 0 | 4 | 4 | | BA |
| 27 | 19UC3105 | Aptitude Builder –2 | 2 | 0 | 0 | 2 | 2 | | BA |
| 28 | 19GN3101 | Indian Economy | 4 | 0 | 0 | 4 | 4 | | BA |
| 29 | 19BA3101 | History of Modern World (Elective) | 4 | 0 | 0 | 4 | 4 | | BA |
| 30 | 19BA3102 | History of East Asia (From 19th Century A.D. to 1950 A.D.) (Elective) | 4 | 0 | 0 | 4 | 4 | | BA |
| 31 | 19BA3103 | Contemporary Issues in Geography (Elective) | 4 | 0 | 0 | 4 | 4 | | BA |
| 32 | 19BA3104 | Remote Sensing and Geographic Information System (Elective) | 4 | 0 | 0 | 4 | 4 | | BA |
| 33 | 19BA3105 | Social Policies and Programmes in India (Elective) | 4 | 0 | 0 | 4 | 4 | | BA |
| 34 | 19BA3106 | E-Governance (Elective) | 4 | 0 | 0 | 4 | 4 | | BA |
| 35 | 19GN3102 | International Relations | 3 | 0 | 0 | 3 | 3 | | BA |
| 36 | 19UC0009 | Ecology and Environment | 2 | 0 | 0 | 2 | 2 | | BA |
| 37 | 19BA3201 | History and Culture of Andhra Pradesh (Elective) | 4 | 0 | 0 | 4 | 4 | | BA |
| 38 | 19BA3202 | Archeology (Elective) | 4 | 0 | 0 | 4 | 4 | | BA |
| 39 | 19BA3203 | Regional Geography of India (Elective) | 4 | 0 | 0 | 4 | 4 | | BA |
| 40 | 19BA3204 | Environmental Geography (Elective) | 4 | 0 | 0 | 4 | 4 | | BA |
| 41 | 19BA3205 | Indian Polity and Governance (Elective) | 4 | 0 | 0 | 4 | 4 | | BA |
| 42 | 19BA3206 | Disaster Management (Elective) | 4 | 0 | 0 | 4 | 4 | | BA |
| 43 | 19GN3201 | Project Work | 0 | 0 | 8 | 4 | 8 | | BA |
| 44 | 19GN3202 | Indian Economic Development | 4 | 0 | 0 | 4 | 4 | | BA |
| 45 | 19UC3206 | Campus to Corporate | 2 | 0 | 0 | 2 | 2 | | BA |
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| **Hotel Management** | | | | | | | | | |
| **SNO** | **COURSE CODE** | **COURSE NAME** | **L** | **T** | **P** | **S** | **Cr** | **Pre requisites** | **OFFERED TO** |
| **HUMANITIES & SOCIAL SCIENCES** | | | | | | | | | |
| 1 | 18HM11E1 | English Communication Skills | 0 | 0 | 4 | 0 | 2 | Nil | Hotle Management |
| 2 | 18UC0010 | Universal Human values & | 2 | 0 | 0 | 0 | 0 | Nil | Hotle Management |

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| | | Professional Skills | | | | | | | |
| 3 | 18HM12L2 | Basic French | 3 | 0 | 0 | 0 | 3 | Nil | Hotle Management |
| 4 | 18HM22E2 | English Writing Skills | 1 | 0 | 4 | 0 | 3 | Nil | Hotle Management |
| 5 | 18HM31E3 | Entrepreneur Soft Skills for Hospitality | 1 | 0 | 4 | 0 | 3 | Nil | Hotle Management |
| 6 | 18UC0007 | Indian Heritage & Culture | 2 | 0 | 0 | 0 | 0 | Nil | Hotle Management |
| 7 | 18UC3106 | Campus To Hospitality Industry | 1 | 0 | 4 | 0 | 3 | Nil | Hotle Management |
| **BASIC SCIENCES** | | | | | | | | | |
| 1 | 18UC0009 | Ecology & Environment | 2 | 0 | 0 | 0 | 0 | Nil | |
| **PROFESSIONAL CORE COURSES** | | | | | | | | | |
| 1 | 18HM11C6 | Introduction to Food Production | 2 | 0 | 4 | 0 | 4 | Nil | Hotle Management |
| 2 | 18HM11C7 | Introduction to Food & Beverage Service | 2 | 0 | 2 | 0 | 3 | Nil | Hotle Management |
| 3 | 18HM11C8 | Introduction to House Keeping | 2 | 0 | 2 | 0 | 3 | Nil | Hotle Management |
| 4 | 18HM11C9 | Introduction to Front Office | 2 | 0 | 2 | 0 | 3 | Nil | Hotle Management |
| 5 | 18HM11K0 | Introduction to Information Technology | 2 | 0 | 2 | 0 | 3 | Nil | Hotle Management |
| 6 | 18HM12C6 | Principles of Food Production | 2 | 0 | 4 | 0 | 4 | Nil | Hotle Management |
| 7 | 18HM12C7 | Principles of Food & Beverage Service | 2 | 0 | 2 | 0 | 3 | Nil | Hotle Management |
| 8 | 18HM12C8 | Principles of House Keeping | 2 | 0 | 2 | 0 | 3 | Nil | Hotle Management |
| 9 | 18HM12C9 | Principles of Front Office | 2 | 0 | 2 | 0 | 3 | Nil | Hotle Management |
| 10 | 18HM12K1 | Food Science & Nutrition | 3 | 0 | 0 | 0 | 3 | Nil | Hotle Management |
| 11 | 18HM12N0 | Industrial Training | 0 | 0 | 12 | 0 | 6 | Nil | Hotle Management |
| 12 | 18HM21C6 | Food Production Operations | 2 | 0 | 4 | 0 | 4 | Nil | Hotle Management |
| 13 | 18HM21C7 | Food & Beverage Services Operations | 2 | 0 | 2 | 0 | 3 | Nil | Hotle Management |
| 14 | 18HM21C8 | Accommodation Operations | 2 | 0 | 2 | 0 | 3 | Nil | Hotle Management |
| 15 | 18HM21F1 | Hotel Accountancy | 3 | 0 | 0 | 0 | 3 | Nil | Hotle Management |
| 16 | 18HM21K2 | Hotel Engineering | 3 | 0 | 0 | 0 | 3 | Nil | Hotle Management |
| 17 | 18HM22C6 | Food Production Management | 2 | 0 | 4 | 0 | 4 | Nil | Hotle Management |
| 18 | 18HM22C7 | Food & Beverage Services Management | 2 | 0 | 2 | 0 | 3 | Nil | Hotle Management |
| 19 | 18HM22C8 | Accommodation management | 2 | 0 | 2 | 0 | 3 | Nil | Hotle Management |
| 20 | 18HM22K3 | Human Resource Management | 3 | 0 | 0 | 0 | 3 | Nil | Hotle Management |
| 21 | 18HM22K4 | Hospitality Services Marketing | 3 | 0 | 0 | 0 | 3 | Nil | Hotle Management |
| 22 | 18HM22N0 | Industrial Training | 0 | 0 | 12 | 0 | 6 | Nil | Hotle Management |
| 23 | 18HM31XX | Elective - I | 2 | 0 | 4 | 0 | 4 | Nil | Hotle Management |
| 24 | 18HM31K5 | Travel & Tourism | 3 | 0 | 0 | 0 | 3 | Nil | Hotle Management |

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| | | Management | | | | | | | |
| 25 | 18HM31K6 | Entrepreneurship | 3 | 0 | 0 | 0 | 3 | Nil | Hotle Management |
| 26 | 18HM31K7 | Hotel law | 3 | 0 | 0 | 0 | 3 | Nil | Hotle Management |
| 27 | 18HM31P0 | Hotel Industry Project | 1 | 0 | 6 | 0 | 4 | Nil | Hotle Management |
| 28 | 18HM32N1 | Intensive Internship | 0 | 0 | 48 | 0 | 24 | Nil | Hotle Management |
| **PROFESSIONAL ELECTIVES** | | | | | | | | | |
| 1 | 18HM31E1 | Advanced Food Production | 2 | 0 | 4 | 0 | 4 | Nil | Hotle Management |
| 2 | 18HM31E2 | Advanced Food & Beverage Services | 2 | 0 | 4 | 0 | 4 | Nil | Hotle Management |
| 3 | 18HM31E3 | Advanced Accommodation Management | 2 | 0 | 4 | 0 | 4 | Nil | Hotle Management |
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| **MBA** | | | | | | | | | |
| | | | | | | | | | |
| **SNO** | **COURSE CODE** | **COURSE NAME** | **L** | **T** | **P** | **S** | **Cr** | **Pre requisites** | **OFFERED TO** |
| **HUMANITIES & SOCIAL SCIENCES** | | | | | | | | | |
| 1 | 19MB51K7 | Business Communication Skills | 1 | 0 | 2 | 0 | 0 | NIL | KLBS- MBA |
| 2 | 19HS114 | Soft Skills for Managers I | 0 | 0 | 4 | 0 | 2 | NIL | KLBS- MBA |
| 3 | 19HS115 | Soft Skills for Managers II | 0 | 0 | 4 | 0 | 2 | NIL | KLBS- MBA |
| **BASIC SCIENCES** | | | | | | | | | |
| 1 | 19MB51C0 | Quantitative Methods | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| **PROFESSIONAL CORE COURSES** | | | | | | | | | |
| 1 | 19MB51C1 | Organization Behaviour | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 2 | 19MB51C2 | Business Economics | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 3 | 19MB51C3 | Financial and Management Accounting | 2 | 1 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 4 | 19MB51C4 | Marketing Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 5 | 19MB51C5 | Financial Management | 2 | 1 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 6 | 19MB51C6 | Operations Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 7 | 19MB51C7 | Human Resource Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 8 | 19MB51C8 | Business Environment | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 9 | 19MB52C1 | Introduction to Business Analytics & R Programming | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 10 | 19MB52C2 | Business Research Methodology | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 11 | 19MB61C0 | ERP & Information Systems | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 12 | 19MB62C0 | Entrepreneurship & Family Business | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 13 | 19MB62C1 | Business Ethics & Corporate Governance | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 14 | 19MB62C2 | Leadership in Organisations | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 15 | 19MB62C3 | Business Law | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 16 | 19MB62C4 | Strategic Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |

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|---|---|---|---|---|---|---|---|---|---|
| 17 | 19MB1101 | Design Thinking | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 18 | 19MB1102 | Technology Innovation, Product Development & Prototyping | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 19 | 19MB1103 | Entrepreneurial Ecosystem | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 20 | 19MB1209 | Managing Operations for Technological Innovations in Start-ups | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 21 | 19MB1210 | Entrepreneurial Leadership | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 22 | 19MB2115 | Venture Financing & Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 23 | 19MB2116 | Digital Marketing for Innovations | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 24 | 19MB2117 | Buying and selling a small business (M & A) | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 25 | 19MB2118 | IPR & Legal Issues | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| **SKILLING COURSES** | | | | | | | | | |
| 1 | 20UC1102 | Design Thinking & Innovation I | 1 | 0 | 0 | 4 | 2 | NIL | KLBS- MBA |
| 2 | 20UC1203 | Design Thinking & Innovation II | 1 | 0 | 0 | 4 | 2 | NIL | KLBS- MBA |
| 3 | 19MB1106 | Skill Development | 0 | 0 | 0 | 10 | 2.5 | NIL | KLBS- MBA |
| 4 | 19MB1212 | Skill Development | 0 | 0 | 0 | 4 | 1 | NIL | KLBS- MBA |
| 5 | 19MB2121 | Skill Development | 0 | 0 | 6 | 10 | 5.5 | NIL | KLBS- MBA |
| 6 | 19MB2223 | Skill Development | 0 | 0 | 8 | 4 | 5 | NIL | KLBS- MBA |
| **TERM PAPER & PROJECT** | | | | | | | | | |
| 1 | 19MB61E8 | Management Research Project I | 2 | 0 | 8 | 0 | 6 | NIL | KLBS- MBA |
| 2 | 19MB1107 | Capstone Project - I | 0 | 0 | 8 | 0 | 4 | NIL | KLBS- MBA |
| 3 | 19MB1108 | Capstone Project - II | 0 | 0 | 8 | 0 | 4 | NIL | KLBS- MBA |
| 4 | 19MB1213 | Capstone Project – III | 0 | 0 | 8 | 0 | 4 | NIL | KLBS- MBA |
| 5 | 19MB1214 | Action Learning Segment-I | 0 | 0 | 28 | 0 | 14 | NIL | KLBS- MBA |
| 6 | 19MB2222 | Action Learning Segment - II | 0 | 0 | 44 | 0 | 22 | NIL | KLBS- MBA |
| **PROFESSIONAL ELECTIVES** | | | | | | | | | |
| 1 | 19MB52M0 | Digital and Social Media Marketing | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 2 | 19MB52F0 | Wealth Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 3 | 19MB52H0 | Organizational Design and Development | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 4 | 19MB52U0 | Introduction to Advanced Technologies | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 5 | 19MB52L0 | World Class Manufacturing | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 6 | 19MB52M1 | Product & Brand Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 7 | 19MB52M2 | Promotion & Distribution Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 8 | 19MB52M3 | Global Marketing Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 9 | 19MB52M4 | Advt & Sales Promotion | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |

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|---|---|---|---|---|---|---|---|---|---|
| 10 | 19MB52M5 | Consumer Behaviour | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 11 | 19MB61M7 | Services Marketing | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 12 | 19MB61M8 | Customer relationship Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 13 | 19MB61M9 | Rural & Agricultural Marketing | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 14 | 19MB61M10 | Event & Entertainment Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 15 | 19MB52M5 | Consumer Behaviour | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 16 | 19MB52M6 | Digital Marketing | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 17 | 19MB61M11 | Sales & Promotion Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 18 | 19MB61M12 | Logistics & Supply Chain Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 19 | 19MB52F1 | Financial Markets and Services | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 20 | 19MB52F2 | Security Analysis and Portfolio Management | 2 | 1 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 21 | 19MB52F3 | Behavioural finance | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 22 | 19MB52F4 | Taxation management | 2 | 1 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 23 | 19MB61F7 | Strategic Financial Management | 2 | 1 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 24 | 19MB61F8 | Financial Derivatives | 2 | 1 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 25 | 19MB61F9 | Project Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 26 | 19MB61F10 | Infrastructure Finance | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 27 | 19MB61F11 | International Financial Management | 2 | 1 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 28 | 19MB52F5 | Indian Financial System | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 29 | 19MB61F6 | Managing Personal Finance | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 30 | 19MB61F12 | Financial Statement Analysis | 2 | 1 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 31 | 19MB61F13 | Personal Taxation | 2 | 1 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 32 | 19MB52H1 | Talent and Competency Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 33 | 19MB52H2 | Dynamics of Employee Relations | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 34 | 19MB52H3 | Performance Management & Reward Systems | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 35 | 19MB52H4 | Labour Legislation | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 36 | 19MB61H7 | International Human Resource Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 37 | 19MB61H8 | People Analytics | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 38 | 19MB61H9 | Organizational Change & Change Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 39 | 19MB61H11 | Strategic Human Resource Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 40 | 19MB52H5 | Performance Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 41 | 19MB52H6 | Human Resource Planning | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 42 | 19MB61H12 | Compensation Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 43 | 19MB61H13 | Training & Development | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |

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|---|---|---|---|---|---|---|---|---|---|
| 44 | 19MB61H14 | Conflict Management & Negotiation | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 45 | 19MB52L1 | Materials Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 46 | 19MB52L2 | Fundamentals of Supply Chain Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 47 | 19MB52L3 | Operations Strategy | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 48 | 19MB52L4 | Total Quality Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 49 | 19MB61L5 | Lean Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 50 | 19MB61L6 | Warehouse Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 51 | 19MB61L7 | Supply Chain Analytics | 2 | 0 | 2 | 0 | 3 | NIL | KLBS- MBA |
| 52 | 19MB61L8 | International Logistics Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 53 | 19MB52U1 | Data Visualization (R/Excel/Tableau) | 2 | 0 | 2 | 0 | 3 | NIL | KLBS- MBA |
| 54 | 19MB52U2 | Econometrics with Business Applications using R | 2 | 0 | 2 | 0 | 3 | NIL | KLBS- MBA |
| 55 | 19MB52U3 | Data analysis using SPSS | 2 | 0 | 2 | 0 | 3 | NIL | KLBS- MBA |
| 56 | 19MB52U4 | Data Warehousing & Data Mining | 2 | 0 | 2 | 0 | 3 | NIL | KLBS- MBA |
| 57 | 19MB61U5 | Advanced Business Analytics | 2 | 0 | 2 | 0 | 3 | NIL | KLBS- MBA |
| 58 | 19MB61H8 | People Analytics | 2 | 0 | 2 | 0 | 3 | NIL | KLBS- MBA |
| 59 | 19MB61U6 | Business Analytics in Marketing | 2 | 0 | 2 | 0 | 3 | NIL | KLBS- MBA |
| 60 | 19MB61U7 | Business Analytics in Finance | 2 | 0 | 2 | 0 | 3 | NIL | KLBS- MBA |
| 61 | 19MB61U8 | Business Forecasting with R | 2 | 0 | 2 | 0 | 3 | NIL | KLBS- MBA |
| 62 | 19MB61U9 | Advanced Excel | 2 | 0 | 2 | 0 | 3 | NIL | KLBS- MBA |
| 63 | 19MB61U10 | Big Data Analytics and Its Application | 2 | 0 | 2 | 0 | 3 | NIL | KLBS- MBA |
| 64 | 20MB61U11 | Machine Learning with Business Applications (with R and Python) | 2 | 0 | 2 | 0 | 3 | NIL | KLBS- MBA |
| 65 | 19MB52B0 | Overview of Banking | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 66 | 19MB61B1 | Banking Service Operations | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 67 | 19MB52R0 | Overview of Retailing | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 68 | 19MB61R1 | Management of Retail Operations | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 69 | 19MB52D0 | Overview of Healthcare Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 70 | 19MB61D1 | Management of Healthcare Operations | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 71 | 19MB52I0 | IT Enabled Services | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 72 | 19MB61I1 | Marketing of Software Solutions | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 73 | 19MB52S0 | Life Insurance | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 74 | 19MB61S1 | General Insurance | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 75 | 19MB52P0 | Pharmaceutical Marketing Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 76 | 19MB61P1 | Advanced Pharmaceutical | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |

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|---|---|---|---|---|---|---|---|---|---|
| | | Marketing Management | | | | | | | |
| 77 | 19MB52G0 | Overview of Agriculture & Rural Sectors in india | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 78 | 19MB61G1 | Management of Agricultural & Rural Development in India | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 79 | 19MB1104 | Theories & Models of Techno-Entrepreneurship | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 80 | 19MB1109 | Entrepreneurial Finance: Concept & Management. | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 81 | 19MB1110 | Start-up Law, Ethics and Environment in India. | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 82 | 19MB1215 | Corporate and Social Entrepreneurship | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 83 | 19MB1211 | New Venture Establishment & Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 84 | 19MB1216 | Measuring and Managing Strategic Performance of Existing and New Ventures | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 85 | 19MB2120 | Venture Growth Strategies | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 86 | 19MB2122 | Government Strategies & Policies and International Economy | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 87 | 19MB2119 | Startup Ecosystem | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 88 | 19MB51C7 | HR Management | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
| 89 | 19MB2123 | Technology & Global Business Linkage Opportunities | 3 | 0 | 0 | 0 | 3 | NIL | KLBS- MBA |
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| **M.Sc Chemistry** | | | | | | | | | |
| **PROFESSIONAL CORE COURSES** | | | | | | | | | |
| 1 | 19CY5101 | General Chemistry-I | 4 | 0 | 0 | 0 | 4 | M.Sc Analytical Chemistry | Chemistry |
| 2 | 19CY5102 | Inorganic Chemistry- I | 4 | 0 | 6 | 0 | 7 | M.Sc Analytical Chemistry | Chemistry |
| 3 | 19CY5103 | Organic Chemistry-I | 4 | 0 | 6 | 0 | 7 | M.Sc Analytical Chemistry | Chemistry |
| 4 | 19CY5104 | Physical Chemistry-I | 4 | 0 | 6 | 0 | 7 | M.Sc Analytical Chemistry | Chemistry |
| 5 | 19CY5201 | General Chemistry-II | 4 | 0 | 0 | 0 | 4 | M.Sc Analytical Chemistry | Chemistry |
| 6 | 19CY5202 | Inorganic Chemistry- II | 4 | 0 | 6 | 0 | 7 | M.Sc Analytical Chemistry | Chemistry |
| 7 | 19CY5203 | Organic Chemistry-II | 4 | 0 | 6 | 0 | 7 | M.Sc Analytical Chemistry | Chemistry |

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| 8 | 19CY5204 | Physical Chemistry-II | 4 | 0 | 6 | 0 | 7 | M.Sc Analytical Chemistry | Chemistry |
| 9 | 19CY5301 | Instrumental Methods of Analysis-I | 4 | 0 | 6 | 0 | 7 | M.Sc Analytical Chemistry | Chemistry |
| 10 | 19CY5302 | Quality Control and Traditional Methods of Analysis-I | 4 | 0 | 0 | 0 | 4 | M.Sc Analytical Chemistry | Chemistry |
| 11 | 19CY5303 | Applied Analysis-I | 4 | 0 | 6 | 0 | 7 | M.Sc Analytical Chemistry | Chemistry |
| 12 | 19CY5401 | Instrumental Methods of Analysis-II | 4 | 0 | 6 | 0 | 7 | M.Sc Analytical Chemistry | Chemistry |
| 13 | 19CY5402 | Advanced Applied Analysis | 4 | 0 | 6 | 0 | 7 | M.Sc Analytical Chemistry | Chemistry |
| 1 | 19CY5101 | General Chemistry-I | 4 | 0 | 0 | 0 | 4 | M.Sc Organic Chemistry | Chemistry |
| 2 | 19CY5102 | Inorganic Chemistry- I | 4 | 0 | 6 | 0 | 7 | M.Sc Organic Chemistry | Chemistry |
| 3 | 19CY5103 | Organic Chemistry-I | 4 | 0 | 6 | 0 | 7 | M.Sc Organic Chemistry | Chemistry |
| 4 | 19CY5104 | Physical Chemistry-I | 4 | 0 | 6 | 0 | 7 | M.Sc Organic Chemistry | Chemistry |
| 5 | 19CY5201 | General Chemistry-II | 4 | 0 | 0 | 0 | 4 | M.Sc Organic Chemistry | Chemistry |
| 6 | 19CY5202 | Inorganic Chemistry- II | 4 | 0 | 6 | 0 | 7 | M.Sc Organic Chemistry | Chemistry |
| 7 | 19CY5203 | Organic Chemistry-II | 4 | 0 | 6 | 0 | 7 | M.Sc Organic Chemistry | Chemistry |
| 8 | 19CY5204 | Physical Chemistry-II | 4 | 0 | 6 | 0 | 7 | M.Sc Organic Chemistry | Chemistry |
| 9 | 19CY5310 | Organic Synthesis-I | 4 | 0 | 6 | 0 | 7 | M.Sc Organic Chemistry | Chemistry |
| 10 | 19CY5311 | Natural Products and Biomolecules | 4 | 0 | 6 | 0 | 7 | M.Sc Organic Chemistry | Chemistry |
| 11 | 19CY5312 | Organic Spectroscopy | 4 | 0 | 0 | 0 | 4 | M.Sc Organic Chemistry | Chemistry |
| 12 | 19CY5407 | Organic Synthesis-II | 4 | 0 | 6 | 0 | 7 | M.Sc Organic Chemistry | Chemistry |
| 13 | 19CY5408 | Advanced Heterocyclic chemistry | 4 | 0 | 6 | 0 | 7 | M.Sc Organic Chemistry | Chemistry |
| **SKILLING COURSES** | | | | | | | | | |
| 1 | 19CY5403 | Dissertation with Research Publication | 0 | 0 | 12 | 0 | 6 | M.Sc Analytical Chemistry | Chemistry |
| 2 | 19CY5409 | Dissertation with Research Publication | 0 | 0 | 12 | 0 | 6 | M.Sc Organic Chemistry | Chemistry |
| **PROFESSIONAL ELECTIVES** | | | | | | | | | |
| 1 | 19CY5304 | Separation Techniques-I | 3 | 0 | 0 | 0 | 3 | M.Sc Analytical | Chemistry |

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| | | | | | | | | Chemistry | |
| 2 | 19CY5305 | Applications of Chemical Spectroscopy | 3 | 0 | 0 | 0 | 3 | M.Sc Analytical Chemistry | Chemistry |
| 3 | 19CY5306 | Bio analytical Chemistry | 3 | 0 | 0 | 0 | 3 | M.Sc Analytical Chemistry | Chemistry |
| 4 | 19CY5307 | Environmental Chemistry | 3 | 0 | 0 | 0 | 3 | M.Sc Analytical Chemistry | Chemistry |
| 5 | 19CY5308 | Surface Analytical Techniques | 3 | 0 | 0 | 0 | 3 | M.Sc Analytical Chemistry | Chemistry |
| 6 | 19CY5309 | Analysis of Food and Drugs | 3 | 0 | 0 | 0 | 3 | M.Sc Analytical Chemistry | Chemistry |
| 7 | 19CY5404 | Separation Techniques-II | 3 | 0 | 0 | 0 | 3 | M.Sc Analytical Chemistry | Chemistry |
| 8 | 19CY5405 | Quality Control and Traditional Methods of Analysis-II | 3 | 0 | 0 | 0 | 3 | M.Sc Analytical Chemistry | Chemistry |
| 9 | 19CY5406 | Sensor techniques and body fluid analysis | 3 | 0 | 0 | 0 | 3 | M.Sc Analytical Chemistry | Chemistry |
| 1 | 19CY5313 | Photo Chemistry and Pericyclic reactions | 3 | 0 | 0 | 0 | 3 | M.Sc Organic Chemistry | Chemistry |
| 2 | 19CY5314 | Organometallic Chemistry | 3 | 0 | 0 | 0 | 3 | M.Sc Organic Chemistry | Chemistry |
| 3 | 19CY5315 | Bio Organic Chemistry | 3 | 0 | 0 | 0 | 3 | M.Sc Organic Chemistry | Chemistry |
| 4 | 19CY5316 | Green Chemistry | 3 | 0 | 0 | 0 | 3 | M.Sc Organic Chemistry | Chemistry |
| 5 | 19CY5317 | Food Chemistry | 3 | 0 | 0 | 0 | 3 | M.Sc Organic Chemistry | Chemistry |
| 6 | 19CY5318 | Medicinal chemistry | 3 | 0 | 0 | 0 | 3 | M.Sc Organic Chemistry | Chemistry |
| 7 | 19CY5410 | Advanced Organic Spectroscopy | 3 | 0 | 0 | 0 | 3 | M.Sc Organic Chemistry | Chemistry |
| 8 | 19CY5411 | Chemistry of Drugs and Pharmaceuticals | 3 | 0 | 0 | 0 | 3 | M.Sc Organic Chemistry | Chemistry |
| 9 | 19CY5412 | Nano Chemistry | 3 | 0 | 0 | 0 | 3 | M.Sc Organic Chemistry | Chemistry |
| | | | | | | | | | |
| **M.Sc Mathematics** | | | | | | | | | |
| **SNO** | **COURSE CODE** | **COURSE NAME** | **L** | **T** | **P** | **S** | **Cr** | **Pre requisites** | **OFFERED TO** |
| **PROFESSIONAL CORE COURSES** | | | | | | | | | |
| 1 | 19AM1101 | Real Analysis | 4 | 0 | 0 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 2 | 19AM1102 | Ordinary Differential Equations | 3 | 0 | 2 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 3 | 19AM1103 | Numerical Methods | 3 | 0 | 2 | 0 | 4 | | M.Sc (Applied |

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|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Mathematics) |
| 4 | 19AM1104 | Introduction to Computer Programming | 3 | 0 | 2 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 5 | 19AM1105 | Mathematical Statistics | 4 | 0 | 0 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 6 | 19AM1106 | Seminar-1 | 0 | 0 | 2 | 0 | 1 | | M.Sc (Applied Mathematics) |
| 7 | 19AM1201 | Soft computing | 4 | 0 | 0 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 8 | 19AM1202 | Data Structures | 3 | 0 | 2 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 9 | 19AM1203 | Statistical Inference | 4 | 0 | 0 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 10 | 19AM1204 | Discrete Mathematics | 4 | 0 | 0 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 11 | 19AM1205 | Complex Analysis | 4 | 0 | 0 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 12 | 19AM1206 | Seminar-2 | 0 | 0 | 2 | 0 | 1 | | M.Sc (Applied Mathematics) |
| 13 | 19AM2101 | Partial Differential Equations | 4 | 0 | 0 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 14 | 19AM2102 | Data base Management systems | 3 | 0 | 2 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 16 | 19AM2103 | Abstract Algebra | 4 | 0 | 0 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 17 | 19AM2104 | Transform Techniques | 3 | 0 | 2 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 18 | 19AM2105 | Seminar-3 | 0 | 0 | 2 | 0 | 1 | | M.Sc (Applied Mathematics) |
| 19 | 19AM2201 | Topology | 4 | 0 | 0 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 20 | 19AM2202 | Mathematical Programming | 4 | 0 | 0 | 0 | 4 | | M.Sc (Applied Mathematics) |
| **TERM PAPER & PROJECT** | | | | | | | | | |
| 1 | 19AM2203 | Dissertation with Research Publication | 0 | 0 | 0 | 0 | 12 | | M.Sc (Applied Mathematics) |
| **PROFESSIONAL ELECTIVES** | | | | | | | | | |
| 1 | 19AM2107 | Statistics with R programming | 4 | 0 | 0 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 2 | 19AM2206 | Big data Analytics | 4 | 0 | 0 | 0 | 4 | | M.Sc (Applied Mathematics) |
| 3 | 19AM2207 | Cloud Computing | 4 | 0 | 0 | 0 | 4 | | M.Sc (Applied Mathematics) |

| **M.Sc Physics** | | | | | | | | | |
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| **SNO** | **COURSE CODE** | **COURSE NAME** | **L** | **T** | **P** | **S** | **Cr** | **Pre requisites** | **OFFERED TO** |
| **BASIC SCIENCES** | | | | | | | | | |
| 1 | 19PH5101 | Mathematical Physics | 4 | 0 | 0 | 0 | 4 | | M.Sc Physics |
| 2 | 19PH5102 | Classical Mechanics | 4 | 0 | 0 | 0 | 4 | | M.Sc Physics |
| 3 | 19PH5103 | Electrodynamics | 4 | 0 | 0 | 0 | 4 | | M.Sc Physics |

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|---|---|---|---|---|---|---|---|---|---|
| 4 | 19PH5104 | Analog Electronics | 4 | 0 | 0 | 0 | 4 | | M.Sc Physics |
| 5 | 19PH5105 | Computational Physics | 4 | 0 | 0 | 0 | 4 | | M.Sc Physics |
| 6 | 19PH5106 | Analog Electronics Lab | 0 | 0 | 6 | 0 | 3 | | M.Sc Physics |
| 7 | 19PH5107 | Computational Physics Lab | 0 | 0 | 4 | 0 | 2 | | M.Sc Physics |
| 8 | 19PH5108 | Seminar-1 | 0 | 0 | 2 | 0 | 1 | | M.Sc Physics |
| 9 | 19PH5201 | Statistical Mechanics | 4 | 0 | 0 | 0 | 4 | | M.Sc Physics |
| 10 | 19PH5202 | Quantum Mechanics - 1 | 4 | 0 | 0 | 0 | 4 | | M.Sc Physics |
| 11 | 19PH5203 | Fiber Optics and Non-linear optics | 4 | 0 | 0 | 0 | 4 | | M.Sc Physics |
| 12 | 19PH5204 | Solid State Physics-1 | 4 | 0 | 0 | 0 | 4 | | M.Sc Physics |
| 13 | 19PH5205 | Digital Electronics | 4 | 0 | 0 | 0 | 4 | | M.Sc Physics |
| 14 | 19PH5206 | Solid State Physics-1 Lab | 0 | 0 | 6 | 0 | 3 | | M.Sc Physics |
| 15 | 19PH5207 | Digital Electronics Lab | 0 | 0 | 4 | 0 | 2 | | M.Sc Physics |
| 16 | 19PH5208 | Seminar-2 | 0 | 0 | 2 | 0 | 1 | | M.Sc Physics |
| 17 | 19PH5301 | Quantum Mechanics-2 | 4 | 0 | 0 | 0 | 4 | Quantum Mechanics - 1 | M.Sc Physics |
| 18 | 19PH5302 | Atomic and Molecular Spectroscopy | 4 | 0 | 0 | 0 | 4 | | M.Sc Physics |
| 19 | 19PH5303 | Nuclear Physics | 2 | 0 | 0 | 0 | 2 | | M.Sc Physics |
| 20 | 19PH5304 | Particle Physics | 2 | 0 | 0 | 0 | 2 | | M.Sc Physics |
| 21 | 19PH5305 | Solid State Physics -2 | 4 | 0 | 0 | 0 | 4 | | M.Sc Physics |
| 22 | 19PH5306 | Lasers and Photonics | 4 | 0 | 0 | 0 | 4 | | M.Sc Physics |
| 23 | 19PH5307 | Term paper | 0 | 0 | 4 | 0 | 2 | | M.Sc Physics |
| 24 | 19PH5308 | Solid State Physics-2 Lab | 0 | 0 | 6 | 0 | 3 | | M.Sc Physics |
| **SCIENCE ELECTIVE - 1** | | | | | | | | | |
| 1 | 19PH54E1 | Experimental Techniques | 3 | 0 | 0 | 0 | 3 | | M.Sc Physics |
| 2 | 19PH54E2 | Basic Communication Theory | 3 | 0 | 0 | 0 | 3 | | M.Sc Physics |
| **SCIENCE ELECTIVE - 2** | | | | | | | | | |
| | 19PH54E3 | Physics of Nanomaterials | 3 | 0 | 0 | 0 | 3 | | M.Sc Physics |
| | 19PH54E4 | Radar Systems and Satellite communication | 3 | 0 | 0 | 0 | 3 | | M.Sc Physics |
| **SCIENCE ELECTIVE - 3** | | | | | | | | | |
| 1 | 19PH54E5 | Thin-film Technology | 3 | 0 | 0 | 0 | 3 | | M.Sc Physics |
| 2 | 19PH54E6 | Antenna theory and Radio wave Propagation | 3 | 0 | 0 | 0 | 3 | | M.Sc Physics |
| 53 | 19ME2109 | KINEMATICS AND DYNAMICS OF MACHINES | 3 | 0 | 2 | 0 | 4 | 19PH1010 | ME |
| 54 | 19ME2211 | MANUFACTURING TECHNIQUES | 3 | 0 | 2 | 0 | 4 | 19ME1201 | ME |
| | | | | | | | | | |
| **ENGLISH** | | | | | | | | | |
| **SNO** | **COURSE CODE** | **COURSE NAME** | **L** | **T** | **P** | **S** | **Cr** | **Pre requisites** | **OFFERED TO** |
| **PROFESSIONAL CORE COURSES** | | | | | | | | | |
| 1 | **18ENG101** | Poetry-1 | 5 | 0 | 0 | 0 | 5 | NIL | English |
| 2 | **18ENG102** | Drama-1 | 5 | 0 | 0 | 0 | 5 | NIL | English |

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|---|---|---|---|---|---|---|---|---|---|
| 3 | **18ENG103** | Prose-1 | 5 | 0 | 0 | 0 | 5 | NIL | English |
| 4 | **18ENG104** | Fiction-1 | 5 | 0 | 0 | 0 | 5 | NIL | English |
| 5 | **18ENG105** | Seminar | 0 | 0 | 2 | 2 | 1 | NIL | English |
| 6 | **18ENG201** | Poetry-II | 5 | 0 | 0 | 0 | 5 | NIL | English |
| 7 | **18ENG202** | Drama-II | 5 | 0 | 0 | 0 | 5 | NIL | English |
| 8 | **18ENG203** | Prose-II | 5 | 0 | 0 | 0 | 5 | NIL | English |
| 9 | **18ENG204** | Teaching of English Language& | 5 | 0 | 0 | 0 | 5 | NIL | English |
| 10 | **18ENG205** | Fiction-II | 5 | 0 | 0 | 0 | 5 | NIL | English |
| 11 | **18ENG301** | Literary Criticism and New Literature | 5 | 0 | 0 | 0 | 5 | NIL | English |
| 12 | **18ENG302** | American Literature & Indian writing in English-I | 5 | 0 | 0 | 0 | 5 | NIL | English |
| 13 | **18ENG303** | English Language Teaching Practice | 5 | 0 | 0 | 0 | 5 | NIL | English |
| 14 | **18ENG304** | European Classics | 5 | 0 | 0 | 0 | 5 | NIL | English |
| 15 | **18ENG307** | Term Paper | 0 | 0 | 4 | 0 | 2 | NIL | English |
| 16 | **18ENG401** | American Literature & Indian Writing in English-II | 5 | 0 | 0 | 0 | 5 | NIL | English |
| 17 | **18ENG402** | Literature and Media Studies | 5 | 0 | 0 | 0 | 5 | NIL | English |
| 18 | **18ENG403** | Research Methodology | 5 | 0 | 0 | 0 | 5 | NIL | English |
| 19 | **18ENG405** | Dissertation | 0 | 0 | 24 | 0 | 12 | NIL | English |
| | | | | | | | | | |

**M. Sc. Geology**

| SNO | **COURSE CODE** | **COURSE NAME** | **L** | **T** | **P** | **S** | **CREDITS** | **Pre requisites** | **OFFERED TO** |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 19GE5101 | Crystallography | 3 | 0 | 2 | 0 | 4 | Nil | M.Sc Geology |
| 2 | 19GE5102 | Mineralogy | 3 | 0 | 2 | 0 | 4 | Nil | M.Sc Geology |
| 3 | 19GE5103 | Palaeontology | 2 | 0 | 2 | 0 | 3 | Nil | M.Sc Geology |
| 4 | 19GE5104 | Stratigraphy | 3 | 0 | 0 | 0 | 3 | Nil | M.Sc Geology |
| 5 | 19GE5105 | Structural Geology & Geo tectonics | 3 | 0 | 2 | 0 | 4 | Nil | M.Sc Geology |
| 6 | 19GE5106 | Geomorphology | 2 | 0 | 2 | 0 | 3 | Nil | M.Sc Geology |
| 7 | 19GE5107 | Surveying | 2 | 0 | 2 | 0 | 3 | Nil | M.Sc Geology |
| 8 | 19GE5108 | Seminar | 0 | 2 | 0 | 0 | 2 | Nil | M.Sc Geology |
| 9 | 19GE5109 | Geological Field Survey * | 0 | 0 | 0 | 4 | 1 | Nil | M.Sc Geology |
| 10 | 19GE5201 | Igneous Petrology | 3 | 0 | 2 | 0 | 4 | Nil | M.Sc Geology |
| 11 | 19GE5202 | Metamorphic Petrology & Processes | 3 | 0 | 2 | 0 | 4 | Nil | M.Sc Geology |
| 12 | 19GE5203 | Sedimentology & Petroleum Geology | 3 | 0 | 4 | 0 | 5 | Nil | M.Sc Geology |
| 13 | 19GE5204 | Ore Genesis | 2 | 0 | 2 | 0 | 3 | Nil | M.Sc Geology |
| 14 | 19GE5205 | Indian Mineral Deposits | 2 | 0 | 2 | 0 | 3 | Nil | M.Sc Geology |
| 15 | 19GE5206 | Engineering Geology | 2 | 0 | 2 | 0 | 3 | Nil | M.Sc Geology |
| 16 | 19GE6101 | Mineral Exploration | 3 | 0 | 2 | 0 | 4 | Nil | M.Sc Geology |
| 17 | 19GE6102 | Hydrogeology | 3 | 0 | 2 | 0 | 4 | Nil | M.Sc Geology |
| 18 | 19UC2204 | Aptitude Builder –I | 0 | 0 | 4 | 0 | 2 | Nil | M.Sc Geology |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 19 | 19GE6103 | Geochemistry & Isotopic Geology | 3 | 0 | 2 | 0 | 4 | Nil | M.Sc Geology |
| **Electives – I** | | | | | | | | | |
| 1 | 19GE61E1 | Mineral Economics & Fuel Geology | 3 | 0 | 0 | 0 | 3 | Nil | M.Sc Geology |
| 2 | 19GE61E2 | Climate Change & Variability | 3 | 0 | 0 | 0 | 3 | Nil | M.Sc Geology |
| **Elective – II** | | | | | | | | | |
| 1 | 19GE6104 | Mining Geology | 3 | 0 | 0 | 0 | 3 | Nil | M.Sc Geology |
| 2 | 19GE61E3 | Essentials of Geology | 3 | 0 | 0 | 0 | 3 | Nil | M.Sc Geology |
| 3 | 19GE6105 | Internship | 0 | 0 | 0 | 4 | 0 | Nil | M.Sc Geology |
| | | | | | | | | | |
| | | | | | | | | | |

**M. Sc. (F&C)**

| SNO | **COURSE CODE** | **COURSE NAME** | **L** | **T** | **P** | **S** | **CREDITS** | **Pre requisites** | **OFFERED TO** |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 19MF1101 | Accounting for Managers | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 2 | 19MF1102 | Managerial Economics | 3 | 0 | 0 | 0 | 3 | | M.Sc (F & C) |
| 3 | 19UC1151 | Management soft skills | 1 | 0 | 4 | 0 | 3 | | M.Sc (F & C) |
| 4 | 19MF1103 | Cost and Management Accounting | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 5 | 19MF1104 | Financial Management | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 6 | 19MF1105 | Financial Institutions and Markets | 3 | 0 | 0 | 0 | 3 | | M.Sc (F & C) |
| 7 | 19GN1101 | Counseling – 1 | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 8 | 19MF1208 | Corporate Finance & Business Valuation | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 9 | 19MF1209 | Empirical methods in finance | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 10 | 19MF1210 | Financial reporting | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 11 | 19TS 1251 | Information System & Computer applications in finance | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 12 | 19MF1211 | Financial statement analysis & Cost Management | 4 | 0 | 0 | 0 | 4 | | M.Sc (F & C) |
| 13 | 19MF1212 | Legal environment of business | 4 | 0 | 0 | 0 | 4 | | M.Sc (F & C) |
| 14 | 19GN1202 | Counseling – 2 | 0 | 0 | 8 | 8 | 6 | | M.Sc (F & C) |
| 15 | 19 PT 1201 | Practice School / SIP (end of 1st Year) | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 16 | 19MF2113 | Financial Analysis and control | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 17 | 19MF2114 | Financial Strategy of Business | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 18 | 19MF2115 | Investment analysis and Portfolio Management | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 19 | 19MF2116 | Forensic Accounting | 3 | 0 | 0 | 0 | 3 | | M.Sc (F & C) |
| 20 | 19 MF21xx | Specialization - I | | | | | | | |
| 21 | 19MF2130 | Corporate Re-structuring | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 22 | 19MF2131 | Personal Investment | 3 | 0 | 0 | 0 | 3 | | M.Sc (F & C) |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | planning and control | | | | | | | |
| 23 | 19MF2132 | Quantitative finance | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 24 | **19MF2133** | **Indian Public Finance** | 3 | 0 | 0 | 0 | 3 | | M.Sc (F & C) |
| 25 | 19 MF21xx | Specialization - II | | | | | | | |
| 26 | 19MF2130 | International Tax Regulations | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 27 | 19MF2131 | Strategic Cost Management | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 28 | 19MF2132 | Legal and regulatory aspects of banking | 3 | 0 | 0 | 0 | 3 | | M.Sc (F & C) |
| 29 | **19MF2133** | **Risk and Insurance Management** | 3 | 0 | 0 | 0 | 3 | | M.Sc (F & C) |
| 30 | 20UC1102 | Design thinking and Innovation - I | 1 | 0 | 0 | 4 | 2 | | M.Sc (F & C) |
| 31 | 19MF2218 | Entrepreneurship Development | 3 | 0 | 0 | 0 | 3 | | M.Sc (F & C) |
| 32 | 19MF2219 | Corporate Taxation | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 33 | 19 MF2220 | Financial Engineering and Derivatives | 3 | 0 | 0 | 0 | 3 | | M.Sc (F & C) |
| 34 | 19 MF2221 | Finance Research project | 0 | 0 | 12 | 0 | 6 | | M.Sc (F & C) |
| 35 | 19 MF22xx | Specialization – III | | | | | | | |
| 36 | 19MF2230 | Business policy and strategic Management | 3 | 0 | 0 | 0 | 3 | | M.Sc (F & C) |
| 37 | 19MF2231 | International Business | 3 | 0 | 0 | 0 | 3 | | M.Sc (F & C) |
| 38 | **19MF2232** | **Human Resource Accounting** | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 39 | 19MF2233 | Business Ethics and corporate Governance | 3 | 0 | 0 | 0 | 3 | | M.Sc (F & C) |
| 40 | 19 MF22xx | Specialization – IV | | | | | 3 | | |
| 41 | 19MF2234 | Project Planning and Management | 3 | 0 | 0 | 0 | 3 | | M.Sc (F & C) |
| 42 | 19MF2235 | International Banking | 3 | 0 | 0 | 0 | 3 | | M.Sc (F & C) |
| 43 | 19MF2236 | International Economics | 3 | 0 | 0 | 0 | 3 | | M.Sc (F & C) |
| 44 | **19MF2237** | **International Financial management** | 3 | 2 | 0 | 0 | 5 | | M.Sc (F & C) |
| 45 | 20UC1203 | Design thinking and Innovation - II | 1 | 0 | 0 | 4 | 2 | | M.Sc (F & C) |

| M.TECH : BIO TECHNOLOGY | | | | | | |
|---|---|---|---|---|---|---|
| **First Year (First Semester):** | | | | | | |
| **S.No** | **Course Code** | **Course Title** | **L** | **T** | **P** | **C** |
| 1 | 18 BT 5101 | Mathematics and Biostatistics | 3 | 2 | 0 | 4 |
| 2 | 18 BT 5102 | Biochemical Engineering | 3 | 0 | 2 | 4 |
| 3 | 18 BT 5103 | Molecular Biology and r-DNA Technology | 3 | 0 | 2 | 4 |
| 4 | 18 BT 5104 | Applied Bioinformatics | 3 | 0 | 2 | 4 |
| 5 | | Elective- I | 3 | 0 | 0 | 3 |
| 6 | | Elective- II | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 BT 5205 | Plant and Animal Biotechnology | 3 | 0 | 2 | 4 |
| 2 | 18 BT 5206 | Immuno technology | 3 | 0 | 2 | 4 |
| 3 | 18 BT 5207 | Bioreactor modeling and Simulation | 3 | 2 | 0 | 4 |
| 4 | 18 BT 5208 | Downstream Processing | 3 | 0 | 2 | 4 |
| 5 | | Elective-III | 3 | 0 | 0 | 3 |
| 6 | | Elective-IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5250 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 84 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 BT 51A1 | Protein Engineering | 3 | 0 | 0 | 3 |
| 2 | 18 BT 51A2 | Enzyme Technology | 3 | 0 | 0 | 3 |
| 3 | 18 BT 51A3 | Medical Biotechnology | 3 | 0 | 0 | 3 |
| 4 | 18 BT 51A4 | Stem cell technology | 3 | 0 | 0 | 3 |
| 5 | 18 BT 51A5 | Molecular Modeling and Drug Design | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 6 | 18 BT 51B1 | Food Technology | 3 | 0 | 0 | 3 |
| 7 | 18 BT 51B2 | Transport phenomenon in bioprocess | 3 | 0 | 0 | 3 |
| 8 | 18 BT 51B3 | Bio mining | 3 | 0 | 0 | 3 |
| 9 | 18 BT 51B4 | Bioprocess validation and cGMP | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 10 | 18 BT 52C1 | Perl programming and Bioperl | 3 | 0 | 0 | 3 |
| 11 | 18 BT 52C2 | Bioprocess Technology | 3 | 0 | 0 | 3 |
| 12 | 18 BT 52C3 | Environmental Biotechnology | 3 | 0 | 0 | 3 |
| 13 | 18 BT 52C4 | Nano Technology | 3 | 0 | 0 | 3 |
| 14 | 18 BT 52C5 | IPR and Patent Laws | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 15 | 18 BT 52D1 | Regulatory affairs & Clinical trials | 3 | 0 | 0 | 3 |
| 16 | 18 BT 52D2 | Bioprocess economics and plant design | 3 | 0 | 0 | 3 |
| 17 | 18 BT 52D3 | Genomics and Proteomics | 3 | 0 | 0 | 3 |
| 18 | 18 BT 52D4 | Bio catalysis and enzyme | 3 | 0 | 0 | 3 |

HOD

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Dean Academics

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DEAN - ACADEMICS

| M.TECH - STRUCTURAL ENGINEERING | | | | | | |
|---|---|---|---|---|---|---|
| **First Year (First Semester):** | | | | | | |
| **S.No** | **Course Code** | **Course Title** | **L** | **T** | **P** | **C** |
| 1 | 18 CE 5101 | Applied Mathematics | 3 | 2 | 0 | 4 |
| 2 | 18 CE 5102 | Theory of Elasticity | 3 | 2 | 0 | 4 |
| 3 | 18 CE 5103 | Structural Dynamics | 3 | 0 | 2 | 4 |
| 4 | 18 CE 5104 | Advanced Prestressed Concrete | 3 | 0 | 2 | 4 |
| 5 | | Elective – I | 3 | 0 | 0 | 3 |
| 6 | | Elective – II | 3 | 0 | 0 | 3 |
| 7 | 18 CE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 CE 5205 | Finite Element Analysis | 3 | 0 | 2 | 4 |
| 2 | 18 CE 5206 | Bridge Engineering | 3 | 2 | 0 | 4 |
| 3 | 18 CE 5207 | Earthquake Resistant Design of Structures | 3 | 0 | 2 | 4 |
| 4 | 18 CE 5208 | Theory of Plates and Shells | 3 | 2 | 0 | 4 |
| 5 | | Elective – III | 3 | 0 | 0 | 3 |
| 6 | | Elective – IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5250 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 84 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 CE 51A1 | Repair and Rehabilitation of structures | 3 | 0 | 0 | 3 |
| 2 | 18 CE 51A2 | Design of Offshore structures | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 3 | 18 CE 51B1 | Geotechnical Earthquake Engineering | 3 | 0 | 0 | 3 |
| 4 | 18 CE 51B2 | Stability of Structures | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 5 | 18 CE 52C1 | Industrial Structures | 3 | 0 | 0 | 3 |
| 6 | 18 CE 52C2 | Design of Tall Structures | 3 | 0 | 0 | 3 |
| 7 | 18 CE 52C3 | Optimization of Structures | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 8 | 18 CE 52D1 | Advanced Design of structures | 3 | 0 | 0 | 3 |
| 9 | 18 CE 52D2 | Fracture Mechanics | 3 | 0 | 0 | 3 |
| 10 | 18 CE 52D3 | Green Buildings | 3 | 0 | 0 | 3 |

HOD

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Dean Academics

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DEAN - ACADEMICS

| M.TECH – GEO INFORMATICS | | | | | | |
|---|---|---|---|---|---|---|
| **First Year (First Semester):** | | | | | | |
| **S.No** | **Course Code** | **Course Title** | **L** | **T** | **P** | **C** |
| 1 | 18 CE 5109 | Fundamentals of Geospatial Technology | 3 | 0 | 2 | 4 |
| 2 | 18 CE 5110 | Geographical Information System | 3 | 0 | 2 | 4 |
| 3 | 18 CE 5111 | Advanced computer Programming and Statistics | 3 | 2 | 0 | 4 |
| 4 | 18 CE 5112 | Photogrammetry | 3 | 2 | 0 | 4 |
| 5 | | Elective-I | 3 | 0 | 0 | 3 |
| 6 | | Elective -II | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 CE 5213 | Digital Image Processing | 3 | 0 | 2 | 4 |
| 2 | 18 CE 5214 | GIS Data Analysis & Modelling | 3 | 0 | 2 | 4 |
| 3 | 18 CE 5215 | Geodesy and GPS | 3 | 2 | 0 | 4 |
| 4 | 18 CE 5216 | Geospatial Applications | 3 | 2 | 0 | 4 |
| 5 | | Elective- III | 3 | 0 | 0 | 3 |
| 6 | | Elective - IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5250 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 84 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 CE 51E1 | Principles of Earth & Environment Sciences | 3 | 0 | 0 | 3 |
| 2 | 18 CE 51E2 | Geoinformatics for Water Resource Management | 3 | 0 | 0 | 3 |
| 3 | 18 CE 51E3 | Data base Management system(DBMS) | 3 | 0 | 0 | 3 |
| 4 | 18 CE 51E4 | Topographical Surveying | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 5 | 18 CE 51F1 | Advanced Surveying and cartography | 3 | 0 | 0 | 3 |
| 6 | 18 CE 51F2 | Environmental Geoinformatics | 3 | 0 | 0 | 3 |
| 7 | 18 CE 51F3 | Structural Analysis using Geomatics | 3 | 0 | 0 | 3 |
| 8 | 18 CE 51F4 | Geospatial Technology for Transport Engineering | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 9 | 18 CE 52G1 | Statistics and Adjustment Computations | 3 | 0 | 0 | 3 |
| 10 | 18 CE 52G2 | Cadastral survey' and information system | 3 | 0 | 0 | 3 |
| 11 | 18 CE 52G3 | Engineering Survey Methodology and Instrumentation | 3 | 0 | 0 | 3 |
| 12 | 18 CE 52G4 | Geospatial Technology for Natural Resources &Disaster Management | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 13 | 18 CE 52H1 | Coordinate systems and Map Projections | 3 | 0 | 0 | 3 |
| 14 | 18 CE 52H2 | Principles of Geomatics | 3 | 0 | 0 | 3 |
| 15 | 18 CE 52H3 | Geospatial Technology for Rural Development | 3 | 0 | 0 | 3 |
| 16 | 18 CE 52H4 | Urban Water Management using Geomatics | 3 | 0 | 0 | 3 |

HOD

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Dean Academics

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DEAN - ACADEMICS

| M.TECH - CONSTRUCTION TECHNOLOGY AND MANAGEMENT | | | | | | |
|---|---|---|---|---|---|---|
| **First Year (First Semester):** | | | | | | |
| **S.No** | **Course Code** | **Course Title** | **L** | **T** | **P** | **C** |
| 1 | 18 CE 5117 | Green Buildings | 3 | 0 | 2 | 4 |
| 2 | 18 CE 5118 | Construction Materials & Concrete Technology | 3 | 2 | 0 | 4 |
| 3 | 18 CE 5119 | Construction Planning Scheduling and Control | 3 | 0 | 2 | 4 |
| 4 | 18 CE 5120 | Statistical Methods for Management | 3 | 2 | 0 | 4 |
| 5 | | Elective- I | 3 | 0 | 0 | 3 |
| 6 | | Elective -II | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 CE 5221 | Mechanized Construction and Machinery | 3 | 0 | 2 | 4 |
| 2 | 18 CE 5222 | Project Formulation Appraisal | 3 | 2 | 0 | 4 |
| 3 | 18 CE 5223 | Construction Laws and Regulations | 3 | 2 | 0 | 4 |
| 4 | 18 CE 5224 | Quality Management and Safety Management Systems in Construction | 3 | 0 | 2 | 4 |
| 5 | | Elective-III | 3 | 0 | 0 | 3 |
| 6 | | Elective-IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5250 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 84 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 CE 51I1 | High Performance Buildings | 3 | 0 | 0 | 3 |
| 2 | 18 CE 51I2 | Precast Concrete Structure | 3 | 0 | 0 | 3 |
| 3 | 18 CE 51I3 | Special Concrete | 3 | 0 | 0 | 3 |
| 4 | 18 CE 51I4 | Structural Health Monitoring | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 5 | 18 CE 51J1 | Construction Personnel Management | 3 | 0 | 0 | 3 |
| 6 | 18 CE 51J2 | Building Services, Maintenance Management | 3 | 0 | 0 | 3 |
| 7 | 18 CE 51J3 | Infrastructure Valuation | 3 | 0 | 0 | 3 |
| 8 | 18 CE 51J4 | Construction Economics & Finance | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 9 | 18 CE 52K1 | Environmental Impact Assessment on built Environment | 3 | 0 | 0 | 3 |
| 10 | 18 CE 52K2 | Deep Excavations and ground water control methods | 3 | 0 | 0 | 3 |
| 11 | 18 CE 52K3 | Mass Transport Systems | 3 | 0 | 0 | 3 |
| 12 | 18 CE 52K4 | Form Work for Construction Structures | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 13 | 18 CE 52L1 | Emerging construction Technologies | 3 | 0 | 0 | 3 |
| 14 | 18 CE 52L2 | Building Envelopes | 3 | 0 | 0 | 3 |
| 15 | 18 CE 52L3 | Construction and fire safety | 3 | 0 | 0 | 3 |
| 16 | 18 CE 52L4 | Resource Management and Control in Construction | 3 | 0 | 0 | 3 |

HOD 3/8/18

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Dean Academics

Dr. Pranvir S Satvat
DEAN - ACADEMICS

| M.TECH - COMPUTER SCIENCE & ENGINEERING | | | | | | |
|---|---|---|---|---|---|---|
| **First Year (First Semester):** | | | | | | |
| **S.No** | **Course Code** | **Course Title** | **L** | **T** | **P** | **C** |
| 1 | 18 CS 5101 | Mathematical Foundations of Computer Science | 3 | 2 | 0 | 4 |
| 2 | 18 CS 5102 | Computer Organization & Architecture | 3 | 2 | 0 | 4 |
| 3 | 18 CS 5103 | Data Structures & Algorithms | 3 | 0 | 2 | 4 |
| 4 | 18 CS 5104 | Distributed Database Management System | 3 | 0 | 2 | 4 |
| 5 | | Elective –I | 3 | 0 | 0 | 3 |
| 6 | | Elective -II | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 CS 5205 | Operating System Design | 3 | 2 | 0 | 4 |
| 2 | 18 CS 5206 | Computer Networks & Security | 3 | 2 | 0 | 4 |
| 3 | 18 CS 5207 | Object Oriented Analysis and Design | 3 | 0 | 2 | 4 |
| 4 | 18 CS 5208 | Enterprise Programming | 3 | 0 | 2 | 4 |
| 5 | | Elective – III | 3 | 0 | 0 | 3 |
| 6 | | Elective - IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5250 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 84 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 CS 51A1 | Soft Computing | 3 | 0 | 0 | 3 |
| 2 | 18 CS 51A2 | Machine Learning and pattern Classification | 3 | 0 | 0 | 3 |
| 3 | 18 CS 51A3 | Data Mining | 3 | 0 | 0 | 3 |
| 4 | 18 CS 51A4 | Natural Language Processing | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 5 | 18 CS 51B1 | Requirements Engineering | 3 | 0 | 0 | 3 |
| 6 | 18 CS 51B2 | Principles of Programming Languages | 3 | 0 | 0 | 3 |
| 7 | 18 CS 51B3 | Compiler Design | 3 | 0 | 0 | 3 |
| 8 | 18 CS 51B4 | Software Testing & Quality Assurance | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 9 | 18 CS 52C1 | Cryptography & Network Security | 3 | 0 | 0 | 3 |
| 10 | 18 CS 52C2 | Mobile computing | 3 | 0 | 0 | 3 |
| 11 | 18 CS 52C3 | High Performance Computing | 3 | 0 | 0 | 3 |
| 12 | 18 CS 52C4 | Network management Systems | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 13 | 18 CS 52D1 | Service Oriented Architecture | 3 | 0 | 0 | 3 |
| 14 | 18 CS 52D2 | Visual Programming | 3 | 0 | 0 | 3 |
| 15 | 18 CS 52D3 | Digital Image Processing | 3 | 0 | 0 | 3 |
| 16 | 18 CS 52D4 | Big Data Analytics | 3 | 0 | 0 | 3 |

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DEAN - ACADEMICS

| M.TECH -MACHINE LEARNING & COMPUTING | | | | | | |
|---|---|---|---|---|---|---|
| **First Year (First Semester):** | | | | | | |
| **S.No** | **Course Code** | **Course Title** | **L** | **T** | **P** | **C** |
| 1 | 18 CS 5109 | Optimization Techniques | 3 | 0 | 0 | 3 |
| 2 | 18 CS 5110 | Applied Statistics | 3 | 0 | 0 | 3 |
| 3 | 18 CS 5111 | Data Mining | 3 | 0 | 2 | 4 |
| 4 | 18 CS 5112 | Matrix Computation | 3 | 0 | 2 | 4 |
| 5 | | Elective – I | 3 | 0 | 0 | 3 |
| 6 | | Elective – II | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 22 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 CS 5113 | Evolutionary And Natural Computing | 3 | 0 | 2 | 4 |
| 2 | 18 CS 5114 | Discrete Mathematics | 3 | 0 | 0 | 3 |
| 3 | 18 CS 5115 | Pattern Recognition And Machine Learning | 3 | 0 | 2 | 4 |
| 4 | 18 CS 5116 | Computer Modeling & Simulation | 3 | 0 | 2 | 4 |
| 5 | | Elective –III | 3 | 0 | 0 | 3 |
| 6 | | Elective - IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5250 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 23 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 81 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 CS 51E1 | Computer Vision And Image Processing | 3 | 0 | 0 | 3 |
| 2 | 18 CS 51E2 | Service Oriented Architecture | 3 | 0 | 0 | 3 |
| 3 | 18 CS 51E3 | Data Analysis | 3 | 0 | 0 | 3 |
| 4 | 18 CS 51E4 | Cloud Computing | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 5 | 18 CS 51F1 | Artificial Neural Networks | 3 | 0 | 0 | 3 |
| 6 | 18 CS 51F2 | Application Development Frameworks | 3 | 0 | 0 | 3 |
| 7 | 18 CS 51F3 | Big Data Analytics | 3 | 0 | 0 | 3 |
| 8 | 18 CS 51F4 | Cloud Security | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 9 | 18 CS 52G1 | Control Theory | 3 | 0 | 0 | 3 |
| 10 | 18 CS 52G2 | Web Semantics | 3 | 0 | 0 | 3 |
| 11 | 18 CS 52G3 | Map Reduce Design Patterns | 3 | 0 | 0 | 3 |
| 12 | 18 CS 52G4 | Data Centre Virtualization | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 13 | 18 CS 52H1 | Reinforcement Learning | 3 | 0 | 0 | 3 |
| 14 | 18 CS 52H2 | Multi Agent Systems | 3 | 0 | 0 | 3 |
| 15 | 18 CS 52H3 | Network Security | 3 | 0 | 0 | 3 |
| 16 | 18 CS 52H4 | Cloud Application Architectures | 3 | 0 | 0 | 3 |

HOD

Alternate HOD
30/8/18
Computer Science Engineering
Koneru Lakshmaiah Education Foundation
(Deemed to be University)
Green Fields, VADDESWARAM - 522 502

Dean Academics

Dr. Pranvir S Satvat
DEAN - ACADEMICS

| M.TECH -DIGITAL FORENSICS &CYBER SECURITY | | | | | | |
|---|---|---|---|---|---|---|
| **First Year (First Semester):** | | | | | | |
| **S.No** | **Course Code** | **Course Title** | **L** | **T** | **P** | **C** |
| 1 | 18 CS 5117 | Introduction to Cyber Security & ICS | 3 | 0 | 2 | 4 |
| 2 | 18 CS 5118 | Digital Forensics | 3 | 0 | 2 | 4 |
| 3 | 18 CS 5119 | Advance Network Security & Investigations | 3 | 0 | 2 | 4 |
| 4 | 18 CS 5120 | Software Security | 3 | 0 | 2 | 4 |
| 5 | | Elective – I | 3 | 0 | 0 | 3 |
| 6 | | Elective – II | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 CS 5221 | Cryptography for Cyber Defense | 3 | 0 | 2 | 4 |
| 2 | 18 CS 5222 | Malware Analysis & Reverse Engineering | 3 | 0 | 2 | 4 |
| 3 | 18 CS 5223 | Cyber Incident Response & Resilience | 3 | 0 | 2 | 4 |
| 4 | 18 CS 5224 | Cyber Law, Governance & Compliance | 3 | 0 | 2 | 4 |
| 5 | | Elective –III | 3 | 0 | 0 | 3 |
| 6 | | Elective – IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5250 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 84 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 CS 51I1 | Mobile Device Threats & Investigation | 3 | 0 | 0 | 3 |
| 2 | 18 CS 51I2 | Fundamentals of E-Discovery | 3 | 0 | 0 | 3 |
| 3 | 18 CS 51I3 | Fuzzy sets and Fuzzy Logic | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 4 | 18 CS 51J1 | Introduction to Big Data Analytics | 3 | 0 | 0 | 3 |
| 5 | 18 CS 51J2 | Social Media Forensics | 3 | 0 | 0 | 3 |
| 6 | 18 CS 51J3 | Critical Information Infrastructure Security | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 7 | 18 CS 52K1 | Infrastructure Attacks and Defense | 3 | 0 | 0 | 3 |
| 8 | 18 CS 52K2 | Software Vulnerability Analysis and Resilience | 3 | 0 | 0 | 3 |
| 9 | 18 CS 52K3 | Parallel & Cloud Computing | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 10 | 18 CS 52L1 | Applied Cryptography and Steganography | 3 | 0 | 0 | 3 |
| 11 | 18 CS 52L2 | Software Modeling | 3 | 0 | 0 | 3 |
| 12 | 18 CS 52L3 | Digital Image Processing | 3 | 0 | 0 | 3 |

HOD

Dr. G. Krishna Mohan
Alternate HOD
Computer Science & Engineering
Koneru Lakshmaiah Education Foundation
(Deemed to be University)
Green Fields, VADDESWARAM-522 502
Guntur District, Andhra Pradesh.

Dean Academics

Dr. Pranvir S Satvat
DEAN - ACADEMICS

| M.TECH - RADAR & COMMUNICATION | | | | | | |
|---|---|---|---|---|---|---|
| **First Year (First Semester):** | | | | | | |
| **S.No** | **Course Code** | **Course Title** | **L** | **T** | **P** | **C** |
| 1 | 18 EC 5101 | Modern Digital communication | 3 | 1 | 2 | 5 |
| 2 | 18 EC 5102 | Microwave Antennas | 3 | 1 | 2 | 5 |
| 3 | 18 EC 5103 | EMI / EMC Techniques | 3 | 1 | 0 | 4 |
| 4 | 18 EC 5104 | Radar Engineering | 3 | 1 | 0 | 4 |
| 5 | | Elective –I | 3 | 0 | 0 | 3 |
| 6 | | Elective –II | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 26 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 EC 5205 | Microwave and Millimetric wave Circuits | 3 | 1 | 2 | 5 |
| 2 | 18 EC 5206 | Antenna Measurements | 3 | 1 | 2 | 5 |
| 3 | 18 EC 5207 | Wireless Cellular Communication | 3 | 1 | 0 | 4 |
| 4 | 18 EC 5208 | Modern Radar Systems | 3 | 1 | 0 | 4 |
| 5 | | Elective –III | 3 | 0 | 0 | 3 |
| 6 | | Elective - IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5250 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 26 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 88 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 EC 51A1 | Fundamentals of Electronic Warfare | 3 | 0 | 0 | 3 |
| 2 | 18 EC 51A2 | Microwave Semi Conductor Devices | 3 | 0 | 0 | 3 |
| 3 | 18 EC 51A3 | Smart Antennas | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 4 | 18 EC 51B1 | Phased Array Systems | 3 | 0 | 0 | 3 |
| 5 | 18 EC 51B2 | GPS & Global Navigation Satellite System | 3 | 0 | 0 | 3 |
| 6 | 18 EC 51B3 | Optical Communications | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 7 | 18 EC 52C1 | Estimation & Detection Theory | 3 | 0 | 0 | 3 |
| 8 | 18 EC 52C2 | Radar Signal Processing | 3 | 0 | 0 | 3 |
| 9 | 18 EC 52C3 | High Performance Communication Networking | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 10 | 18 EC 52D1 | RF & Microwave System Design | 3 | 0 | 0 | 3 |
| 11 | 18 EC 52D2 | VLSI Design | 3 | 0 | 0 | 3 |
| 12 | 18 EC 52D3 | Remote Sensing & Sensors | 3 | 0 | 0 | 3 |

**HOD**

Dr. V.S.V. PRABHAKAR
Professor & Head
Department of ECE
K L University
Green Fields, Vaddeswaram,
Guntur Dist.A.P. PIN-522 502

**Dean Academics**

**Dr. Pranvir S Satvat**
**DEAN - ACADEMICS**

| M.TECH - ATMOSPHERIC SCIENCE | | | | | | |
|---|---|---|---|---|---|---|
| **First Year (First Semester):** | | | | | | |
| **S.No** | **Course Code** | **Course Title** | **L** | **T** | **P** | **C** |
| 1 | 18 EC 5117 | Microwave and Satellite Communications | 3 | 1 | 0 | 4 |
| 2 | 18 EC 5118 | Foundations of Atmospheric Science & Space Technology | 3 | 1 | 0 | 4 |
| 3 | 18 EC 5119 | Global Navigation Satellite System | 3 | 1 | 2 | 5 |
| 4 | 18 EC 5120 | Physics and Dynamics of Lower Atmosphere | 3 | 1 | 2 | 5 |
| 5 | | Elective –I | 3 | 0 | 0 | 3 |
| 6 | | Elective -II | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 26 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 EC 5221 | Satellite Meteorology | 3 | 1 | 2 | 5 |
| 2 | 18 EC 5222 | Atmospheric & Space Instrumentation | 3 | 1 | 0 | 4 |
| 3 | 18 EC 5223 | Advanced Satellite Navigation Systems | 3 | 1 | 0 | 4 |
| 4 | 18 EC 5224 | Weather and Climate Applications | 3 | 1 | 0 | 4 |
| 5 | | Elective –III | 3 | 0 | 0 | 3 |
| 6 | | Elective - IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5250 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 25 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 87 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 EC 51I1 | Atmospheric and Weather Radars | 3 | 0 | 0 | 3 |
| 2 | 18 EC 51I2 | Modern Digital Communications | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 3 | 18 EC 51J1 | GIS Analysis & Modeling | 3 | 0 | 0 | 3 |
| 4 | 18 EC 51J2 | Global Weather and Climate | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 5 | 18 EC 52K1 | Aeronomy | 3 | 0 | 0 | 3 |
| 6 | 18 EC 52K2 | Detection and Estimation Theory | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 7 | 18 EC 52L1 | Weather Hazards & Risk Assessment | 3 | 0 | 0 | 3 |
| 8 | 18 EC 52L2 | Climate Change | 3 | 0 | 0 | 3 |

**HOD**

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**Dean Academics**

Dr. Pranvir S Satvat
DEAN - ACADEMICS

## M.TECH – VLSI

**First Year (First Semester):**

| S.No | Course Code | Course Title | L | T | P | C |
|---|---|---|---|---|---|---|
| 1 | 18 EC 5128 | MOS Circuit Design | 3 | 1 | 2 | 5 |
| 2 | 18 EC 5129 | Algorithm for VLSI Design Automation | 3 | 1 | 0 | 4 |
| 3 | 18 EC 5130 | HDL & PLD Architectures | 3 | 1 | 2 | 5 |
| 4 | 18 EC 5131 | IC Fabrication Technology | 3 | 1 | 0 | 4 |
| 5 | | Elective –I | 3 | 0 | 0 | 3 |
| 6 | | Elective –II | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 26 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 EC 5232 | Advanced Analog IC Design | 3 | 1 | 2 | 5 |
| 2 | 18 EC 5233 | Low Power VLSI Circuits | 3 | 0 | 2 | 4 |
| 3 | 18 EC 5234 | VLSI System Design | 3 | 1 | 0 | 4 |
| 4 | 18 EC 5235 | Testing of VLSI Circuits | 3 | 1 | 0 | 4 |
| 5 | | Elective –III | 3 | 0 | 0 | 3 |
| 6 | | Elective - IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5250 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 25 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 87 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 EC 51Q1 | Embedded System Design | 3 | 0 | 0 | 3 |
| 2 | 18 EC 51Q2 | VLSI Signal Processing | 3 | 0 | 0 | 3 |
| 3 | 18 EC 51Q3 | CMOS Mixed Signal Circuits | 3 | 0 | 0 | 3 |
| 4 | 18 EC 51Q4 | Nano Electronics | 3 | 0 | 0 | 3 |
| 5 | 18 EC 51Q5 | CAD Tools for VLSI | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 6 | 18 EC 51R1 | Image and Video Processing | 3 | 0 | 0 | 3 |
| 7 | 18 EC 51R2 | Bi-CMOS Technology & Applications | 3 | 0 | 0 | 3 |
| 8 | 18 EC 51R3 | Semiconductor Device Modeling | 3 | 0 | 0 | 3 |
| 9 | 18 EC 51R4 | Memory Design and Testing | 3 | 0 | 0 | 3 |
| 10 | 18 EC 51R5 | Reconfigurable Computing | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 11 | 18 EC 52S1 | System on Chip Design | 3 | 0 | 0 | 3 |
| 12 | 18 EC 52S2 | Process and Device Characterization Measurements | 3 | 0 | 0 | 3 |
| 13 | 18 EC 52S3 | Advanced VLSI Design | 3 | 0 | 0 | 3 |
| 14 | 18 EC 52S4 | MEMS System Design | 3 | 0 | 0 | 3 |
| 15 | 18 EC 52S5 | VLSI for Wireless Communication | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 16 | 18 EC 52T1 | Optimization Techniques and Applications in VLSI Design | 3 | 0 | 0 | 3 |
| 17 | 18 EC 52O1 | CMOS RF Circuit Design | 3 | 0 | 0 | 3 |
| 18 | 18 EC 52T2 | Advanced Digital IC Design | 3 | 0 | 0 | 3 |
| 19 | 18 EC 52T3 | Nano Sensors and its applications | 3 | 0 | 0 | 3 |
| 20 | 18 EC 52T4 | ASIC Design Flow | 3 | 0 | 0 | 3 |

HOD

Dean Academics

Dr. Pranvir S Satvat
DEAN - ACADEMICS

## M. TECH - EMBEDDED SYSTEMS

**First Year (First Semester):**

| S.No | Course Code | Course Title | L | T | P | C |
|---|---|---|---|---|---|---|
| 1 | 18 EM 5101 | Advanced Micro Processors Microcontrollers | 3 | 0 | 2 | 4 |
| 2 | 18 EM 5102 | Embedded Linux | 3 | 2 | 0 | 4 |
| 3 | 18 EM 5103 | Networking Embedded Systems | 3 | 0 | 2 | 4 |
| 4 | 18 EM 5104 | Artificial Intelligence | 3 | 2 | 0 | 4 |
| 5 | | Elective – I | 3 | 0 | 0 | 3 |
| 6 | | Elective – II | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 EM 5205 | Digital Signal Processing | 3 | 0 | 2 | 4 |
| 2 | 18 EM 5206 | Embedded Linux Drivers | 3 | 2 | 0 | 4 |
| 3 | 18 EM 5207 | Wireless Networks | 3 | 2 | 0 | 4 |
| 4 | 18 EM 5208 | Securing Embedded Systems | 3 | 0 | 2 | 4 |
| 5 | | Elective –III | 3 | 0 | 0 | 3 |
| 6 | | Elective -IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5250 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 84 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 EM 51A1 | Digital Image Processing | 3 | 0 | 0 | 3 |
| 2 | 18 EM 51A2 | Natural Language Processing | 3 | 0 | 0 | 3 |
| 3 | 18 EM 51A3 | Sensors and Actuators | 3 | 0 | 0 | 3 |
| 4 | 18 EM 51A4 | Sensing Principles | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 5 | 18 EM 51B1 | Digital Video Processing | 3 | 0 | 0 | 3 |
| 6 | 18 EM 51B2 | Machine Learning | 3 | 0 | 0 | 3 |
| 7 | 18 EM 51B3 | Fundamentals of IOT | 3 | 0 | 0 | 3 |
| 8 | 18 EM 51B4 | Digital Instrumentation | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 9 | 18 EM 52C1 | Digital Audio Processing | 3 | 0 | 0 | 3 |
| 10 | 18 EM 52C2 | Deep Learning | 3 | 0 | 0 | 3 |
| 11 | 18 EM 52C3 | Developing IOT Applications through Python | 3 | 0 | 0 | 3 |
| 12 | 18 EM 52C4 | Wireless Sensor Networks | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 13 | 18 EM 52D1 | Video and Audio Streaming | 3 | 0 | 0 | 3 |
| 14 | 18 EM 52D2 | Cloud Computing and Big Data Analytics | 3 | 0 | 0 | 3 |
| 15 | 18 EM 52D3 | Data Analytics for IOT | 3 | 0 | 0 | 3 |
| 16 | 18 EM 52D4 | Sensor Network Programming | 3 | 0 | 0 | 3 |

HOD
Head of the Department
Dept. of Electronics & Computer Science Engg.
Koneru Lakshmaiah Education Foundation
Vaddeswaram, Guntur Dist.

Dean Academics

Dr. Pranvir S Satvat
DEAN - ACADEMICS

| M.TECH - POWER SYSTEMS | | | | | | |
|---|---|---|---|---|---|---|
| **First Year (First Semester):** | | | | | | |
| **S.No** | **Course Code** | **Course Title** | **L** | **T** | **P** | **C** |
| 1 | 18 EE 5101 | Power System Dynamics & stability | 3 | 1 | 0 | 4 |
| 2 | 18 EE 5102 | Advanced Power System Analysis | 3 | 1 | 2 | 5 |
| 3 | 18 EE 5103 | Deregulated Operation of Power Systems | 3 | 1 | 0 | 4 |
| 4 | 18 EE 5104 | Modern Control Theory | 3 | 1 | 0 | 4 |
| 5 | | Elective I | 3 | 0 | 0 | 3 |
| 6 | | Elective – II | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 25 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 EE 5205 | Real Time Control of Power System | 3 | 1 | 2 | 5 |
| 2 | 18 EE 5206 | AI Techniques in Power Systems | 3 | 1 | 0 | 4 |
| 3 | 18 EE 5207 | Smart Grids Technologies | 3 | 1 | 0 | 4 |
| 4 | 18 EE 5208 | Digital Protection of Power Systems | 3 | 1 | 0 | 4 |
| 5 | | Elective – III | 3 | 0 | 0 | 3 |
| 6 | | Elective -- IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5250 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 25 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 86 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 EE 51A1 | Reactive Power Compensation & Management | 3 | 0 | 0 | 3 |
| 2 | 18 EE 51A2 | Distribution System Planning & Automation | 3 | 0 | 0 | 3 |
| 3 | 18 EE 51A3 | Power System Reliability | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 6 | 18 EE 51B1 | Alternate Sources of Electrical Energy | 3 | 0 | 0 | 3 |
| 7 | 18 EE 51B2 | Digital Signal Processors and Applications | 3 | 0 | 0 | 3 |
| 8 | 18 EE 51B3 | Optimization Techniques | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 10 | 18 EE 52C1 | FACTS | 3 | 0 | 0 | 3 |
| 11 | 18 EE 52C2 | Energy Conservation & Audit | 3 | 0 | 0 | 3 |
| 12 | 18 EE 52C3 | Adaptive Control Systems | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 15 | 18 EE 52D1 | EHVAC & HVDC Transmission | 3 | 0 | 0 | 3 |
| 16 | 18 EE 52D2 | Power Quality | 3 | 0 | 0 | 3 |
| 17 | 18 EE 52D3 | Integration of Energy Sources | 3 | 0 | 0 | 3 |

HOD

Dr O.Chandra Sekhar
Professor & Head
Dept of EEE
K L University
Green Fields, Vaddeswaram,
Guntur Dt.A.P.Pin : 522 502

Dean Academics

Dr. Pranvir S Satvat
DEAN - ACADEMICS

| M.TECH - POWER ELECTRONICS AND DRIVES | | | | | | |
|---|---|---|---|---|---|---|
| **First Year (First Semester):** | | | | | | |
| **S.No** | **Course Code** | **Course Title** | **L** | **T** | **P** | **C** |
| 1 | 18 EE 5109 | Modeling &Analysis of Electrical machines | 3 | 1 | 0 | 4 |
| 2 | 18 EE 5110 | Analysis of Power Converters | 3 | 1 | 2 | 5 |
| 3 | 18 EE 5111 | Electrical Drives | 3 | 1 | 0 | 4 |
| 4 | 18 EE 5112 | Modern Control Theory | 3 | 1 | 0 | 4 |
| 5 | | Elective –I | 3 | 0 | 0 | 3 |
| 6 | | Elective – II | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 25 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 EE 5113 | Advanced Power Converters | 3 | 1 | 2 | 5 |
| 2 | 18 EE 5114 | Advanced Electrical Drives | 3 | 1 | 0 | 4 |
| 3 | 18 EE 5115 | Smart Grid Technologies | 3 | 1 | 0 | 4 |
| 4 | 18 EE 5116 | FPGA controllers and Applications | 3 | 1 | 0 | 4 |
| 5 | | Elective – III | 3 | 0 | 0 | 3 |
| 6 | | Elective - IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5150 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 25 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 86 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 EE 51E1 | Microcontrollers and Applications | 3 | 0 | 0 | 3 |
| 2 | 18 EE 51E2 | Digital Simulation of Power Electronic Systems | 3 | 0 | 0 | 3 |
| 3 | 18 EE 51E3 | Industrial Control Electronics | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 4 | 18 EE 51F1 | Soft Computing Techniques | 3 | 0 | 0 | 3 |
| 5 | 18 EE 51F2 | Digital Signal Processor and Applications | 3 | 0 | 0 | 3 |
| 6 | 18 EE 51F3 | Optimization Techniques | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 7 | 18 EE 52G1 | FACTS Devices | 3 | 0 | 0 | 3 |
| 8 | 18 EE 52G2 | Electric and Hybrid Vehicles | 3 | 0 | 0 | 3 |
| 9 | 18 EE 52G3 | Adaptive Control Systems | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 10 | 18 EE 52H1 | EHVAC & HVDC Transmission | 3 | 0 | 0 | 3 |
| 11 | 18 EE 52H2 | Power Quality | 3 | 0 | 0 | 3 |
| 12 | 18 EE 52H3 | Power Electronics for Renewable Energy Systems | 3 | 0 | 0 | 3 |

HOD

Dr O.Chandra Sekhar
Professor & Head
Dept of EEE
K L University
Green Fields, Vaddeswaram,
Guntur Dt.A.P.Pin : 522 502

Dean Academics

Dr. Pranvir S Satvat
DEAN - ACADEMICS

| M.TECH – ROBOTICS & MECHATRONICS | | | | | | |
|---|---|---|---|---|---|---|
| **First Year (First Semester):** | | | | | | |
| **S.No** | **Course Code** | **Course Title** | **L** | **T** | **P** | **C** |
| 1 | 18 ME 5101 | Fundamentals of Mechatronics | 3 | 1 | 0 | 4 |
| 2 | 18 ME 5102 | Advanced Engineering Mathematics | 3 | 1 | 0 | 4 |
| 3 | 18 ME 5103 | Sensors and Actuators | 3 | 1 | 0 | 4 |
| 4 | 18 ME 5104 | Modeling and Simulation of Mechatronic Systems | 3 | 0 | 2 | 4 |
| 5 | | Elective – I | 3 | 0 | 0 | 3 |
| 6 | | Elective – II | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 ME 5205 | Robotics: Advanced Concepts and Analysis | 3 | 1 | 0 | 4 |
| 2 | 18 ME 5206 | Control of Mechatronic Systems | 3 | 1 | 0 | 4 |
| 3 | 18 ME 5207 | Mechatronics Product Design | 3 | 1 | 0 | 4 |
| 4 | 18 ME 5208 | Precision Engineering | 3 | 1 | 0 | 4 |
| 5 | | Elective – III | 3 | 0 | 0 | 3 |
| 6 | | Elective – IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5250 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 84 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 ME 51A1 | Signal Processing in Mechatronic Systems | 3 | 0 | 0 | 3 |
| 2 | 18 ME 51A2 | MEMS and NEMS | 3 | 0 | 0 | 3 |
| 3 | 18 ME 51A3 | Vehicle Dynamics and Multi-body Systems | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 4 | 18 ME 51B1 | Emerging Smart Materials for Mechatronics Applications | 3 | 0 | 0 | 3 |
| 5 | 18 ME 51B2 | Intelligent Visual Surveillance | 3 | 0 | 0 | 3 |
| 6 | 18 ME 51B3 | Microprocessors and Embedded Systems | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 7 | 18 ME 52C1 | Computational Fluid Dynamics | 3 | 0 | 0 | 3 |
| 8 | 18 ME 52C2 | Nonlinear Optimization | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 9 | 18 ME 52D1 | Industrial Automation | 3 | 0 | 0 | 3 |
| 10 | 18 ME 52D2 | Fuzzy Sets and Artificial Intelligence | 3 | 0 | 0 | 3 |

HOD

21-8-18

Dr. S.S. RAO
PROFESSOR & A - HEAD
Department of Mechanical Engineering
DST FIST SPONSORED DEPARTMENT
K.L.E.F., Deemed to be University
Vaddeswaram - 522 502.

Dean Academics

Dr. Pranvir S Satvat
DEAN - ACADEMICS

| M.TECH - THERMAL ENGINEERING | | | | | | |
|---|---|---|---|---|---|---|
| **First Year (First Semester):** | | | | | | |
| **S.No** | **Course Code** | **Course Title** | **L** | **T** | **P** | **C** |
| 1 | 18 ME 5109 | Numerical Methods in Thermal engineering | 3 | 1 | 0 | 4 |
| 2 | 18 ME 5110 | Advanced Thermodynamics | 3 | 1 | 0 | 4 |
| 3 | 18 ME 5111 | Design of Thermal Systems | 3 | 1 | 0 | 4 |
| 4 | 18 ME 5112 | Advanced Heat and Mass Transfer | 3 | 1 | 0 | 4 |
| 5 | | Elective –I | 3 | 0 | 0 | 3 |
| 6 | | Elective – II | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 ME 5213 | Incompressible and Compressible Flows | 3 | 1 | 0 | 4 |
| 2 | 18 ME 5214 | Computational Fluid Dynamics | 3 | 0 | 2 | 4 |
| 3 | 18 ME 5215 | Refrigeration and Cryogenics | 3 | 1 | 0 | 4 |
| 4 | 18 ME 5216 | Measurements in Thermal Engineering | 3 | 1 | 0 | 4 |
| 5 | | Elective –III | 3 | 0 | 0 | 3 |
| 6 | | Elective – IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5250 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 84 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 ME 51E1 | Heat Exchanger Design | 3 | 0 | 0 | 3 |
| 2 | 18 ME 51E2 | Convection and Two-Phase Flow | 3 | 0 | 0 | 3 |
| 3 | 18 ME 51E3 | Compact Heat Exchangers | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 4 | 18 ME 51F1 | Engine Systems and Performance | 3 | 0 | 0 | 3 |
| 5 | 18 ME 51F2 | IC Engine Combustion and Pollution | 3 | 0 | 0 | 3 |
| 6 | 18 ME 51F3 | Alternative Fuels | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 7 | 18 ME 52G1 | Principles of Turbo-machinery | 3 | 0 | 0 | 3 |
| 8 | 18 ME 52G2 | Gas Turbine Engineering | 3 | 0 | 0 | 3 |
| 9 | 18 ME 52G3 | Turbo-Compressors | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 10 | 18 ME 52H1 | Energy Conservation, Management & Audit | 3 | 0 | 0 | 3 |
| 11 | 18 ME 52H2 | Renewable Energy Technology | 3 | 0 | 0 | 3 |
| 12 | 18 ME 52H3 | Solar Energy and Wind Energy | 3 | 0 | 0 | 3 |

HOD 31.8.18

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Dean Academics

Dr. Pranvir S Satvat
DEAN - ACADEMICS

| M.TECH – MACHINE DESIGN | | | | | | |
|---|---|---|---|---|---|---|
| **First Year (First Semester):** | | | | | | |
| **S.No** | **Course Code** | **Course Title** | **L** | **T** | **P** | **C** |
| 1 | 18 ME 5117 | Design Methods | 4 | 0 | 0 | 4 |
| 2 | 18 ME 5118 | Design with Advanced materials | 3 | 0 | 0 | 3 |
| 3 | 18 ME 5119 | Theory of Elasticity and Plasticity | 3 | 1 | 0 | 4 |
| 4 | 18 ME 5120 | Modeling & Analysis-1 (CAD) | 4 | 0 | 2 | 5 |
| 5 | | Elective-I | 3 | 0 | 0 | 3 |
| 6 | | Elective-II | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5149 | Seminar | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **First Year (Second Semester) :** | | | | | | |
| 1 | 18 ME 5221 | Mechanical Vibrations | 3 | 0 | 0 | 3 |
| 2 | 18 ME 5222 | Design for Optimization | 3 | 1 | 0 | 4 |
| 3 | 18 ME 5223 | Advanced strength of materials | 3 | 1 | 0 | 4 |
| 4 | 18 ME 5224 | Modeling & Analysis-2 (FEM) | 4 | 0 | 2 | 5 |
| 5 | | Elective-III | 3 | 0 | 0 | 3 |
| 6 | | Elective-IV | 3 | 0 | 0 | 3 |
| 7 | 18 IE 5250 | Term Paper | 0 | 0 | 4 | 2 |
| Credits | | | 24 | | | |
| **Second Year (First & Second Semester) :** | | | | | | |
| 1 | 18 IE 6050 | Dissertation | 0 | 0 | 72 | 36 |
| Total Credits | | | 84 | | | |
| **Elective Courses** | | | | | | |
| **Elective-1** | | | | | | |
| 1 | 18 ME 51I1 | Precision and Quality Engineering | 3 | 0 | 0 | 3 |
| 2 | 18 ME 51I2 | Advanced Mechanisms | 3 | 0 | 0 | 3 |
| 3 | 18 ME 51I3 | Concurrent Engineering | 3 | 0 | 0 | 3 |
| **Elective-2** | | | | | | |
| 6 | 18 ME 51J1 | Design of Pressure Vessels and Plates | 3 | 0 | 0 | 3 |
| 7 | 18 ME 51J2 | Tribological System Design | 3 | 0 | 0 | 3 |
| 8 | 18 ME 51J3 | Product Design and Development | 3 | 0 | 0 | 3 |
| **Elective-3** | | | | | | |
| 10 | 18 ME 52K1 | Mechanics of Composite Materials | 3 | 0 | 0 | 3 |
| 11 | 18 ME 52K2 | Machine Tool Design | 3 | 0 | 0 | 3 |
| 12 | 18 ME 52K3 | Fracture Mechanics | 3 | 0 | 0 | 3 |
| **Elective-4** | | | | | | |
| 15 | 18 ME 52L1 | Engineering Noise & Control | 3 | 0 | 0 | 3 |
| 16 | 18 ME 52L2 | Engineering Failure Analysis and prevention | 3 | 0 | 0 | 3 |
| 17 | 18 ME 52L3 | Design for Manufacturing, Assembly and Environment | 3 | 0 | 0 | 3 |

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