# STUDENT
handbook
2023-2024

B.Tech

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.
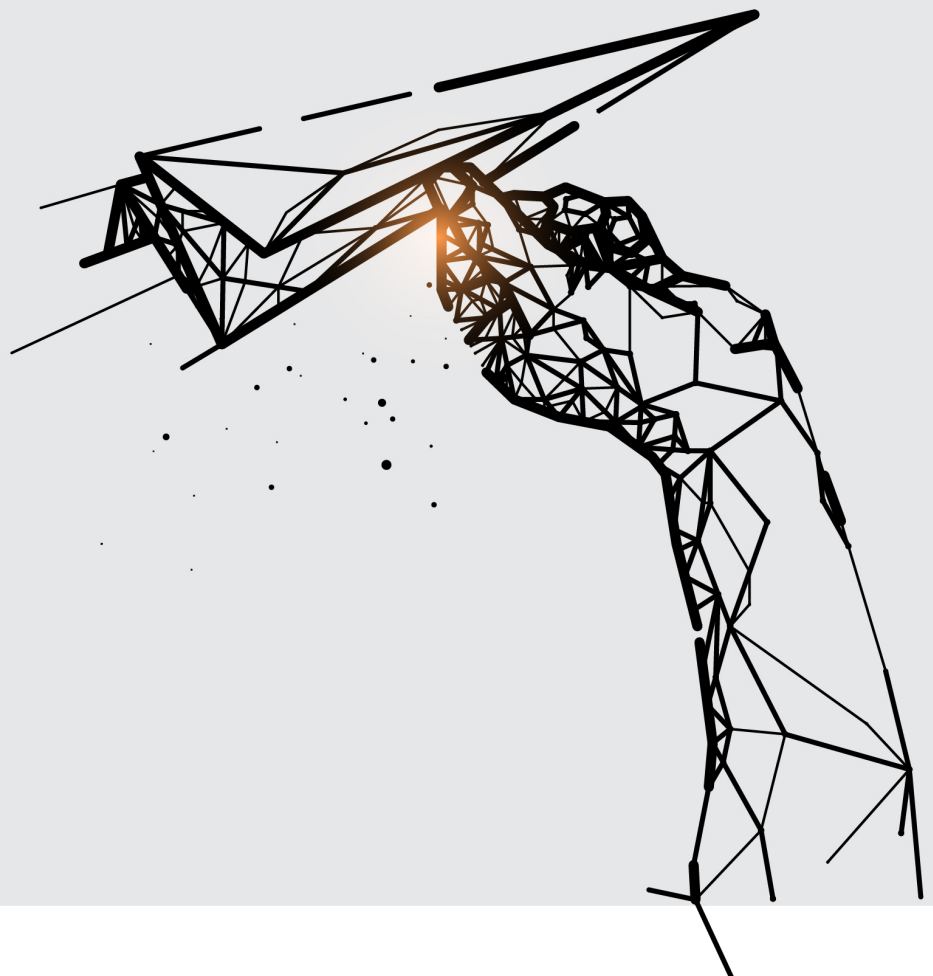
**CATEGORY 1
UNIVERSITY**
BY MHRD, Govt. of India

KL ACCREDITED BY
NAAC WITH **A++**
GRADE

nirf
2023
NATIONAL
INSTITUTIONAL
RANKING
FRAMEWORK

RANKED **28**
AMONG ALL
UNIVERSITIES

43 YEARS OF
EDUCATIONAL
LEADERSHIP

Koneru Satyanarayana,
Chancellor

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. K. S. Jagannatha Rao
Pro-Chancellor

Prof. K. S. Jagannatha Rao was one of the leading scientists in neuroscience research in globe. He was the Director on Institute for Scientific Research and Technological Advances (INDICASAT AIP), Republic Panama and contributed lot in building innovation in higher education and research in Panama since 2010. He played a key role in building PRISM (Panamanian Research Institutes of Science and Medicine) in Latin America. Dr. Rao has his research area on Brain Research and established Alzheimer's Centre and published 165 papers in leading Biochemistry and Neuroscience Journals, supervised 19 Ph.D students. He is also adjunct faculty of Biomedical Informatics of UTHS, Houston, and Advisory Board Member of UT- El Paso Minority Health NIH program, USA and Adjunct Faculty, Methodist Research Institute, Houston, USA. He was elected Member of Panamanian Association for the Advancement of Science (APANAC) - Considered as National Science Academy of Panama. He received his undergraduate and Ph.D degrees from Sri Venkateswara University, Tirupati. Later, joined in Central Food Technological Research Institute, Mysore. He received Sir C. V. Raman Award by Karnataka State Council of Science and Technology, 2003.

Prof. G P S Varma
Vice-Chancellor

Prof. G P S Varma, Vice-Chancellor, KLEF, is one of the most widely experienced leaders in Indian higher education, known for his commitment to expanding student opportunity, catalyzing academic innovation, and encouraging university's civic engagement and service to society. He adorned the position of Chairman, ISTE (Indian Society for Technical Education)- AP State, TSEMCET Test Committee Member-2021 nominated By Telangana State Govt, APEAMCET Admission Committee Member in 2016 by Andhra Pradesh State Council of Higher Education, Govt. of Andhra Pradesh. He has been a very farsighted Peer Team Visit Member for National Assessment and Accreditation Council (NAAC), Expert Committee Member for University Grants Commission (UGC) Autonomous Visits. He has been an Advisory Council Member for (CEGR) Centre for Education Growth, and Research India International Centre, New Delhi, and Board Member for Big-Data Analytics Forum.

Dr. A. V. S. Prasad
Pro-Vice Chancellor

Dr. A. V. S. Prasad, M.E and Ph.D from JNTU, Hyderabad is a professor in Civil Engineering. He has a rich experience of 33 years in academics which includes 26 years in administration at various cadres ranging from Head of Department, Dean, Principal, Director and Pro-Vice Chancellor. He has served as Director of Audisankara group of institutions and Narayana Group of Institutions for 18 years and was instrumental in getting these institutions accredited by NAAC, NBA, Autonomous and gained many laurels from the State Government, JNTU etc. He has served as Pro-Vice Chancellor of KL University for 3 years.

He has extensive knowledge of administrative system, maintaining statutory norms of bodies like AICTE, UGC etc and has a good understanding of NBA, NAAC procedures and norms. He served as Member, Chairman of Board of Studies at JNTU(A), KLCE(Autonomous) and KL University.

Dr. Venkatram Nidumolu
Pro-Vice Chancellor

Dr. Venkatram Nidumolu, Pro-Vice Chancellor is High performing, strategic thinking professional with more than 15years of administration experience and 20 years of teaching experience in KLEFand 30 years overall experience in the higher education sector. He graduated in B.Tech (ECE) from Acharya Nagarjuna University, pursued M.S degree from BITS, PILANI in software Systems. He received Ph.D award from Acharya Nagarjuna University. He held the positions like HOD, Joint Register, Principal, and Dean-Academics before becoming Pro-Vice Chancellor. He was core member of all NBA, NAAC, & other accreditations since 2004 and he has good experience in handling of quality issues and assessment related practices.

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	Biotechnology
6	CE	Civil Engineering
7	CS	Computer Science &Engineering
8	EC	Electronics & Communication Engineering
9	EE	Electrical & Electronics Engineering
10	CM	Computer Engineering
11	ME	Mechanical Engineering
12	AD	Artificial Intelligence & Data Science
13	CI	Computer Science & Information Technology
14	CGPA	Cumulative Grade Point Average
15	SGPA	Semester Grade Point Average
16	LTPS	Lecture, Tutorial Practical, Skill
17	SEE	Semester-End Examinations
18	SIE	Semester-In Examinations
19	OJET	On-the-job Engineering Training
20	IRP	Industrial Relations and Placements
21	PS	Practice-School
22	OPAC	Online Public Access Catalog
23	QCM	Quality Circle Meeting
24	MOOC	Massive Open Online Course
25	MOU	Memorandum of Understanding
26	OD	On Duty
27	(A,B]	Between A and B excluding value A and including value B
28	COE	Controller of Examinations
29	VLSI	Very Large-Scale Integration
30	MTech	Master of Technology
31	COA	Council of Architecture
32	JEE	Joint Entrance Examination
33	NATA	National Aptitude in Architecture
34	PC	Professional Core

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

Chapter 1
Introduction

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".

Location

KLEF is situated in a spacious 100-acre campus on the banks of Buckingham Canal of river Krishna, eight kilometers from Vijayawada city which is well connected by National Highway and Railways 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. 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 is situated in a built-up area of around 15, 00,000 S.Ft.

- **NAAC A++ Grade** with 3.57 CGPA on 4-pointscale
- **CATEGORY-1** University by UGC under the categorization of universities for grant of Graded Autonomy
- UGC Recognized under section **12B** of UGC Act1956
- Approved by MHRD & UGC (Under Section 3 of UGC act1956)
- ISO 9001 - 2015 Certified Institution
- NIRF Rank University :28, Engineering: 44, Management:52

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 65,926 electronic journal titles, academic databases and 15,19,512eBooks. Access is available on campus on student computers and remotely. Every department of the college maintains their library to cater to 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 the following library services.

- Circulation of library documentary.
- Inter-library loan services.
- Photo copying services.
- Reference service.
- CD-ROM search services.
- Internet services.
- OPAC
- WEBOPAC
- Audiovisual
- Online lectures

The Data Centre

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

Hardware: A configuration of high-end stream of servers that provides various services.

Supercomputer

HPC Infrastructure (Supercomputer): 5.3 TERA Flops (CPU +GPU) HPSL2304

*SL230sGen8,(2*2.6GHz,32GBRAM,2x500GBHD,10GIBHCA) providing 1.3TFHPSL2502.
*SL250sGen8,(2*2.6GHz,32GBRAM,2x500GBHD,10GIBHCA + 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. Servers, Dell and HP Blade Servers, Apple Server X server.

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 LabView	Communications Systems
7	Mechanical Engineering	APSSDC Dassault Systems lab, with Dassault 3 D experience suite	Design & Manufacturing, Robotics & Mechatronics
8	Mechanical Engineering	Center for system Dynamics & Condition Monitoring	Design & Manufacturing
9	Mechanical Engineering	MSC: NASTRAN/ PATRAN/ ADAMS simulation suite	Design & Manufacturing

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
Tennikoit 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 a State-of- the - Art Indoor stadium of 30000 sq.ft with:

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

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 their studies.
- A state- of – the- art kitchen and spacious dining area has been provided for both the hostels.
- Generators have been provided as power backup. Emphasis has been laid on hygiene and cleanliness for healthy living. A customized menu caters to the student needs, it keeps changing according to their tastes.
- Teaching staff will have to address the academic and personal problems of the students. Round-the-clock security, communication, dispensary facilities are also available.

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 a separate study room are also available.

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 and Regulations

- Students are hereby informed that while staying in the hostel, it is essential to be responsible for 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. Students must intimate to the hostel authorities before giving police complaints 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 must hand over the keys to security and can collect them on returning 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 the premises.
- Hostel students are not allowed to come into the hostel after 3.00 pm for morning shift students and 6.00pm for day shift students.
- Those students who are utilizing the computer lab, library etc., after the times specified must submit the permission slip to the security while entering the hostel.
- During public holiday outings, those who seek permission to leave the hostel will have to obtain written permission from the 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 will only 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 hours, 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 10PM.

Healthcare

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

Cafeteria

KLEF has a spacious canteen with the latest equipment and hygienic environment which provides quality food and prompts service and caters to the needs of all the students and staff. A central cafeteria of 1500 Sq.m. is available on 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.

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 to enhance 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.

Counselling & Career Guidance

A special Counseling Cell consisting of professional student counselors, psychologists, and 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 provides career guidance with the help of the Industrial Relations and Placements (IRP) department. A group of 20 students are allotted to each faculty member who counsels them regularly and acts as their mentor.

Social Service Wing

KLEF has a social service wing which is used to channelize the social service activities of the faculty, staff and 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.

NSS/NCC wings

NCC/NSS is a credit course designed with an intent to transform NCC/NSS activities into curricular activities from an extracurricular thereby providing credits to students involved in NCC/NSS along with other attended advantages to the students in the university.

Hobby Clubs

Wholly and solely managed by the students, contributed much to the cultural life of the campus and to the cultural evolution of the students. Few 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 active members of the Hobby Clubs.

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 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 clarity of thoughts and charity at heart. Strict regularity, implicit obedience, courtesy in speech and conduct, cleanliness in dress. Life skills and

inner engineering teach a student his/her obligation 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.

Technical Festival

KLEF organizes various programs for the all-round development of the students. The technical festival and project exhibition is 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 to exhibit 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 provide recreation to the student community.

Center for Innovation, Incubation and Entrepreneurship (CIIE)

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 a Centre for Innovation, Incubation and Entrepreneurship (CIIE) that comprises of: Innovation Centre which aims to inculcate a spirit of innovation. Incubation Centre which aims to incubate innovations through prototype product development. Entrepreneurship Development Centre (EDC) which aims at fostering entrepreneurial skills among the students.

Chapter 2
PROGRAM EDUCATIONAL OBJECTIVES (PEOs) and PROGRAM OUTCOMES (POs)

Engineering Undergraduate Programs

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.

Program Educational Objectives of B.Tech Program:

PEO No	Description
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 engineering using the 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
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 teamwork:** 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 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

Program Specific Outcomes (PSOs):

Biotechnology	
PSO1	Graduates will be able to 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 their 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 theoretical and Practical Knowledge

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 of Electrical and Electronics domain and in Project Management techniques, environmental issues and green technologies.

Mechanical Engineering	
PSO1	An ability to demonstrate 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.
Artificial Intelligence and Data Science	
PSO1	An ability to design and develop Artificial Intelligence technology into innovative products for solving real world problems.
PSO2	An ability to design and develop Data Science methods for analyzing massive datasets to extract insights by applying AI as a tool
PSO3	An ability to apply basic principles and practices of computing supported by mathematics and science to successfully develop software related engineering projects to meet customer business objectives and/or productively engage in research.
Computer Science & Information Technology	
PSO1	An ability to identify, design, and analyze complex computer systems, implement and Interpret the results from those systems.
PSO2	An ability to select and apply current techniques, skills, and tools necessary for computing practice and integrate IT-based solutions into the user environment effectively.
Electronics and Computer Science	
PSO1	Ability to design systems and desired needs for sustainable development and engineering solutions to the problems using knowledge and skills developed in thrust areas.
PSO2	Ability to solve Electronics Engineering problems using the latest hardware and software tools, to achieve cost effective and optimal solutions in the domain of Internet of Things and hardware security.
Internet of Things	
PSO1	An ability to Understand the theoretical and mathematical concepts to analyze real time problems and develop the systems to resolve.
PSO2	An Ability to Design and Analyse systems based on theoretical foundation, Professional knowledge and Practical Skills.

Chapter 3
Programs & Eligibility Criteria

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.
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 Mechanical Engineering (ME)	4	
7	B.Tech in Artificial Intelligence & Data Science (AI&DS)	4	
8	B.Tech in Computer Science and Information technology (CS&IT)	4	
9	B.Tech in Internet of Things (IOT)	4	
10	B.Tech in Electronics Engineering(EE)	4	

Chapter 4
Academic Regulations

This document supplements the KLEF rules and regulations to assist all students. It is required that every individual must 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. The 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., Odd and Even semester.

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

- **Backlog Course:** A course is considered to be a backlog if the student has obtained a fail 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 another.

- **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 a 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 is a standards-based sequence of planned experiences where students practice and achieve proficiency in content and applied learning skills. Curriculum is the central guide for all educators as to what is essential for teaching and learning, so that every student has access to rigorous academic experiences.
- **Degree:** A student who fulfils 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.
- **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 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.
- **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 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 a company/firm as per the academic requirement.
- **In-Semester Evaluation**: Summative assessments used to evaluate student learning, acquired skills, and academic attainment during a course.

- **Make-up Test:** 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.
- **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.
- **Overloading:** 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 7th or 8th semester of his/her Academic Year to meet the final requirements for the award of B.Tech 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.
- **Supplementary**: 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-Registration:** Student who are detained in courses due to attendance or marks criteria as per their regulation are given a chance to re-register for the same and complete it during the summer term.
- **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 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's 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 for a semester in that Program.
- **Course Withdrawal:** 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.

General Behaviour

- Student should communicate in English with faculty and other students while he/ she is in campus.
- Students are expected to wish/greet all officials of the KLEF with due respect.
- Students should be courteous and polite while communicating with all Faculty & staff.
- Students should maintain silence and/or speak in a polite way 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.
- Students should not loiter during the free time in the university campus.
- 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.
- 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.
- Students must always adhere to a prescribed/decent dress code befitting the dignity of a technical/professional student within the campus.
- 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.
- Students must not be involved in quarrelling 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.

- 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.

KLEF Working Hours
- KLEF operates between 7:10 AM to 5.20 PM (in shifts) on all weekdays.

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 and laboratories. KLEF expects students to conduct themselves in an orderly and cooperative manner by adhering to University Rules & Regulations.

Laboratory Environment
- A conducive learning environment in the laboratory is essential and the students are advised to follow the guidelines mentioned below:
- 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.
- Eating in laboratories is strictly prohibited.
- Proper dress code is to be followed as prescribed by faculty in each lab.
- Students should familiarize themselves with the location of all the safety equipment which may be available.
- Follow evacuation procedures quickly and quietly, if needed.
- Students should always conduct themselves in a responsible and cautious manner. Risky behaviours such as pushing, running, jumping etc., are unwarranted.
- Only materials required to complete and record the experiment instructions, (e.g. pencils or graph paper, etc.) should be brought into the laboratory.
- Equipment must be carefully handled to prevent breakage or damage, otherwise appropriate penalties/disciplinary-action May believed/imposed.
- Lab station must be cleaned prior to leaving a lab.
- Any accident, no matter how small or big, must be reported to the concerned faculty immediately.

Registration Process
- For every course, the student must undertake the registration process prior to commencement of the coursework, based on the following conditions.
- Registration into a course will be permitted only for such courses, which are offered by KLEF in that semester.
- A student must clear the pre-requisite(s) if any, to register into course.
- KLEF reserves the right to register.
- Registration for add/drop/change of a course will be permitted only within one week from the scheduled date of commencement of classes.
- Students can register up to a maximum of 32 credits of their choice in a semester to meet their program requirements.
- Students, who wish to register for additional credits through Overloading or less credits through Under loading, must seek prior permission from Dean- Academics.
- Students who have opted for minor degree, Honors degree, can register for a greater

number of credits in a semester through Overloading (subjected to guidelines appropriate to compliance on eligibility) .

- 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.

- 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 Department Year coordinator for necessary corrective action. The registration may be cancelled for a course or the entire semester by KLEF if any irregularity is found at a later stage.

Student Course Registration Process:

- To complete the student registration, student login to new ERP portal with their valid login credentials.

- After login student should click on Academic Registrations Student Course Registration. Now Student can view the courses and sections in dropdown menus.

- Student can select the sections against the courses on their own choice as mentioned in the following screen shot.

- Student can view the timetable on top of the selection of each course and section.
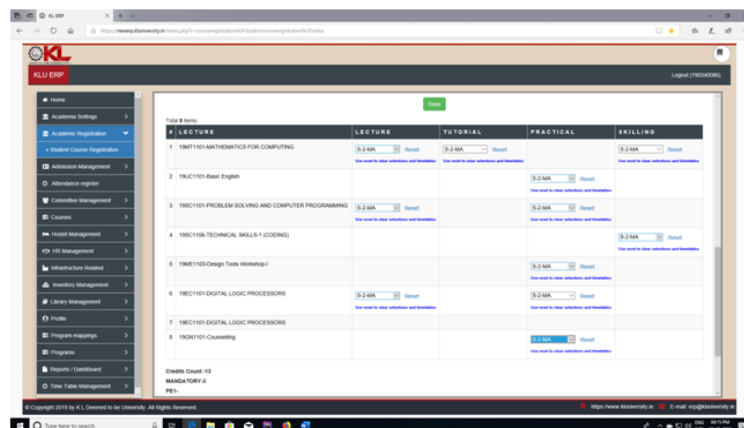
After completing the selection, student need to click on save to save the time table which will be directed to the following screenshot
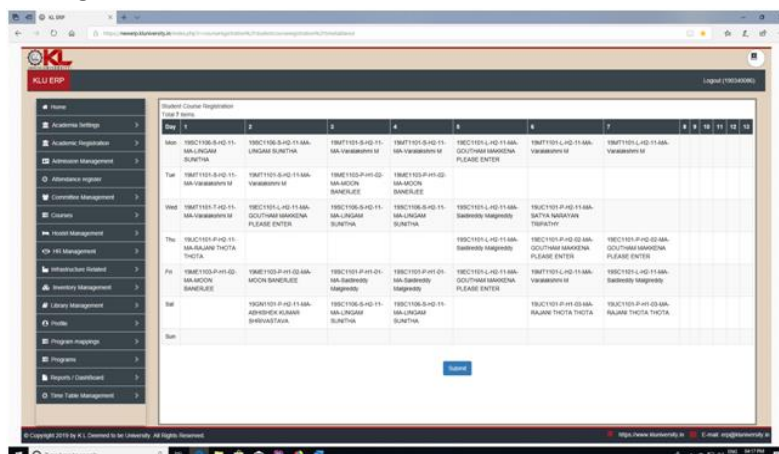
After duly verifying the timetable, student needs to clink on submit to complete the registration process.
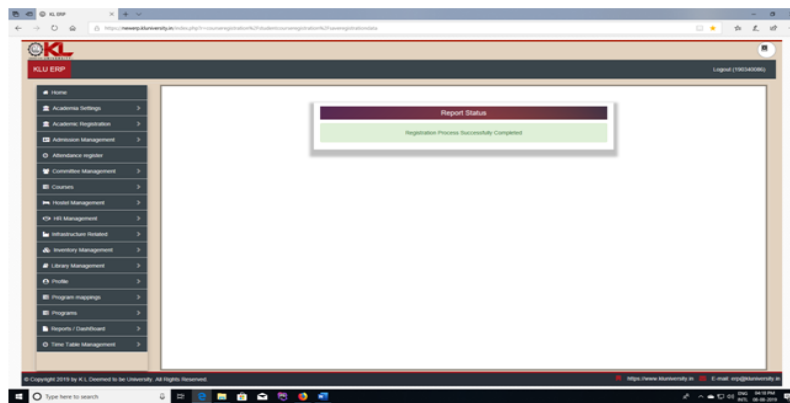
After clicking the submit, the above screen will be displayed and contains the message " student registration successfully completed".

Chapter 5
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.

Program Structure

An Academic Year is made of two semesters each is of, approximately 15+1 week duration and each semester is classified as:

Odd Semester (July–December)

Even Semester (December –May).

KLEF may offer summer term between May and June.

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

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

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).

Every course has a Lecture -Tutorial/Studio-Practice-Skill-Independent Learning-Non Credited/ Revision Learning (L-T/ST-P-S-I-N) component attached to it.

Based upon the L-T-P-S -I-N 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.
- Every (ST) Studio hour is equivalent to one and a half credit.
- Every Independent Learning hour is equivalent to half credit.
- Every Non credited hour is equivalent to Zero credit.

Audit Courses

Any course offered in the University that has no assessment of student performance and no grading.

Induction Courses:

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.

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.

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.

Course Precedence

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

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

Summer Term Courses

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

- 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 timetable.
- 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.
- In any case, a student can register only for a maximum of 12 credits during summer term.
- 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.

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 inform 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.

Practice School Duration

Practice School is usually offered 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.

Eligibility

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

Guidelines

The following are the guidelines for attending Practice-School.

- Practice School program carries six 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. Students must be disciplined, hardworking and possess attitude to undergo On the Job Training (OJT).
- Students must abide by the rules and regulations of the company and the University.

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- Practice School is not mandatory for the students. However, Practice School experience enhances the opportunities for placement.
- Circular will be sent regarding schedule of the selections as and when a company is visiting the campus. Interested students shall attend the selection process for the companies.
- 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 based on the CGPA of the students and the availability of vacancies in the companies of their relevant branch of engineering.
- Students who have submitted the Registration-cum-Data Form will not be guaranteed opportunity to attend the Practice School. The number of students sent to the practice school purely depends on the number of vacancies by various companies.
- 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. Once the students are selected by a company or allotted to a company, they shall not be allowed either to change company or to cancel the practice school program.

Chapter 6
Academic Flexibilities

Major Flexibilities:

- **Honors** can be awarded if students complete additional courses from their core program and earn 20 extra credits through specified category of courses.
- **Honors through Research** offers students the chance to explore their chosen field of study in greater depth, cultivate valuable research skills, and make meaningful contributions to their specific area of interest. Students can be awarded this Degree upon fulfilling the requirement of earning an additional 20 credits through specified category of courses.
- **Honors through Innovation** emphasize the exploration of innovative ideas, problem-solving, and creative thinking within a particular field of study. It may provide opportunities for students to engage in innovative projects, research, or entrepreneurial activities. Students can be awarded their degree upon successful completion of additional courses from their core program and earning an extra 20 credits through specified category of courses.
- **Honors through Experiential Learning** focuses on hands-on, practical experiences that complement and enhance traditional classroom learning. Students will be eligible for the degree upon the successful completion of additional courses from their core program and the attainment of 20 extra credits through specified category of courses.

For the above said categories, if a student fails to meet the CGPA and SGPA requirements, at any point after registration, s/he will be dropped from the list of students eligible for the specified Degree, then student will receive B.Tech Degree only. However, such students will receive a separate grade sheet mentioning the additional courses completed by them.

Program Add-ons:

- **Specialization:** Specialization degree can be awarded if Student completes five professional electives and one skill development course in the same track and/or earns minimum of 17 credits from the Professional elective courses.
- **Minor:** Minor degree can be awarded if student fulfills all the program requirements of their discipline and are successful in completing a specified set of courses from another discipline through which they earn an additional 20 credits are eligible to get minor degree in that discipline.
- **Double Major:** Double Major degree can be awarded if student earns 36 additional credits to meet the requirements of both majors.

Design your own Degree

	No Major **Flexibility**	Major Flexibility **Honors**	Major Flexibility **Honors through Research**	Major Flexibility **Honors through Innovation**	Major Flexibility **Honors through Experiential Learning**
No Program Add-On	B.Tech.	B.Tech. (Honors)	B.Tech. (Honors through Research)	B.Tech. (Honors through Innovation)	B.Tech. (Honors through Experiential Learning)
Program Add-On **Specialization**	B.Tech. with Specialization	B.Tech. (Honors) with Specialization	B.Tech. (Honors through Research) with Specialization	B.Tech. (Honors through innovation) with Specialization	B.Tech. (Honors through Experiential Learning) with Specialization
Program Add-On **Minor**	B.Tech. with Minor	B.Tech. (Honors) with Minor	B.Tech. (Honors through Research) with Minor	B.Tech. (Honors through Innovation) with Minor	B.Tech. (Honors through Experiential Learning) with Minor
Program Add-on **Double Major**	B.Tech. with Second Major	B.Tech. (Honors) with Second Major	B.Tech. (Honors through Research) with Second Major	B.Tech. (Honors through innovation) with Second Major	B.Tech. (Honors through Experiential Learning) with Second Major

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

Sl No	Specializations
1	AI for Computational Intelligence
2	AI-Driven Language Technologies
3	AI Systems for Visual Intelligence
4	AI & Autonomous Systems
5	Robotics & Automation
6	Intelligent multi-media processing
7	Data Engineering for AI
8	Smart Manufacturing
9	Smart Grid Technologies
10	Industrial Automation
11	Data Science & Big Data Analytics
12	Distributed Ledger Analytics
13	Social & Digital Media Analytics
14	HealthCare Data Analytics
15	IoT Analytics
16	Bioinformatics
17	Mobile Application Development
18	Blockchain Engineering for Web3
19	Game Development & UX Design
20	Spatial Computing & Immersive Technologies
21	Cross platform Development Frameworks
22	Software Modelling & DevOps
23	Cloud Native Software Engineering
24	Cloud Infrastructure Design & Engineering
25	Cloud Based Scientific Computing
26	Cloud Native Security
27	Cloud & Edge Computing
28	AI Driven Edge Architectures & Applications
29	Cyber Security & Blockchain Technology
30	Hardware-Software co-design for Security
31	Embedded Systems
32	Cyber Physical Systems & IoT
33	Very Large Scale Integration
34	E-Mobility Engineering
35	Data Communications
36	Computer Communication & 5G Technology
37	Green Energy Technologies
38	Industrial Biotechnology
39	Medical Biotechnology

40	Engineering Design
41	Structural Engineering
42	Construction Technology and Management
43	Automotive Electronics & AUTOSAR
44	Automotive Energy Engineering
45	AGRI-Biotechnology
46	Geotechnical & Transportation Engineering

Chapter 7
Requirements for the award of degree

The student is awarded a B.Tech. degree provided she/he

- Must successfully earn a minimum number of credits as stipulated in the program structure.
- Must successfully undertake specific training in focused areas that enable students to be successful in their chosen career tracks. The focused areas are: (a) Employment in MNCs, (b) Civil Services (c) Higher Studies (d) Research and (e) Entrepreneurship.
- Must successfully complete Minimum three (3) certificate courses in discipline domain areas, in addition to one from yoga / sports & games / fine arts.
- Must successfully complete Social Internship and Technical Internship.
- Must successfully complete the Audit courses as mentioned in the program structure.
- Must have successfully obtained a minimum CGPA of 5.25 at the end of the program.
- Must have finished all the above-mentioned requirements in less than twice the period mentioned in the Academic structure for each program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

B.Tech. Honors Degree

In addition to above Basic degree requirements, the following are essential to award the B.Tech. Honors degree-

- Minimum CGPA 8.00
- Additional 20 Credits from Specified Category of Courses
- No History of Backlogs
- No History of Betterment
- Minimum one Scopus Journal Publication

B.Tech. Honors through Research Degree

In addition to above Basic degree requirements, the following are essential to award the B.Tech. Honors through Research degree-

- Minimum CGPA 8.00
- Additional 20 Credits from Specified Category of Courses
- No History of Backlogs
- No History of Betterment
- Minimum Three Web of Science Journal Publications
- Minimum One Design Patent
- Must Take Up Research Seminar, Term Paper, Research Project-1 and Research Project-2

B.Tech. Honors through Innovation Degree

In addition to above Basic degree requirements, the following are essential to award the B.Tech. Honors through Innovation degree-

- Minimum CGPA 8.00
- Additional 20 Credits from Specified Category of Courses
- No History of Backlogs
- No History of Betterment
- Minimum One Web of Science Journal Publications
- Minimum Two Design Patents & One Utility Patent
- LLP Establishment

- Must Take Up Innovation Project – 1 And Innovation Project -2

B.Tech. Honors through Experiential learning Degree

In addition to above Basic degree requirements, the following are essential to award the B.Tech Honors through Experiential learning degree-

- Minimum CGPA 8.00
- Additional 20 Credits from Specified Category of Courses
- No History of Backlogs
- No History of Betterment
- Minimum One Scopus Journal Publication
- Minimum One Design Patents
- Two Consultancy Projects
- Must Take Up Capstone Project – 1 And Capstone Project -2

Refer the below QR code for detailed Course framework to meet the degree requirements for all the flexibilities.

Award of Degree:

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

- $5.25 \leq CGPA < 5.75$ will be awarded Pass class.
- $5.75 \leq CGPA < 6.75$ will be awarded Second class.
- $6.75 \leq CGPA < 7.75$ will be awarded First class.
- $CGPA \geq 7.75$ will be awarded First class with Distinction provided the student has cleared all the courses in first attempt, should not have any history of betterment and must have fulfilled all the program requirements within the specified minimum years duration.

Year-Wise Graduation- If the Student wish to discontinue in the middle of the program duration at the end of the any academic year, S/he will be awarded the following degrees.

1st Year - Certificate Course in Computational Thinking & Engineering Science
   Requirement for the award of Certificate: 40 Credits + 4 Credits of Skill Development.

2nd Year – Diploma in the respective discipline-

- Diploma in Artificial Intelligence and Data Science
- Diploma in Biotechnology
- Diploma in Computer Science and Engineering
- Diploma in Information Technology

- Diploma in Electronics & Communication Engineering
- Diploma in Electrical & electronics Engineering
- Diploma in Internet of Things
- Diploma in Mechanical Engineering
- Diploma in Civil Engineering

Requirements for the award of Diploma: 80 Credits + 4 Credits of Skill Development

3rd Year
- B.Sc. in Artificial Intelligence and Data Science
- B.Sc. in Biotechnology
- B.Sc. in Computer Science and Engineering
- B.Sc. in Information Technology
- B.Sc. in Electronics & Communication Engineering
- B.Sc. in Electrical & electronics Engineering
- B.Sc. in Internet of Things
- B.Sc. in Mechanical Engineering
- B.Sc. in Civil Engineering

Requirement for the award of Bachelor of Science: 120 Credits + 4 Credits of Skill Development.

Chapter 8
Attendance Rules & Detention Policy

Attendance policy for promotion in a course:

The student must maintain minimum 85% of attendance to be promoted in a course and to appear for Sem End Examination. 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 committee established for condonation.

Attendance in a course shall be counted from the date of commencement of the classwork only and not from the date of his/her registration.

Attendance for the students who are transferred from other institutes and for new admissions, attendance must be considered from the date of his/her admission.

In case of attendance falling marginally below 75% 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.

Attendance based 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, She/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 the Dean Academics. For any course, not more than 5% marks can be allotted for attendance.

The distribution of marks for attendance is [85,88]=1 mark, [89,91]=2marks, [92,94]=3marks,[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-P-S components of a course cumulatively but not specifically for theory component for any course.

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 (if any) 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.

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 extracurricular 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 10% of total classes conducted for each course in the semester. This condonation is not applicable for summer term.

Course Based Detention Policy:

In any course, student must maintain a minimum attendance as per the attendance policy for promotion in a course, to be eligible for appearing the Sem-End examination. Failing to fulfill this condition, will deem such student to be detained in that course and become ineligible to take semester end exam.

Eligibility for appearing Sem – End Examination:

A Student registered for a course and maintained minimum attendance of 85% is eligible to write the Semester-End Examination for that course unless found ineligible due to one or more of the following reasons:

- Shortfall of attendance
- Acts of indiscipline
- withdrawal from a course

Absence in Assessment and 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 & the concerned Head of the Department in written.

If a student fails to write Sem-In Exam-I or obtained less than 50% marks in Sem-In Exam-I, he must attend remedial classes and maintain a minimum 85% of attendance in remedial classes to be eligible for Make-up test for Sem-In exam-I. The marks scored in such remedial makeup will be considered. 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 the Laboratory exams.

- A student's absence for a Sem-In Exams under the following circumstances are only considered for makeup test:
- Pre-approved participation in University/State/National/International co- curricular and extra-curricular activities
- 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.
- Death of immediate family member.

Remedial Classes

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

- Students who did not attend or obtain a minimum of 60% marks in the Sem-In exam1.
- Students 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 exam1.
- 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.

Chapter 9
Assessment & Evaluation

The assessment in each theory subject consists of Sem-In Exams, in-class quizzes/tutorials/home-assignments/Active Learning Methods (continuous assessment) and the Semester-End Exanimation (SEE). Students are advised to refer to the course handout to get more detailed information on assessment.

- The Sem-In tests and the Semester-End Examinations will be conducted as per the Academic Calendar.
- As per the necessity, the Supplementary examinations will be conducted at the discretion of Dean Academics with the approval of the Vice-Chancellor.
- Students may have to take more than one examination in a day during Sem-In exams, Semester-End Examinations /Supplementary examinations.

College / School Name	Semester-In Evaluation (Weightage %) (A)	Sem End Examination (Weightage %) (B)	Minimum requirement for pass %	
			(A+B)	B
College of Engineering	60	40	40	40

Semester-In Evaluation:

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

- The process of evaluation is continuous throughout the semester.
- The distribution of marks for Semester-In evaluation is 60% of aggregate marks of the course.
a. The distribution of weightage 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.
b. 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 to re-evaluate.
c. 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.
d. 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.
e. In case a student has missed any of the two in-semester evaluations, S/he is eligible for and will be provided with an opportunity of appearing for re- examination.
f. 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.
g. 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 to re-evaluate.
h. 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 a fortnight of the declaration of the results.

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 each term. The final project report, after getting the plagiarism certificate, only will be considered and evaluated by the panel of examiners. Student project reports must follow the guidelines prescribed by the office of Dean Academics.

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.

Absolute Grading

The list of absolute grades and its connotation are given below:

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
Fail	F	0	0 – 39
Absent	AB	0	Absent

Relative Grading

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	$\mu+0.50\sigma$ <= total marks < $\mu+1.50\sigma$
A	8	μ <= total marks < $\mu+0.50\sigma$
B^+	7	$\mu-0.50\sigma$ <= total marks < μ
B	6	$\mu-1.00\sigma$ <= total marks < $\mu-0.50\sigma$
C	5	$\mu-1.25\sigma$ <= total marks < $\mu-1.00\sigma$
P	4	$\mu-1.50\sigma$ <= total marks < $\mu-1.25\sigma$ or ≥40
F	0	total marks <$\mu-1.50\sigma$ 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.

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 for a course, the best of the two grades will be 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 accordance with 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.

Course Based Detention Policy

In any course, a student must maintain a minimum attendance as per the attendance policy referred as above 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 and become ineligible to take semester end exam.

Chapter 10
Promotion

Promotion Policy

To be eligible for provisional promotion for course registration in the next semester, a student must meet the following criterion: the student must promote in the course that serves as a prerequisite for the courses in the following semester.

Note: In case a student is unable to secure minimum P grade for a particular course even after three consecutive attempts, s/he must repeat the course by re-registration.

Branch Change

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.

The rules governing change of branch are as listed below:

- Top 1% (based on CGPA until 2nd semester) students will be permitted to change to any branch of their choice within the program discipline.
- Apart from students mentioned in clause (a) above, those who have successfully completed all the first and second semester courses and with CGPA ≥ 8 are also eligible to apply, but the change of Branch in such case is purely at the discretion of the KLEF.
- All changes of Branch will be effective from third semester. Change of branch shall not be permitted thereafter.
- 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.
- Students in clause a and b may be permitted subject to the availability of seats in the desired branch.

Credit Transfer

Credit transfer between KLEF and other Institution:

A) Credit transfer from other institutions to KLEF or vice versa is permitted only for undergraduate 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.

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.
- To determine the equivalent credits for a course from a previous institution on a 10-point scale at KLEF, the number of credits of the course is multiplied by the equivalent grade point of the previous institution and then divided by the number of credits of the corresponding course at KLEF.
- If a course from the previous institution has zero credits and no grade assigned, the

student must sit for the final examination for the equivalent course at KLEF.

- A transfer student seeking improvement in any course can take the final examination at KLEF, where the grade received at KLEF becomes the final grade recorded on their grade sheets.
- The student, when transferred from other institutions, must 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.

Credit Transfer Through MOOCs:
- Undergraduate 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.

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 or one studio hour is equivalent to 1.5 credit during a semester.

Revaluation

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 through ERP. 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.

Academic Counseling Board (ACB)

Academic Counselling Board is constituted by the Dean Academics. This board shall comprise of the Chairman, Convener, Principal/Director, HOD and Professor/Associate Professor. A student will be put under Academic Counselling Board in the following circumstances:

- Has CGPA of less than 6.00.
- Has 'F' grade or 'Detained' in multiple courses.

The first level of Counselling such students will be done by the Mentor of the student and the HoD followed by the ACB and the list of students who have to undergo the ACB counselling be forwarded by the HoD to the Office of Dean Academics.

The students undergoing the Academic Counselling Board process may be allowed to register only for a few courses based on the recommendation of Academic Counselling Board.

Backlog Courses

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

Rustication

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

Award of medals

KLEF awards Gold and Silver medals to the top two candidates in each program after successful completion of their study. The medals are awarded based on their CGPA during the Annual Convocation with the following constraints:

    a. The grade obtained through betterment/ supplementary 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.

Academic Bank of Credits:

ABC helps the students to digitally store their academic credits from any higher education institute registered under ABC in order to award Certificate/Diploma/Degree/Honors based on the credits earned by the student. All the credits acquired by the students are stored digitally by registering into Academic Bank of Credits (ABC) portal. It also supports retaining the credits for a shelf period and continue their program study with multiple breakovers. Students may exit from their current program of study due to any unforeseen reasons or to focus on their chosen career path. In such cases, the student may break for a period of time (preferably not in the middle of an academic year) and may continue with the program of study at a later stage. Moreover, students must be able to complete their program by not exceeding the maximum duration of the program. If not, they may be issued with a Certificate, diploma, degree or honors based on the credits acquired over the period of time for all the programs approved by UGC.

CHAPTER 11
STUDENT COUNSELING & FEEDBACK

Counselling

Student counselling / mentoring service 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 counselling/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.

Counsellors offer individual counselling to help students resolve personal or interpersonal problems. They may also offer small group counselling to help students enhance listening and social skills, learn to empathize with others, and find social support through healthy peer relationships. Counsellors also provide support to faculty by assisting with classroom management techniques and the development of programs to improve quality or safety. When necessary, counsellors may also intervene in a disrupted learning environment.

However, the benefits of counsellor-student relationships are as follows:

Maintain academic standards and set goals for academic success.

Develop skills to improve organization, study habits, and time management.

Work through personal problems that may affect academics or relationships.

Improve social skills.

Cope with university or community-related violence, accidents.

Identify interests, strengths, and aptitudes through assessment.

counselling Policy:

Student counselling takes great place in K L University. counselling is designed to facilitate student achievement, improve student behaviour, subject analysis levels, attendance, and help students develop socially, professionals with bachelor's, master's degrees or beyond. Faculty counsellors provide counselling and serve an educational role in K L University. We have Mentors, Academic, Career, Physiological, Co-Curricular & Extra Curricular activities counsellors in order to support students who are experiencing personal or academic challenges, help students choose careers and plan for university and intervene when students face behavioural, physical, or mental health challenges.

Feedback System

At KLEF, monitoring of feedback is a continuous process. Feedback is obtained from students and parents on various aspects. Feedback is taken through personal interaction with students, interaction with parents in addition to mid-semester and end-semester feedback.

The institution assesses the learning levels of the students, after admission and organizes special programs for advanced learners and slow learners.

Feedback Types:

In first year SWEAR analysis is done for every student in such a way it identifies their interests, pre-existing knowledge, aspects to improve technical and logical skills based on their career choice. The following are the different types of feedback taken at regular intervals:

    (i). Student General Feedback (Twice in a Sem.)

    (ii). Student Satisfaction Survey (Once in a Sem.)

    (iii). Student Exit Feedback (Once in a Year)

    (iv). Academic Peers Feedback on Curriculum (Once in a Sem.)

(v). Parents Feedback on Curriculum (Once in a Sem.)

(vi). Alumni Feedback on Curriculum (Once in a Sem.)

(vii). Industry Personnel Feedback on Curriculum (Once in a Sem.)

(viii). Student Feedback on Curriculum (Once in a Sem.)

(ix). Faculty Satisfaction Survey (Once in a Sem.)

(x). Parent Teacher Association (Once in a Sem.)

Feedback Procedure:

- General Feedback to be taken from the students on the aspects like Course Contents, Teaching Learning Process, Outcomes, Resources and Evaluation twice in every semester (Mid semester and End Semester Feedback) in a structured format floated by dean academics office.

- Student Satisfaction Survey (SSS) to all innovative methods and approaches should be recorded at appropriate intervals and the process should be refined based on that. Students should be sensitized on the process and methods and their understanding of the same should be assured.

- Exit survey feedback to be taken from the final year students on the aspects like entrance test, admission process, Course Contents, Teaching Learning Process, Outcomes, Resources and Evaluation, placements etc.

- Structured feedback for design and review of syllabus – semester wise / year wise is received from Students, Alumni, Peers, Parent, Industry Personnel.

- Satisfaction Survey to be taken from the existing faculty on Course Contents, Teaching Learning Process, Outcomes, Resources and Evaluation once in every semester in a structured format floated by dean academics office.

- Parent Teacher Association (PTA) to develop the potential of parents and to strengthen their relationship with their children through planning and conducting a variety of developmental and recreational activities.

- Online Feedback is collected from all the students once at the end of the semester using well designed questionnaire. Informal feedback will be collected in parallel from selected student representatives within 4-5 weeks of commencement of the semester by the Office of Dean Academics.

- HODs have to submit monthly /semester / Academic Year Feedback reports with necessary comments and proofs to Dean Academics office duly signed by concerned Principal/Director. Visit following link https://www.kluniversity.in/site/feedsys.htm

S.NO	CATEGORY	COURSE CODE	COURSE TITLE	SHORT NAME	MODE	L	T	P	S	Cr	CH	Pre-Requisite	CSE	CSIT	AIDS	ECE	ELE	EEE	IOT	BT	ME	CE
			Y23 - B.Tech Program Structure																			
1	AUC	23UC0017	INDIAN KNOWLEDGE SYSTEMS - VEDIC MATHEMATICS	IKS-VM	R	0	0	0	2	0	2	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2	AUC	23UC0018	FUNDAMENTALS OF MATHEMATICS (BI.P.C)	FOM	R	3	0	0	0	0	3	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
3	AUC	22UC0011	GENDER & SOCIAL EQUALITY	GSE	R	2	0	0	0	0	2	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4	AUC	23UC0019	ESSENCE OF INDIAN KNOWLEDGE TRADITION	EIKT	R	2	0	0	0	0	2	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
5	AUC	22UC0008	INDIAN CONSTITUTION	IC	R	2	0	0	0	0	2	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
6	AUC	22UC0009	ECOLOGY & ENVIRONMENT	E&E	R	2	0	0	0	0	2	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
7	AUC	22UC0020	INDIAN KNOWLEDGE SYSTEMS - ENGINEERING ELECTIVE	IKS	R	2	0	0	0	0	2	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8	AUC	21UC0013	GLOBAL LOGIC BUILDING CONTEST PRACTICUM	GLBCP	R	0	0	0	2	0	2	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
9	AUC	21UC0014	GLOBAL LOGIC BUILDING CONTEST PRACTICUM	GLBCP	R	0	0	0	2	0	2	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
10	AUC	21UC0015	GLOBAL LOGIC BUILDING CONTEST PRACTICUM	GLBCP	R	0	0	0	2	0	2	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
11	HAS	23UC1101	INTEGRATED PROFESSIONAL ENGLISH	IPE	R	0	0	4	0	2	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
12	HAS	23UC1202	ENGLISH PROFICIENCY	EP	R	0	0	4	0	2	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
13	HAS	22UC2103	ESSENTIAL SKILLS FOR EMPLOYABILITY	ESE	R	0	0	4	0	2	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
14	HAS	22UC2204	CORPORATE READINESS SKILLS	CRS	R	0	0	4	0	2	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
15	HAS	22UC0010	UNIVERSAL HUMAN VALUES & PROFESSIONAL ETHICS	UHV&PE	R	2	0	0	0	2	2	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
16	HAS	23UC1203	DESIGN THINKING AND INNOVATION	DTI	R	0	0	4	0	2	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
17	HAS	22UC0012	INNOVATION MANAGEMENT	IM	R	0	0	4	0	2	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
18	SIL	22UC0021	SOCIAL IMMERSIVE LEARNING	SIL-1	R	0	0	0	4	1	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
19	SIL	22UC0022	SOCIAL IMMERSIVE LEARNING	SIL-2	R	0	0	0	4	1	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
20	SIL	22UC0023	SOCIAL IMMERSIVE LEARNING	SIL-3	R	0	0	0	4	1	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
21	SIL	22UC0024	SOCIAL IMMERSIVE LEARNING	SIL-4	R	0	0	0	4	1	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
22	SIL	22UC0025	SOCIAL IMMERSIVE LEARNING	SIL-5	R	0	0	0	4	1	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
23	HAS	22MBXXXX	MANAGEMENT ELECTIVE	ME	R	2	0	0	0	2	2	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
24	HAS	22FLXXXX	FOREIGN LANGUAGE ELECTIVE	FLE	R	2	0	0	0	2	2	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
			TOTAL CREDITS										23	23	23	23	23	23	23	23	23	23
25	BSC	22MTXXXX	MATHEMATICS ELECTIVE - 1	ME-1	R	2	2	0	0	4	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
26	BSC	22MTXXXX	MATHEMATICS ELECTIVE - 2	ME-2	R	2	2	0	0	4	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
27	BSC	22MTXXXX	MATHEMATICS ELECTIVE - 3	ME-3	R	2	2	0	0	4	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
28	BSC	22MTXXXX	MATHEMATICS ELECTIVE - 4	ME-4	R	2	2	0	0	4	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
29	BSC	22SCXXXX	SCIENCE ELECTIVE-1	SCE-1	R	3	0	2	0	4	5	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
30	BSC	22SCXXXX	SCIENCE ELECTIVE-2	SCE-2	R	3	0	2	0	4	5	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
			TOTAL CREDITS										24	24	24	24	24	24	24	24	24	24
31	ESC	23SC1101	COMPUTATIONAL THINKING FOR STRUCTURED DESIGN	CTSD	R	3	0	2	4	5	9	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
32	ESC	23SC1202	DATA STRUCTURES	DST	R	2	0	2	4	4	8	CTSD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
33	ESC	23ME1103	DESIGN TOOL WORKSHOP	DTW	R	0	0	4	0	2	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
34	ESC	23EC1203	BASIC ELECTRICAL & ELECTRONIC CIRCUITS	BEEC	R	2	0	0	0	2	2	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
35	ESC	22CS1201	OBJECT ORIENTED PROGRAMMING	OOP	R	2	0	2	0	3	4	CTSD								Y	Y	Y
36	ESC	22BT1202	BIOCHEMICAL THERMODYNAMICS	BCT	R	2	0	0	0	2	2	ENG PHYSICS								Y		
37	ESC	22UC3108	PROBLEM SOLVING & REASONING SKILLS-1	PSRS-1	R	0	0	0	4	1	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
38	ESC	22UC3209	PROBLEM SOLVING & REASONING SKILLS-2	PSRS-2	R	0	0	0	4	1	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
39	ESC	23EC1202	DIGITAL DESIGN & COMPUTER ARCHITECTURE	DDCA	R	3	0	2	0	4	5	NIL	Y	Y	Y	Y	Y	Y	Y			
40	ESC	23SC1203	COMPUTATIONAL THINKING FOR OBJECT-ORIENTED DESIGN	CTOD	R	2	0	2	4	4	8	CTSD	Y	Y		Y	Y		Y			
41	ESC	23EC1101	FUNDAMENTALS OF IOT & SENSORS	FITS	R	3	0	4	0	5	7	NIL	Y	Y	Y	Y	Y	Y	Y			

S.NO	CATEGORY	COURSE CODE	COURSE TITLE	SHORT NAME	MODE	L	T	P	S	Cr	CH	Pre-Requisite	CSE	CSIT	AIDS	ECE	ELE	EEE	IOT	BT	ME	CE
42	ESC	23CS1207	OBJECT ORIENTED PROGRAMMING	OOP	R	2	0	2	4	4	8	CTSD			Y			Y				
43	ESC	23ME1004	WORKSHOP PRACTICES FOR ENGINEERS	WPE	R	0	0	4	0	2	4	NIL									Y	Y
44	ESC	23ME1002	ENGINEERING GRAPHICS	EG	R	0	0	4	0	2	4	NIL									Y	Y
45	ESC	23ME1001	ENGINEERING MECHANICS	EM	R	3	0	0	0	3	3	NIL									Y	Y
46	ESC	22CE2102	FLUID MECHANICS & HYDRAULIC MACHINES	FMHM	R	3	0	2	0	4	5	NIL									Y	Y
47	ESC	22BT2208	TRANSPORT PROCESS IN BIOLOGICAL SYSTEMS	TPBS	R	2	0	4	0	4	6	MBG								Y		
48	ESC	23BT1101	CELL BIOLOGY	CB	R	3	1	0	0	4	4	CBG								Y		
			TOTAL CREDITS										28	28	28	28	28	28	28	28	29	27
49	PCC	22CS2103R	ADVANCED OBJECT ORIENTED PROGRAMMING	AOOP	R	2	0	2	4	4	8	CTOD	Y	Y								
50	PCC	22CS2103A	ADVANCED OBJECT ORIENTED PROGRAMMING	AOOP	A	4	0	4	0	6	8	CTOD	Y	Y								
51	PCC	22CS2103P	ADVANCED OBJECT ORIENTED PROGRAMMING	AOOP	P	4	0	4	0	6	8	CTOD	Y	Y								
52	PCC	22CS2205R	DESIGN & ANALYSIS OF ALGORITHMS	DAA	R	2	0	2	4	4	8	DS	Y	Y	Y							
53	PCC	22CS2205A	DESIGN & ANALYSIS OF ALGORITHMS	DAA	A	4	0	4	0	6	8	DS	Y	Y	Y							
54	PCC	22CS2205P	DESIGN & ANALYSIS OF ALGORITHMS	DAA	P	4	0	4	0	6	8	DS	Y	Y	Y							
55	PCC	22CI3004R	ENTERPRISE PROGRAMMING	EP	R	2	0	2	4	4	8	CTOD	Y	Y								
56	PCC	22CI3004A	ENTERPRISE PROGRAMMING	EP	A	3	0	4	4	6	11	CTOD	Y	Y								
57	PCC	22CI3004P	ENTERPRISE PROGRAMMING	EP	P	3	0	4	4	6	11	CTOD	Y	Y								
58	PCC	22EC2210R	NETWORK PROTOCOLS & SECURITY	NPS	R	3	0	2	0	4	5	DDCA	Y	Y	Y	Y			Y			
59	PCC	22EC2210A	NETWORK PROTOCOLS & SECURITY	NPS	A	4	0	4	0	6	8	DDCA	Y	Y	Y	Y			Y			
60	PCC	22EC2210P	NETWORK PROTOCOLS & SECURITY	NPS	P	4	0	4	0	6	8	DDCA	Y	Y	Y	Y			Y			
61	PCC	22AD2001R	DATA DRIVEN ARTIFICIAL INTELLIGENT SYSTEMS	DDAIS	R	2	0	2	0	3	4	CTSD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
62	PCC	22AD2001A	DATA DRIVEN ARTIFICIAL INTELLIGENT SYSTEMS	DDAIS	A	3	0	4	0	5	7	CTSD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
63	PCC	22AD2001P	DATA DRIVEN ARTIFICIAL INTELLIGENT SYSTEMS	DDAIS	P	3	0	4	0	5	7	CTSD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
64	PCC	22CS2104R	OPERATING SYSTEMS	OS	R	2	0	2	0	3	4	DLP	Y	Y	Y							
65	PCC	22CS2104A	OPERATING SYSTEMS	OS	A	3	0	4	0	5	7	DLP	Y	Y	Y							
66	PCC	22CS2104P	OPERATING SYSTEMS	OS	P	3	0	4	0	5	7	DLP	Y	Y	Y							
67	PCC	22CS4106	PARALLEL & DISTRIBUTING COMPUTING	PDC	R	2	0	2	0	3	4	PDC	Y									
68	PCC	22EC2106	PROCESSORS & CONTROLLERS	PRC	R	3	0	2	2	4.5	7	DDCA				Y	Y	Y	Y			
69	PCC	22CI2001	ADAPTIVE SOFTWARE ENGINEERING	ASE	R	2	1	0	0	3	3	NIL	Y	Y	Y							
70	PCC	22AD2102R	DATABASE MANAGEMENT SYSTEMS	DBMS	R	2	0	2	0	3	4	DDCA	Y	Y	Y				Y			
71	PCC	22AD2102A	DATABASE MANAGEMENT SYSTEMS	DBMS	A	3	0	4	0	5	7	DDCA	Y	Y	Y				Y			
72	PCC	22AD2102P	DATABASE MANAGEMENT SYSTEMS	DBMS	P	3	0	4	0	5	7	DDCA	Y	Y	Y				Y			
73	PCC	22CS2002R	AUTOMATA THEORY & FORMAL LANGUAGES	ATFL	R	2	1	0	0	3	3	DIS	Y	Y								
74	PCC	22CS2002A	AUTOMATA THEORY & FORMAL LANGUAGES	ATFL	A	3	1	2	0	5	6	DIS	Y	Y								
75	PCC	22CS2002P	AUTOMATA THEORY & FORMAL LANGUAGES	ATFL	P	3	1	2	0	5	6	DIS	Y	Y								
76	PCC	22EC2104R	ANALOG ELECTRONIC CIRCUIT DESIGN	AECD	R	3	0	2	2	4.5	7	BEEC				Y	Y	Y	Y			
77	PCC	22EC2104A	ANALOG ELECTRONIC CIRCUIT DESIGN	AECD	A	4	0	4	2	6.5	10	BEEC				Y	Y	Y	Y			
78	PCC	22EC2104P	ANALOG ELECTRONIC CIRCUIT DESIGN	AECD	P	4	0	4	2	6.5	10	BEEC				Y	Y	Y	Y			
79	PCC	22EC2105R	SIGNALS & COMMUNICATION SYSTEMS	SCS	R	3	0	0	0	3	3	LACE				Y						
80	PCC	22EC2105A	SIGNALS & COMMUNICATION SYSTEMS	SCS	A	4	0	2	0	5	6	LACE				Y						
81	PCC	22EC2105P	SIGNALS & COMMUNICATION SYSTEMS	SCS	P	4	0	2	0	5	6	LACE				Y						
82	PCC	22EC2209	ELECTROMAGNETIC WAVES & TRANSMISSION LINES	EMWTL	R	3	0	0	0	3	3	LACE				Y						
83	PCC	22EC2208R	DIGITAL COMMUNICATION	DC	R	3	0	2	2	4.5	7	SCS				Y						
84	PCC	22EC2208A	DIGITAL COMMUNICATION	DC	P	4	0	4	2	6.5	10	SCS				Y						

S.NO	CATEGORY	COURSE CODE	COURSE TITLE	SHORT NAME	MODE	L	T	P	S	Cr	CH	Pre-Requisite	CSE	CSIT	AIDS	ECE	ELE	EEE	IOT	BT	ME	CE
85	PCC	22EC2208P	DIGITAL COMMUNICATION	DC	P	4	0	4	2	6.5	10	SCS				Y						
86	PCC	22EC2211R	VLSI DESIGN	VLSID	R	3	0	2	2	4.5	7	AECD				Y	Y					
87	PCC	22EC2211A	VLSI DESIGN	VLSID	A	4	0	4	2	6.5	10	AECD				Y	Y					
88	PCC	22EC2211P	VLSI DESIGN	VLSID	P	4	0	4	2	6.5	10	AECD				Y	Y					
89	PCC	22EC3112R	DISCRETE TIME SIGNAL PROCESSING	DTSP	R	3	0	2	0	4	5	DC				Y	Y					
90	PCC	22EC3112A	DISCRETE TIME SIGNAL PROCESSING	DTSP	A	4	0	4	0	6	8	DC				Y	Y					
91	PCC	22EC3112P	DISCRETE TIME SIGNAL PROCESSING	DTSP	P	4	0	4	0	6	8	DC				Y	Y					
92	PCC	22EE3107R	CONTROL SYSTEMS	CS	R	2	0	2	0	3	4	BEEC				Y	Y	Y				
93	PCC	22EE3107A	CONTROL SYSTEMS	CS	A	3	0	4	0	5	7	BEEC				Y	Y	Y				
94	PCC	22EE3107P	CONTROL SYSTEMS	CS	P	3	0	4	0	5	7	BEEC				Y	Y	Y				
95	PCC	23EL3001R	DIGITAL VLSI DESIGN	DVD	R	2	0	2	2	3.5	6	DDCA					Y					
96	PCC	23EL3001A	DIGITAL VLSI DESIGN	DVD	A	3	0	4	2	5.5	9	DDCA					Y					
97	PCC	23EL3001P	DIGITAL VLSI DESIGN	DVD	P	3	0	4	2	5.5	9	DDCA					Y					
98	PCC	23EL3002R	LOW POWER VLSI CIRCUITS	LPVC	R	2	0	2	0	3	4	DDCA					Y					
99	PCC	23EL3002A	LOW POWER VLSI CIRCUITS	LPVC	A	3	0	4	0	5	7	DDCA					Y					
100	PCC	23EL3002P	LOW POWER VLSI CIRCUITS	LPVC	P	3	0	4	0	5	7	DDCA					Y					
101	PCC	22EE2204R	ELECTRICAL POWER GENERATION, TRANSMISSION & DISTRIBUTION	EPGTD	R	2	1	0	0	3	3	BEEC						Y				
102	PCC	22EE2204A	ELECTRICAL POWER GENERATION, TRANSMISSION & DISTRIBUTION	EPGTD	A	3	2	0	0	5	5	BEEC						Y				
103	PCC	22EE2204P	ELECTRICAL POWER GENERATION, TRANSMISSION & DISTRIBUTION	EPGTD	P	3	2	0	0	5	5	BEEC						Y				
104	PCC	22EE2101	ELECTRICAL CIRCUITS	ELC	R	2	1	2	0	4	5	BEEC						Y				
105	PCC	22EE2102	ELECTRICAL MACHINES	ELM	R	3	0	2	0	4	5	BEEC						Y				
106	PCC	22EE3106R	POWER SYSTEM ANALYSIS & STABILITY	PSAS	R	2	0	2	0	3	4	EPGTD						Y				
107	PCC	22EE3106A	POWER SYSTEM ANALYSIS & STABILITY	PSAS	A	3	0	4	0	5	7	EPGTD						Y				
108	PCC	22EE3106P	POWER SYSTEM ANALYSIS & STABILITY	PSAS	P	3	0	4	0	5	7	EPGTD						Y				
109	PCC	22EE2205R	POWER ELECTRONICS	PES	R	2	0	2	0	3	4	ELC						Y				
110	PCC	22EE2205A	POWER ELECTRONICS	PES	A	3	0	4	0	5	7	ELC						Y				
111	PCC	22EE2205P	POWER ELECTRONICS	PES	P	3	0	4	0	5	7	ELC						Y				
112	PCC	22EE3208R	POWER SYSTEM PROTECTION & CONTROL	PSPC	R	2	0	2	0	3	4	ELC						Y				
113	PCC	22EE3208A	POWER SYSTEM PROTECTION & CONTROL	PSPC	A	3	0	4	0	5	7	ELC						y				
114	PCC	22EE3208P	POWER SYSTEM PROTECTION & CONTROL	PSPC	P	3	0	4	0	5	7	ELC						y				
115	PCC	22EE3209R	AI TECHNIQUES FOR ELECTRICAL ENGINEERING	AITEE	R	2	0	2	0	3	4	PSAS						Y				
116	PCC	22EE3209A	AI TECHNIQUES FOR ELECTRICAL ENGINEERING	AITEE	A	3	0	4	0	5	7	PSAS						y				
117	PCC	22EE3209P	AI TECHNIQUES FOR ELECTRICAL ENGINEERING	AITEE	P	3	0	4	0	5	7	PSAS						y				
118	PCC	22CI2202R	CONTINUOUS DELIVERY & DEVOPS	CDD	R	2	0	2	4	4	8	ASE	Y	Y								
119	PCC	22CI2202A	CONTINUOUS DELIVERY & DEVOPS	CDD	A	3	0	4	4	6	11	ASE	Y	Y								
120	PCC	22CI2202P	CONTINUOUS DELIVERY & DEVOPS	CDD	P	3	0	4	4	6	11	ASE	Y	Y								
121	PCC	22CI2203	MANAGEMENT INFORMATION SYSTEMS	MIS	R	2	1	0	0	3	3	ASE		Y								
122	PCC	22AD2203R	MACHINE LEARNING	ML	R	2	0	2	4	4	8	PS			Y		Y					
123	PCC	22AD2203A	MACHINE LEARNING	ML	A	3	0	4	4	6	11	PS			Y		Y					
124	PCC	22AD2203P	MACHINE LEARNING	ML	P	3	0	4	4	6	11	PS			Y		Y					
125	PCC	22AD3207R	BIG DATA ANALYTICS	BDA	R	2	0	2	4	4	8	DWM			Y							
126	PCC	22AD3207A	BIG DATA ANALYTICS	BDA	A	3	0	4	4	6	11	DWM			Y							
127	PCC	22AD3207P	BIG DATA ANALYTICS	BDA	P	3	0	4	4	6	11	DWM			Y							
128	PCC	22AD3104R	DATA WAREHOUSING AND MINING	DWM	R	2	0	2	0	3	4	DBMS			Y							

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129	PCC	22AD3104A	DATA WAREHOUSING AND MINING	DWM	A	3	0	4	0	5	7	DBMS			Y							
130	PCC	22AD3104P	DATA WAREHOUSING AND MINING	DWM	P	3	0	4	0	5	7	DBMS			Y							
131	PCC	22AD3206R	DATA SCIENCE AND VISUALIZATION	DSV	R	2	0	2	0	3	4	PSQ			Y							
132	PCC	22AD3206A	DATA SCIENCE AND VISUALIZATION	DSV	A	3	0	4	0	5	7	PSQ			Y							
133	PCC	22AD3206P	DATA SCIENCE AND VISUALIZATION	DSV	P	3	0	4	0	5	7	PSQ			Y							
134	PCC	22AD3105R	DEEP LEARNING	DL	R	2	0	2	4	4	8	ML			Y							
135	PCC	22AD3105A	DEEP LEARNING	DL	A	3	0	4	4	6	11	ML			Y							
136	PCC	22AD3105P	DEEP LEARNING	DL	P	3	0	4	4	6	11	ML			Y							
137	PCC	22IN2202R	EMBEDDED SYSTEMS DESIGN	ESD	R	2	0	2	4	4	8	PC					Y		Y			
138	PCC	22IN2202A	EMBEDDED SYSTEMS DESIGN	ESD	A	3	0	4	4	6	11	PC					Y		Y			
139	PCC	22IN2202P	EMBEDDED SYSTEMS DESIGN	ESD	P	3	0	4	4	6	11	PC					Y		Y			
140	PCC	22IN2101R	IOT PRINCIPLES & ARCHITECTURE	IOTPA	R	2	0	4	0	4	6	FITS							Y			
141	PCC	22IN2101A	IOT PRINCIPLES & ARCHITECTURE	IOTPA	A	3	0	6	0	6	9	FITS							Y			
142	PCC	22IN2101P	IOT PRINCIPLES & ARCHITECTURE	IOTPA	P	3	0	6	0	6	9	FITS							Y			
143	PCC	22IN2003R	REAL TIME OPERATING SYSTEMS	RTOS	R	2	0	2	0	3	4	DDCA							Y			
144	PCC	22IN2003A	REAL TIME OPERATING SYSTEMS	RTOS	A	3	0	4	0	5	7	DDCA							Y			
145	PCC	22IN2003P	REAL TIME OPERATING SYSTEMS	RTOS	P	3	0	4	0	5	7	DDCA							Y			
146	PCC	22IN2204R	CLOUD COMPUTING FOR IOT	CCIOT	R	2	0	4	0	4	6	IOTPA							Y			
147	PCC	22IN2204A	CLOUD COMPUTING FOR IOT	CCIOT	A	3	0	6	0	6	9	IOTPA							Y			
148	PCC	22IN2204P	CLOUD COMPUTING FOR IOT	CCIOT	P	3	0	6	0	6	9	IOTPA							Y			
149	PCC	22IN2205	COMMUNICATION TECHNOLOGY	CMT	R	3	0	2	0	4	5	LACE							Y			
150	PCC	22BT2103R	BIOCHEMISTRY	BCM	R	2	0	2	0	3	4	NIL								Y		
151	PCC	22BT2103A	BIOCHEMISTRY	BCM	A	3	0	4	0	5	7	NIL								Y		
152	PCC	22BT2103P	BIOCHEMISTRY	BCM	P	3	0	4	0	5	7	NIL								Y		
153	PCC	22BT2104	MICROBIOLOGY	MBG	R	2	0	2	0	3	4	NIL								Y		
154	PCC	22BT2207R	BIOANALYTICAL TECHNIQUES	BAT	R	2	0	2	0	3	4	BCM								Y		
155	PCC	22BT2207A	BIOANALYTICAL TECHNIQUES	BAT	A	3	0	4	0	5	7	BCM								Y		
156	PCC	22BT2207P	BIOANALYTICAL TECHNIQUES	BAT	P	3	0	4	0	5	7	BCM								Y		
157	PCC	22BT2206	MOLECULAR BIOLOGY	MLBG	R	3	0	0	0	3	3	NIL								Y		
158	PCC	22BT2105R	IMMUNOLOGY	IMM	R	2	0	4	0	4	6	BCM								Y		
159	PCC	22BT2105A	IMMUNOLOGY	IMM	A	3	1	4	0	6	8	BCM								Y		
160	PCC	22BT2105P	IMMUNOLOGY	IMM	P	3	1	4	0	6	8	BCM								Y		
161	PCC	22BT3110R	GENETIC ENGINEERING	GE	R	2	0	4	0	4	6	NIL								Y		
162	PCC	22BT3110A	GENETIC ENGINEERING	GE	A	3	1	4	0	6	8	NIL								Y		
163	PCC	22BT3110P	GENETIC ENGINEERING	GE	P	3	1	4	0	6	8	NIL								Y		
164	PCC	22BT3111	FERMENTATION TECHNOLOGY	FT	R	2	0	2	0	3	4	MBG								Y		
165	PCC	22BT2209R	BIOCHEMICAL REACTION ENGINEERING	BCRE	R	2	0	4	0	4	6	MBG								Y		
166	PCC	22BT2209A	BIOCHEMICAL REACTION ENGINEERING	BCRE	A	3	1	4	0	6	8	MBG								Y		
167	PCC	22BT2209P	BIOCHEMICAL REACTION ENGINEERING	BCRE	P	3	1	4	0	6	8	MBG								Y		
168	PCC	22BT3212	PLANT AND ANIMAL BIOTECHNOLOGY	PABT	R	2	0	4	0	4	6	NIL								Y		
169	PCC	22BT3213R	DOWNSTREAM PROCESSING	DSP	R	2	0	4	0	4	6	BAT								Y		
170	PCC	22BT3213A	DOWNSTREAM PROCESSING	DSP	A	3	1	4	0	6	8	BAT								Y		
171	PCC	22BT3213P	DOWNSTREAM PROCESSING	DSP	P	3	1	4	0	6	8	BAT								Y		
172	PCC	22ME2106R	SOLID MECHANICS	SMN	R	3	0	2	0	4	5	EM									Y	Y

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173	PCC	22ME2106A	SOLID MECHANICS	SMN	A	4	0	4	0	6	8	EM									Y	Y
174	PCC	22ME2106P	SOLID MECHANICS	SMN	P	4	0	4	0	6	8	EM									Y	Y
175	PCC	22ME2208	MANUFACTURING PROCESSES	MP	R	2	0	2	0	3	4	WPME									Y	
176	PCC	22ME2107	THERMODYNAMICS	TD	R	3	0	0	0	3	3	Nil									Y	
177	PCC	22ME3113R	MANUFACTURING TECHNOLOGY	MT	R	2	0	2	0	3	4	MP									Y	
178	PCC	22ME3113A	MANUFACTURING TECHNOLOGY	MT	A	3	0	4	0	5	7	MP									Y	
179	PCC	22ME3113P	MANUFACTURING TECHNOLOGY	MT	P	3	0	4	0	5	7	MP									Y	
180	PCC	22ME2209R	KINEMATICS & DYNAMICS OF MACHINES	KDOM	R	2	1	2	0	4	5	EM									Y	
181	PCC	22ME2209A	KINEMATICS & DYNAMICS OF MACHINES	KDOM	A	3	1	4	0	6	8	EM									Y	
182	PCC	22ME2209P	KINEMATICS & DYNAMICS OF MACHINES	KDOM	P	3	1	4	0	6	8	EM									Y	
183	PCC	22ME3112	THERMAL SYSTEMS ENGINEERING	TSE	R	3	0	0	4	4	7	TD									Y	
184	PCC	22ME3215	DIGITAL MANUFACTURING & ROBOTICS	DMR	R	3	0	0	0	3	3	KDOM									Y	
185	PCC	22ME3110R	HEAT TRANSFER	HT	R	3	0	2	0	4	5	TD									Y	
186	PCC	22ME3110A	HEAT TRANSFER	HT	A	4	0	4	0	6	8	TD									Y	
187	PCC	22ME3110P	HEAT TRANSFER	HT	P	4	0	4	0	6	8	TD									Y	
188	PCC	22ME3111R	MECHANICAL ENGINEERING DESIGN	MED	R	3	0	0	0	3	3	SMN									Y	
189	PCC	22ME3111A	MECHANICAL ENGINEERING DESIGN	MED	A	4	1	0	0	5	5	SMN									Y	
190	PCC	22ME3111P	MECHANICAL ENGINEERING DESIGN	MED	P	4	1	0	0	5	5	SMN									Y	
191	PCC	22ME3214R	MACHINE DESIGN	MD	R	2	0	0	4	3	6	MED									Y	
192	PCC	22ME3214A	MACHINE DESIGN	MD	A	3	1	0	4	5	8	MED									Y	
193	PCC	22ME3214P	MACHINE DESIGN	MD	P	3	1	0	4	5	8	MED									Y	
194	PCC	22CE2103R	SURVEYING	SVY	R	2	0	0	4	3	6	NIL										Y
195	PCC	22CE2103A	SURVEYING	SVY	A	3	0	2	4	5	9	NIL										Y
196	PCC	22CE2103P	SURVEYING	SVY	P	3	0	2	4	5	9	NIL										Y
197	PCC	22CE2204	BUILDING MATERIALS, PLANNING & DRAWING	BMPD	R	3	0	2	0	4	5	NIL										Y
198	PCC	22CE2205	STRUCTURAL ANALYSIS	STA	R	3	1	0	0	4	4	SMN										Y
199	PCC	22CE2206	CONCRETE TECHNOLOGY	CT	R	2	0	2	0	3	4	NIL										Y
200	PCC	22CE2207R	GEOTECHNICAL ENGINEERING	GTE	R	3	0	2	0	4	5	NIL										Y
201	PCC	22CE2207A	GEOTECHNICAL ENGINEERING	GTE	A	4	0	4	0	6	8	NIL										Y
202	PCC	22CE2207P	GEOTECHNICAL ENGINEERING	GTE	P	4	0	4	0	6	8	NIL										Y
203	PCC	22CE3108R	DESIGN OF REINFORCED CONCRETE STRUCTURES	DRCS	R	3	0	2	0	4	5	STA										Y
204	PCC	22CE3108A	DESIGN OF REINFORCED CONCRETE STRUCTURES	DRCS	A	4	0	4	0	6	8	STA										Y
205	PCC	22CE3108P	DESIGN OF REINFORCED CONCRETE STRUCTURES	DRCS	P	4	0	4	0	6	8	STA										Y
206	PCC	22CE3109R	ENVIRONMENTAL ENGINEERING	EVE	R	2	0	2	0	3	4	NIL										Y
207	PCC	22CE3109A	ENVIRONMENTAL ENGINEERING	EVE	A	3	0	4	0	5	7	NIL										Y
208	PCC	22CE3109P	ENVIRONMENTAL ENGINEERING	EVE	P	3	0	4	0	5	7	NIL										Y
209	PCC	22CE3210R	QUANTITY SURVEYING & ESTIMATION	QSE	R	2	0	2	0	3	4	SVY										Y
210	PCC	22CE3210A	QUANTITY SURVEYING & ESTIMATION	QSE	A	3	0	4	0	5	7	SVY										Y
211	PCC	22CE3210P	QUANTITY SURVEYING & ESTIMATION	QSE	P	3	0	4	0	5	7	SVY										Y
212	PCC	22CE3211R	TRANSPORTATION ENGINEERING	TPE	R	3	0	2	0	4	5	NIL										Y
213	PCC	22CE3211A	TRANSPORTATION ENGINEERING	TPE	A	3	0	4	0	5	7	NIL										Y
214	PCC	22CE3211P	TRANSPORTATION ENGINEERING	TPE	P	3	0	4	0	5	7	NIL										Y
215	PCC		FLEXI-CORE - 1	FC-1	R	2	0	2	0	3	4	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
216	PCC		FLEXI-CORE - 2	FC-2	R	2	0	2	0	3	4	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

S.NO	CATEGORY	COURSE CODE	COURSE TITLE	SHORT NAME	MODE	L	T	P	S	Cr	CH	Pre-Requisite	CSE	CSIT	AIDS	ECE	ELE	EEE	IOT	BT	ME	CE
217	PCC		FLEXI-CORE - 3	FC-3	R	3	0	0	0	3	3	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
			TOTAL CREDITS										47	47	47	47	47	47	47	47	46	48
218	PEC		PROFESSIONAL ELECTIVE - 1	PE-1	R	2	0	2	4	4	8	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
219	PEC		PROFESSIONAL ELECTIVE - 1	PE-1	A	3	0	4	4	6	11	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
220	PEC		PROFESSIONAL ELECTIVE - 1	PE-1	P	3	0	4	4	6	11	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
221	PEC		PROFESSIONAL ELECTIVE - 2	PE-2	R	2	0	2	0	3	4	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
222	PEC		PROFESSIONAL ELECTIVE - 2	PE-2	A	3	0	4	0	5	7	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
223	PEC		PROFESSIONAL ELECTIVE - 2	PE-2	P	3	0	4	0	5	7	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
224	PEC		PROFESSIONAL ELECTIVE - 3	PE-3	R	2	0	2	4	4	8	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
225	PEC		PROFESSIONAL ELECTIVE - 3	PE-3	A	3	0	4	4	6	11	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
226	PEC		PROFESSIONAL ELECTIVE - 3	PE-3	P	3	0	4	4	6	11	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
227	PEC		PROFESSIONAL ELECTIVE - 4	PE-4	M	3	0	0	0	3	3	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
228	PEC		PROFESSIONAL ELECTIVE - 5	PE-5	R	2	0	2	0	3	4	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
229	PEC		PROFESSIONAL ELECTIVE - 5	PE-5	A	4	0	2	0	5	6	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
230	PEC		PROFESSIONAL ELECTIVE - 5	PE-5	P	4	0	2	0	5	6	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
			TOTAL CREDITS										17	17	17	17	17	17	17	17	17	17
231	SDC		SKILL DEVELOPMENT PROJECT - 1	SDP-1	R	0	0	2	4	2	6	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
232	SDC		SKILL DEVELOPMENT PROJECT - 1	SDP-1	A	0	0	6	4	4	10	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
233	SDC		SKILL DEVELOPMENT PROJECT - 1	SDP-1	P	0	0	6	4	4	10	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
234	SDC		SKILL DEVELOPMENT PROJECT - 2	SDP-2	R	0	0	2	4	2	6	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
235	SDC		SKILL DEVELOPMENT PROJECT - 2	SDP-2	A	0	0	6	4	4	10	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
236	SDC		SKILL DEVELOPMENT PROJECT - 2	SDP-2	P	0	0	6	4	4	10	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
237	SDC		SKILL DEVELOPMENT PROJECT - 3	SDP-3	R	0	0	2	4	2	6	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
238	SDC		SKILL DEVELOPMENT PROJECT - 3	SDP-3	A	0	0	6	4	4	10	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
239	SDC		SKILL DEVELOPMENT PROJECT - 3	SDP-3	P	0	0	6	4	4	10	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
240	SDC		SKILL DEVELOPMENT PROJECT - 4 (SPECIALIZATION)	SDP-4	R	0	0	2	4	2	6	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
241	SDC		SKILL DEVELOPMENT PROJECT - 4 (SPECIALIZATION)	SDP-4	A	0	0	6	4	4	10	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
242	SDC		SKILL DEVELOPMENT PROJECT - 4 (SPECIALIZATION)	SDP-4	P	0	0	6	4	4	10	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
			TOTAL CREDITS										8	8	8	8	8	8	8	8	8	8
243	PRI	22IE2040	SOCIAL INTERNSHIP	SIP	R	0	0	0	4	0	4	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
244	PRI	22IE3041	TECHNICAL INTERNSHIP	TIP	R	0	0	0	8	0	8	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
245	PRI	22IE3043	TERM PAPER	TP	R	0	0	4	0	2	4	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
246	PRI	22IE4053R	ENGINEERING CAPSTONE PROJECT - PHASE 1	ECP-1	R	0	0	6	12	6	18	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
247	PRI	22IE4053A	ENGINEERING CAPSTONE PROJECT - PHASE 1	ECP-1	A	0	0	8	16	8	24	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
248	PRI	22IE4054R	ENGINEERING CAPSTONE PROJECT - PHASE 2	ECP-2	R	0	0	6	12	6	18	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
249	PRI	22IE4054A	ENGINEERING CAPSTONE PROJECT - PHASE 2	ECP-2	A	0	0	8	16	8	24	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
250	PRI	22IE4048	ENGINEERING PROJECT	EPJ	ALT	0	0	6	12	6	18	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
251	PRI	22IE4051	INDUSTRIAL INTERNSHIP - PHASE 1	IIP-1	ALT	0	0	0	24	6	24	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
252	PRI	22IE4052	INDUSTRIAL INTERNSHIP - PHASE 2	IIP-2	ALT	0	0	0	24	6	24	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
253	PRI	22IE4042	INDUSTRIAL INTERNSHIP	IIP	ALT	0	0	0	24	6	24	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
			TOTAL CREDITS										14	14	14	14	14	14	14	14	14	14
254	OEC		OPEN ELECTIVE - 1	OE-1	R/M	3	0	0	0	3	3	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
255	OEC		OPEN ELECTIVE - 2	OE-2	R/M	3	0	0	0	3	3	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
256	OEC		OPEN ELECTIVE - 3	OE-3	R/M	3	0	0	0	3	3	RELEVENT COURSE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

S.NO	CATEGORY	COURSE CODE	COURSE TITLE	SHORT NAME	MODE	L	T	P	S	Cr	CH	Pre-Requisite	CSE	CSIT	AIDS	ECE	ELE	EEE	IOT	BT	ME	CE
			TOTAL CREDITS										9	9	9	9	9	9	9	9	9	9
257	VAC		VALUE ADDED COURSE-1	VAC-1	R/M	0	0	0	8	0	0	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
258	VAC		VALUE ADDED COURSE-2	VAC-2	R/M	0	0	0	8	0	0	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
259	VAC		VALUE ADDED COURSE-3	VAC-3	R/M	0	0	0	8	0	0	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
260	VAC		VALUE ADDED COURSE-4	VAC-4	R/M	0	0	0	8	0	0	N/A	Y	Y	Y							
261	VAC		SPORTS/YOGA CERTIFICATION	SPORT	R/M	0	0	0	2	0	2	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
			GRAND TOTAL CREDITS										170	170	170	170	170	170	170	170	170	170

**LIST OF FOREIGN LANGUAGE ELECTIVES**

Sl No	COURSE CODE	COURSE TITLE	MODE	L	T	P	S	Cr	CH	PRE-REQUISITE
1	22FL3051	ARABIC LANGUAGE	R/M	2	0	0	0	2	2	NIL
2	22FL3052	BENGALI LANGUAGE	R/M	2	0	0	0	2	2	NIL
3	22FL3053	CHINESE LANGUAGE	R/M	2	0	0	0	2	2	NIL
4	22FL3054	FRENCH LANGUAGE	R/M	2	0	0	0	2	2	NIL
5	22FL3055	GERMAN LANGUAGE	R/M	2	0	0	0	2	2	NIL
6	22FL3057	ITALIAN LANGUAGE	R/M	2	0	0	0	2	2	NIL
7	22FL3058	JAPANESE LANGUAGE	R/M	2	0	0	0	2	2	NIL
8	22FL3060	RUSSIAN LANGUAGE	R/M	2	0	0	0	2	2	NIL
9	22FL3062	SPANISH LANGUAGE	R/M	2	0	0	0	2	2	NIL
10	22FL3063	MANDARIN LANGUAGE	R/M	2	0	0	0	2	2	NIL

LIST OF MANAGEMENT ELECTIVES

Sl No	COURSE CODE	COURSE TITLE	MODE	L	T	P	S	Cr	CH	PRE-REQUISITE
1	22MB0001	BASICS OF MARKETING FOR ENGINEERS	R	2	0	0	0	2	2	Nil
2	22MB0002	PARADIGMS IN MANAGEMENT THOUGHT	R	2	0	0	0	2	2	Nil
3	22MB0005	MANAGING PERSONAL FINANCE	R	2	0	0	0	2	2	Nil
4	22MB0003	FINANCIAL MANAGEMENT FOR ENGINEERS	R	2	0	0	0	2	2	Nil
5	22MB0004	ORGANIZATION MANAGEMENT	R	2	0	0	0	2	2	Nil
6	22MB4058M	SIX SIGMA YELLOW BELT	M	4	0	0	0	4	4	NIL
7	22MB4059M	SEARCH ENGINE OPTIMIZATION	M	4	0	0	0	4	4	NIL
8	22MB4060M	FINTECH:FINANCE INDUSTRY TRANSFORMATION AND REGULATION	M	4	0	0	0	4	4	NIL
9	22MB4009M	LEADING SUSTAINABLE COMMUNITY TRANSFORMATION	M	4	0	0	0	4	4	NIL
10	22MB4010M	DIGITAL MARKETING	M	4	0	0	0	4	4	NIL

List of Additional Electives to complete three levels of Japanese Language and 24 Credits of NCC

Sl No	COURSE CODE	COURSE TITLE	MODE	L	T	P	S	Cr	CH	PRE-REQUISITE
1	22FL3064	JAPANESE LANGUAGE (LEVEL-1)	R	2	0	0	0	2	2	NIL
2	22FL3065	JAPANESE LANGUAGE (LEVEL-2)	R	2	0	0	0	2	2	NIL
3	22FL3066	JAPANESE LANGUAGE (LEVEL-3)	R	2	0	0	0	2	2	NIL
4	OEGN0011	NATIONAL CADET CORPS (NCC)-4	R	2	0	0	0	2	2	NIL
5	OEGN0012	CAMP-1	R	2	0	0	0	2	2	NIL
6	OEGN0013	CAMP-2	R	2	0	0	0	2	2	NIL

LIST OF SCIENCE AND MATHEMATICS ELECTIVE - B.TECH

S.NO	ELECTIVE NUMBER	COURSE CODE	COURSE TITLE	SHORT NAME	MODE	L	T	P	S	Cr	CH	PRE-REQUISITE	CSE	CSIT	AIDS	ECE	ELE	EEE	IOT	BT	ME	CE
1	SCE-1	22PH1005	ENGINEERING PHYSICS	EPY	R	3	0	2	0	4	5	NIL	Y	Y	Y	Y	Y		Y	Y		Y
2	SCE-1	22EE2103	ELECTROMAGNETIC FIELDS & ENGINEERING MATERIALS	EMFEM	R	3	0	2	0	4	5	NIL						Y				
3	SCE-1	22PH1004	SOLID STATE PHYSICS	SSP	R	3	0	2	0	4	5	NIL	Y	Y	Y	Y	Y		Y	Y		Y
4	SCE-1	23ME1005	MATERIAL SCIENCE & METALLURGY	MSM	R	3	0	2	0	4	5	NIL									Y	
5	SCE-1	22PH1006	QUANTUM PHYSICS FOR ENGINEERING	QPFE	R	3	0	2	0	4	5	NIL	Y	Y	Y							
6	SCE-1	22PH1008	PHYSICS FOR ELECTRONIC ENGINEERS	PEE	R	3	0	2	0	4	5	NIL				Y	Y		Y			
7	SCE-1	22CE1201	ENGINEERING GEOLOGY	GEY	R	3	0	2	0	4	5	NIL										Y
8	SCE-2	23CY1001	ENGINEERING CHEMISTRY	ECY	R	3	0	2	0	4	5	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
9	MTE	23MT1001	LINEAR ALGEBRA AND CALCULUS FOR ENGINEERS	LACE	R	2	2	0	0	4	4	NIL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
10	MTE	23MT1002	DISCRETE STRUCTURES	DIS	R	2	2	0	0	4	4	NIL	Y	Y	Y	Y	Y					
11	MTE	22MT2003	MATHEMATICAL MODELLING & NUMERICAL METHODS	MMNM	R	2	2	0	0	4	4	NIL						Y	Y	Y	Y	Y
12	MTE	22MT2004	MATHEMATICAL PROGRAMMING	MPG	R	2	2	0	0	4	4	NIL	Y	Y	Y				Y			
13	MTE	22MT2005	PROBABILITY, STATISTICS & QUEUEING THEORY	PSQT	R	2	2	0	0	4	4	NIL	Y	Y	Y			Y	Y			Y
14	MTE	22MT2006	Optimization In Engineering	QIE	R	2	2	0	0	4	4	NIL				Y	Y					
15	MTE	22MT2007	Random Variables and Stochastic Process	RVASP	R	2	2	0	0	4	4	NIL				Y	Y					
16	MTE	22MT2008	Complex Analysis and Transform Techniques	CATT	R	2	2	0	0	4	4	NIL						Y				Y
17	MTE	22MT2009	Biostatistics	BST	R	2	2	0	0	4	4	NIL								Y		
18	MTE	22MT2010	COMPUTATIONS IN APPLIED MECHANICS AND STATISTICS	CAMS	R	2	2	0	0	4	4	NIL									Y	
19	MTE	22MT2011	OPTIMIZATION TECHNIQUES	OTQ	R	2	2	0	0	4	4	NIL									Y	

LIST OF FLEXI CORE COURSES- Y23 BTECH

S No	Course Code	COURSE TITLE	Mode	L	T	P	S	Cr	CH	PRE-REQUISITE
1	22AD2102F	DATABASE MANAGEMENT SYSTEMS	R	2	0	2	0	3	4	DS
2	22AD2222F	NATURAL LANGUAGE PROCESSING	R	2	0	2	0	3	4	DDAIS
3	22AD2223F	SOFT COMPUTING	R	2	0	2	0	3	4	DAA
4	22AD2224F	CLOUD COMPUTING	R	2	1	0	0	3	3	OS
5	22AD2226F	IMAGE AND VIDEO PROCESSING	R	2	0	2	0	3	4	DST
6	22AD2228F	REAL TIME OPERATING SYSTEM	R	2	0	2	0	3	4	OS
7	22BT2221F	PROCESS ENGINEERING PRINCIPLES	R	2	0	2	0	3	4	BCT
8	22BT2222F	BIOPROCESS DYNAMICS AND CONTROL	R	2	0	2	0	3	4	BCT
9	22BT2223F	BIORESOURCES TECHNOLOGY	R	2	0	2	0	3	4	BCT
10	22BT2224F	BIOREACTOR OPERATIONS	R	2	0	2	0	3	4	BCT
11	22BT2225F	UNITOPERATIONS IN FOOD TECHNOLOGY	R	2	0	2	0	3	4	BCT
12	22BT2226F	BIOMINING	R	2	0	2	0	3	4	BCT
13	22BT2227F	BIOINFORMATICS	R	2	0	2	0	3	4	CB
14	22BT2228F	CLINICAL DATA SCIENCE	R	2	0	2	0	3	4	CB
15	22BT2229F	DATA SCIENCE FOR BIOLOGISTS	R	2	0	2	0	3	4	CB
16	22BT2230F	STATISTICS FOR GENOMICS DATA SCIENCE	R	2	0	2	0	3	4	CB
17	22BT2231F	ALGORITHMS FOR DNA SEQUENCING	R	2	0	2	0	3	4	CB
18	22BT2232F	DATA MINING	R	2	0	2	0	3	4	CB
19	22BT2233F	GENETICS	R	2	1	0	0	3	3	CB
20	22BT2234F	REGULATORY AFFAIRS AND CLINICAL TRAILS	R	2	1	0	0	3	3	CB
21	22BT2235F	BIOETHICS AND BIOSAFETY	R	2	1	0	0	3	3	CB
22	22BT2236F	PROTEIN ENGINEERING	R	2	1	0	0	3	3	CB
23	22BT2237F	PLANT MOLECULAR BIOLOGY	R	2	1	0	0	3	3	CB
24	22BT2238F	MOLECULAR REGULATION AND HEALTH DISEASES	R	2	1	0	0	3	3	CB
25	22CE2221F	WATER RESOURCES ENGINEERING	R	2	0	2	0	3	4	NIL
26	22CE2222F	DESIGN OF STEEL STRUCTURES	R	2	0	2	0	3	4	SA
27	22CE2223F	CONSTRUCTION PLANNING & MANAGEMENT	R	2	1	0	0	3	3	ED

28	22ME2106F	SOLID MECHANICS	R	3	0	0	0	3	3	EM
29	22CE2205F	STRUCTURAL ANALYSIS	R	3	0	0	0	3	3	SM
30	22CE3108F	DESIGN OF REINFORCED CONCRETE STRUCTURES	R	2	0	2	0	3	4	SA
31	22CE2227F	FLUID MECHANICS AND HYDRAULICS	R	2	0	2	0	3	4	NIL
32	22CE2228F	ENVIRONMENTAL IMPACT ASSESSMENT AND LIFE CYCLE ANALYSES	R	3	0	0	0	3	3	FMH
33	22CE2229F	ADVANCED CONSTRUCTION TECHNOLOGY	R	3	0	0	0	3	3	CPM
34	22CE2230F	PROJECTS & CONTRACT MANAGEMENT	R	3	0	0	0	3	3	CPM
35	22CE2231F	SOIL MECHANICS	R	2	0	2	0	3	3	
36	22CI2203F	MANAGEMENT INFORMATION SYSTEMS	R	2	1	0	0	3	4	ASE
37	22CI2001F	ADAPTIVE SOFTWARE ENGINEERING	R	2	1	0	0	3	3	NIL
38	22CS2221F	UX DESIGN	R	2	0	2	0	3	4	DTI
39	22CI2202F	CONTINUOUS DELIVERY & DEVOPS	R	2	0	2	0	3	4	SE
40	22CS2223F	CLOUD INFRASTRUCTURE AND SERVICES	R	2	0	2	0	3	4	OS & NPS
41	22CS2224F	CRYPT ANALYSIS & CYBER DEFENSE	R	2	0	2	0	3	4	NPS
42	22CS2225F	EMBEDDED SYSTEMS	R	2	0	2	0	3	4	DLP
43	22AD2203F	MACHINE LEARNING	R	2	0	2	0	3	4	IAD
44	22CS2227F	DATA ANALYTICS AND VISUALIZATION TECHNIQUES	R	2	0	2	0	3	4	PSQ
45	22CS2228F	CROSS-PLATFORM USER EXPERIENCE DESIGN	R	2	0	2	0	3	4	EP
46	22CS2229F	APPLICATION DEVELOPMENT ON CLOUD	R	2	0	2	0	3	4	EP
47	22CS2230F	SOLUTIONS ARCHITECTING ON CLOUD	R	2	0	2	0	3	4	OS & NPS
48	22CS2231F	VISUAL PROGRAMING	R	2	0	2	0	3	4	CTOD
49	22CS2232F	ADVANCED DATABASES	R	2	0	2	0	3	4	DBMS
50	22CS2233F	INTRODUCTION TO BLOCKCHAIN AND CRYPTO CURRENCIES	R	2	0	2	0	3	4	NPS
51	22CS2234F	NETWORK & INFRASTRUCTURE SECURITY	R	2	0	2	0	3	4	NPS
52	22CS2235F	COMPILER DESIGN	R	2	0	2	0	3	4	ATFL
53	22CS2236F	FUNCTIONAL & CONCURRENT PROGRAMMING	R	2	0	2	0	3	4	CTOD

54	22CS2237F	QUANTUM COMPUTING	R	2	0	2	0	3	4	LACE
55	22CS2238F	AUTOMATA THEORY AND FORMAL LANGUAGES	R	2	1	0	0	3	3	NIL
56	22CS2239F	SOFTWARE VERIFICATION & VALIDATION	R	2	0	2	0	3	4	SE
57	22CS2240F	.NET PROGRAMMING (EPAM)	R	2	0	2	0	3	4	CTSD
58	22CS2241F	FRONT END WEB DEVELOPMENT (EPAM)	R	2	0	2	0	3	4	CTOD
59	22CS2242F	SOFTWARE TESTING (EPAM)	R	2	0	2	0	3	4	ASE
60	22CS2243F	CLOUD DEVOPS (EPAM)	R	2	0	2	0	3	4	OS
61	22CS2104F	OPERATING SYSTEMS	R	2	0	2	0	3	4	DLP
62	22CS2205F	DESIGN & ANALYSIS OF ALGORITHMS	R	2	0	2	0	3	4	NIL
63	22CS2246F	OBJECT ORIENTED PROGRAMMING	R	2	0	2	0	3	4	NIL
64	22CS2247F	CRYPTOGRAPHY AND SECURITY	R	2	0	2	0	3	4	LACE
65	22EC2221F	EMBEDDED SYSTEM DESIGN	R	2	0	2	0	3	4	DDCA
66	22EC2222F	DIGITAL VLSI DESIGN	R	2	0	2	0	3	4	DDCA
67	22EC2223F	FUNDAMENTALS OF ROBOTICS	R	2	0	2	0	3	4	LACE
68	22EC2224F	DEEP NETWORK ARCHITECTURES	R	2	0	2	0	3	4	LACE
69	22EC2225F	RADIATING SYSTEMS & WAVE PROPAGATION	R	2	0	2	0	3	4	LACE
70	22EC2226F	WIRELESS COMMUNICATIONS	R	2	0	2	0	3	4	LACE
71	22EC2227F	COMMUNICATION NETWORKS	R	2	0	2	0	3	4	LACE
72	22EC2228F	BIOMEDICAL ELECTRONICS & IOT FOR HEALTHCARE	R	2	0	2	0	3	4	FIOT
73	22EC2229F	WIRELESS SENSOR NETWORKS	R	2	0	2	0	3	4	FIOT
74	22EC2230F	LOW POWER VLSI CIRCUITS	R	2	0	2	0	3	4	DDCA
75	22EC2231F	ELECTRONICS INSTRUMENTS & AUTOMATION	R	2	0	2	0	3	4	IR
76	22EC2232F	DEEP LEARNING FOR COMPUTER VISION APPLICATIONS	R	2	0	2	0	3	4	IR
77	22EC2233F	RF SYSTEM DESIGN	R	2	0	2	0	3	4	RSWP
78	22EC2234F	RADIO WAVE PROPAGATION	R	2	0	2	0	3	4	RSWP
79	22EC2235F	NETWORK SECURITY	R	2	0	2	0	3	4	CN
80	22EC2236F	ELECTRONIC CIRCUITS FOR MEDICAL INSTRUMENTATION	R	2	0	2	0	3	4	BEIH
81	22EC2237F	ASIC AND FPGA DESIGN	R	2	0	2	0	3	4	DVD
82	22EC2238F	PEER TO PEER NETWORKS	R	2	0	2	0	3	4	WSN

83	22EC2239F	WIRELESS LAN	R	2	0	2	0	3	4	WSN
84	22EC2240F	PROCESSORS AND CONTROLLERS	R	2	0	2	0	3	4	NIL
85	22EE2221F	RESTRUCTURED POWER SYSTEMS	R	3	0	0	0	3	3	BEEC
86	22EE2222F	INDUSTRIAL APPLICATIONS OF ELECTRICAL MACHINES	R	2	0	2	0	3	4	BEEC
87	22EE2223F	UTILIZATION OF ELECTRICAL ENERGY	R	3	0	0	0	3	3	BEEC
88	22EE2224F	MEASUREMENTS AND INSTRUMENTATION	R	2	0	2	0	3	4	BEEC
89	22EE2225F	POWER QUALITY	R	3	0	0	0	3	3	BEEC
90	22EE2226F	ELECTRICAL TECHNOLOGY	R	2	0	2	0	3	4	BEEC
91	22EE2227F	ELECTRICAL POWER ENGINEERING	R	3	0	0	0	3	3	BEEC
92	22EE2228F	POWER ELECTRONICS & DRIVES	R	2	0	2	0	3	4	ET
93	22EE2229F	ELECTRICAL DRIVES	R	3	0	0	0	3	3	BEEC
94	22IN2221F	IOT PRINCIPLES & ARCHITECTURE	R	2	0	2	0	3	4	FIOT
95	22IN2204F	CLOUD COMPUTING FOR IOT	R	2	0	2	0	3	4	FIOT
96	22ME2221F	SUPPLY CHAIN & QUALITY MANAGEMENT	R	3	0	0	0	3	3	MP
97	22ME2222F	MATERIAL SCIENCE	R	2	0	2	0	3	3	NIL
98	22ME2208F	MANUFACTURING PROCESS	R	2	0	2	0	3	3	NIL
99	22ME3113F	MANUFACTURING TECHNOLOGY	R	2	0	2	0	3	3	NIL
100	22ME2225F	INDUSTRIAL INTERNET OF THINGS	R	2	0	2	0	3	4	NIL
101	22ME2226F	ELECTRIC VEHICLE TECHNOLOGY	R	2	0	2	0	3	3	NIL
102	22ME2107F	THERMODYNAMICS	R	2	0	0	0	3	3	NIL
103	22ME2228F	FLUID MECHANICS	R	2	0	2	0	3	3	NIL
104	22ME2229F	HEAT TRANSFER	R	2	0	2	0	3	3	TD
105	22ME2230F	ENGINEERING MECHANICS	R	3	0	0	0	3	3	NIL
106	22ME2231F	STRENGTH OF MATERIALS	R	2	0	2	0	3	3	EM
107	22ME3111F	MECHANICAL ENGINEERING DESIGN	R	3	0	0	0	3	3	NIL

SI No	SPECIALIZATION	Course Code	Elective No	Course Title	Mode	L	T	P	S	Cr	CH	PRE-REQUISITE
				LIST OF PROFESSIONAL ELECTIVES - B.TECH								
1	AGRI BIOTECHNOLOGY	22ABT3101R	PEC-1	MOLECULAR PLANT VIOROLOGY	R	2	0	2	4	4	8	MLBG
2	AGRI BIOTECHNOLOGY	22ABT3101A	PEC-1	MOLECULAR PLANT VIOROLOGY	A	3	0	4	4	6	11	MLBG
3	AGRI BIOTECHNOLOGY	22ABT3101P	PEC-1	MOLECULAR PLANT VIOROLOGY	P	3	0	4	4	6	11	MLBG
4	AGRI BIOTECHNOLOGY	22ABT3202	PEC-2	MOLECULAR PATHOLOGY AND PEST MANAGEMENT	R	2	0	2	0	3	4	MLBG
5	AGRI BIOTECHNOLOGY	22ABT3203	PEC-2	CROP SCIENCE AND PRODUCTION	R	2	0	2	0	3	4	MLBG
6	AGRI BIOTECHNOLOGY	22ABT3304R	PEC-3	GMOS, BIOSAFETY AND BIOETHICS	R	2	0	2	4	4	8	MLBG
7	AGRI BIOTECHNOLOGY	22ABT3304A	PEC-3	GMOS, BIOSAFETY AND BIOETHICS	A	3	0	4	4	6	11	MLBG
8	AGRI BIOTECHNOLOGY	22ABT3304P	PEC-3	GMOS, BIOSAFETY AND BIOETHICS	P	3	0	4	4	6	11	MLBG
9	AGRI BIOTECHNOLOGY	22ABT3405M	PEC-4	AGRICULTURAL INFORMATICS	M	3	0	0	0	3	3	MLBG
10	AGRI BIOTECHNOLOGY	22ABT3406M	PEC-4	AGRIBUSINESS AND ENTERPREUNERSHIP	M	3	0	0	0	3	3	MLBG
11	AGRI BIOTECHNOLOGY	22ABT3507	PEC-5	MOLECULAR BREEDING IN FIELD CROPS	R	2	0	2	0	3	4	MLBG
12	AGRI BIOTECHNOLOGY	22ABT3508	PEC-5	PLANT BREEDING	R	2	0	2	0	3	4	MLBG
13	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3101R	PEC-1	MACHINE LEARNING	R	2	0	2	4	4	8	DDAIS
14	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3101A	PEC-1	MACHINE LEARNING	A	3	0	4	4	6	11	DDAIS
15	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3101P	PEC-1	MACHINE LEARNING	P	3	0	4	4	6	11	DDAIS
16	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3202	PEC-2	SOFT COMPUTING	R	2	0	2	0	3	4	DDAIS
17	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3203	PEC-2	MULTI MODEL INFORMATION PROCESSING	R	2	0	2	0	3	4	NIL
18	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3204	PEC-2	ARTIFICIAL NEURAL NETWORKS	R	2	0	2	0	3	4	DDAIS
19	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3305R	PEC-3	DEEP LEARNING	R	2	0	2	4	4	8	ML
20	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3305A	PEC-3	DEEP LEARNING	A	3	0	4	4	6	11	ML
21	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3305P	PEC-3	DEEP LEARNING	P	3	0	4	4	6	11	ML
22	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3406M	PEC-4	COGNITIVE COMPUTING	M	3	0	0	0	3	3	DDAIS

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23	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3407M	PEC-4	PERCEPTION AND COMPUTER VISION	M	3	0	0	0	3	3	DDAIS
24	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3408M	PEC-4	MACHINE LEARNING ON CLOUD	M	3	0	0	0	3	3	ML
25	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3509	PEC-5	COMPUTATIONAL EPIDEMIOLOGY	R	2	0	2	0	3	4	DDAIS
26	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3510	PEC-5	NATURAL LANGUAGE PROCESSING	R	2	0	2	0	3	4	DDAIS
27	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3511	PEC-5	SPEECH PROCESSING	R	2	0	2	0	3	4	DDAIS
28	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3512	PEC-5	DESIGN & MANAGEMENT OF DISTRIBUTED APPLICATIONS FOR AI ON CLOUD	R	2	0	2	0	3	4	CIS
29	ARTIFICIAL INTELLIGENCE & INTELLIGENT PROCESS AUTOMATION	22AIP3513	PEC-5	ARCHITECTING DEEP LEARNING WORKLOADS ON CLOUD	R	2	0	2	0	3	4	DDAIS&CIS
30	AUTOMOTIVE ELECTRONICS & AUTOSAR	22AEA3101R	PEC-1	AUTOMOTIVE SENSOR AND APPLICATIONS	R	2	0	2	4	4	8	TD
31	AUTOMOTIVE ELECTRONICS & AUTOSAR	22AEA3101A	PEC-1	AUTOMOTIVE SENSOR AND APPLICATIONS	A	3	0	4	4	6	11	TD
32	AUTOMOTIVE ELECTRONICS & AUTOSAR	22AEA3101P	PEC-1	AUTOMOTIVE SENSOR AND APPLICATIONS	P	3	0	4	4	6	11	TD
33	AUTOMOTIVE ELECTRONICS & AUTOSAR	22AEA3202	PEC-2	AUTOTRONICS	R	2	0	2	0	3	4	TD
34	AUTOMOTIVE ELECTRONICS & AUTOSAR	22AEA3203	PEC-2	AUTOMOTIVE POLLUTION AND ITS CONTROL	R	2	0	2	0	3	4	TD
35	AUTOMOTIVE ELECTRONICS & AUTOSAR	22AEA3304R	PEC-3	ALTERNATE DRIVES, TRACTION AND CONTROLS	R	2	0	2	4	4	8	TD
36	AUTOMOTIVE ELECTRONICS & AUTOSAR	22AEA3304A	PEC-3	ALTERNATE DRIVES, TRACTION AND CONTROLS	A	3	0	4	4	6	11	TD
37	AUTOMOTIVE ELECTRONICS & AUTOSAR	22AEA3304P	PEC-3	ALTERNATE DRIVES, TRACTION AND CONTROLS	P	3	0	4	4	6	11	TD
38	AUTOMOTIVE ELECTRONICS & AUTOSAR	22AEA3405M	PEC-4	VEHICLE CONTROL SYSTEMS	M	3	0	0	0	3	3	TD
39	AUTOMOTIVE ELECTRONICS & AUTOSAR	22AEA3406M	PEC-4	AUTOMOTIVE ELECTRICAL AND ELECTRONIC SYSTEMS	M	3	0	0	0	3	3	TD
40	AUTOMOTIVE ELECTRONICS & AUTOSAR	22AEA3507	PEC-5	SOFT COMPUTING TECHNIQUES FOR AUTOMOTIVE APPLICATIONS	R	2	0	2	0	3	4	TD
41	AUTOMOTIVE ELECTRONICS & AUTOSAR	22AEA3508	PEC-5	AUTOMOTIVE NETWORKING AND PROTOCOLS	R	2	0	2	0	3	4	TD
42	AUTONOMOUS SYSTEMS	22ASS3101R	PEC-1	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	R	2	0	2	4	4	8	DDAIS
43	AUTONOMOUS SYSTEMS	22ASS3101A	PEC-1	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	A	3	0	4	4	6	11	DDAIS
44	AUTONOMOUS SYSTEMS	22ASS3101P	PEC-1	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	P	3	0	4	4	6	11	DDAIS
45	AUTONOMOUS SYSTEMS	22ASS3202	PEC-2	INTRODUCTION TO INTELLIGENT DRONES	R	2	0	2	0	3	4	DDAIS

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46	AUTONOMOUS SYSTEMS	22ASS3203	PEC-2	AI AND IOT FOR AUTONOMOUS VEHICLE	R	2	0	2	0	3	4	DDAIS
47	AUTONOMOUS SYSTEMS	22ASS3304R	PEC-3	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	R	2	0	2	4	4	8	DDAIS
48	AUTONOMOUS SYSTEMS	22ASS3304A	PEC-3	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	A	3	0	4	4	6	11	DDAIS
49	AUTONOMOUS SYSTEMS	22ASS3304P	PEC-3	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	P	3	0	4	4	6	11	DDAIS
50	AUTONOMOUS SYSTEMS	22ASS3405M	PEC-4	EXPERT SYSTEMS	M	3	0	0	0	3	3	DDAIS
51	AUTONOMOUS SYSTEMS	22ASS3406M	PEC-4	SELF-DRIVING CARS	M	3	0	0	0	3	3	DDAIS
52	AUTONOMOUS SYSTEMS	22ASS3507	PEC-5	LOCALIZATION & PROGRAMMING REAL-TIME AUTONOMOUS SYSTEMS	R	2	0	2	0	3	4	DDAIS
53	AUTONOMOUS SYSTEMS	22ASS3508	PEC-5	REINFORCEMENT LEARNING FOR AUTONOMOUS SYSTEM	R	2	0	2	0	3	4	DDAIS
54	BIOINFORMATICS	22BIS3101R	PEC-1	MOLECULAR MODELLING AND DRUG DESIGN	R	2	0	2	4	4	8	MLBG
55	BIOINFORMATICS	22BIS3101A	PEC-1	MOLECULAR MODELLING AND DRUG DESIGN	A	3	0	4	4	6	11	MLBG
56	BIOINFORMATICS	22BIS3101P	PEC-1	MOLECULAR MODELLING AND DRUG DESIGN	P	3	0	4	4	6	11	MLBG
57	BIOINFORMATICS	22BIS3202	PEC-2	BIOMEDICAL INFORMATICS	R	2	0	2	0	3	4	MLBG
58	BIOINFORMATICS	22BIS3203	PEC-2	PYTHON AND R PROGRAMMING	R	2	0	2	0	3	4	MLBG
59	BIOINFORMATICS	22BIS3304R	PEC-3	STRUCTURAL BIOLOGY	R	2	0	2	4	4	8	MLBG
60	BIOINFORMATICS	22BIS3304A	PEC-3	STRUCTURAL BIOLOGY	A	3	0	4	4	6	11	MLBG
61	BIOINFORMATICS	22BIS3304P	PEC-3	STRUCTURAL BIOLOGY	P	3	0	4	4	6	11	MLBG
62	BIOINFORMATICS	22BIS3405M	PEC-4	APPLIED BIOINFORMATICS	M	3	0	0	0	3	3	MLBG
63	BIOINFORMATICS	22BIS3406M	PEC-4	NGS SEQUENCING AND DATA ANALYSIS	M	3	0	0	0	3	3	MLBG
64	BIOINFORMATICS	22BIS3507	PEC-5	SYSTEMS BIOLOGY	R	2	0	2	0	3	4	MLBG
65	BIOINFORMATICS	22BIS3508	PEC-5	DATA BASE MANAGEMENT SYSTEM FOR BIOLOGIST	R	2	0	2	0	3	4	MLBG
66	BIO-MEDICAL INSTRUMENTATION	22BMI3101R	PEC-1	BIOMEDICAL SIGNAL AND IMAGE PROCESSING	R	2	0	2	4	4	8	BEIH
67	BIO-MEDICAL INSTRUMENTATION	22BMI3101A	PEC-1	BIOMEDICAL SIGNAL AND IMAGE PROCESSING	A	3	0	4	4	6	11	BEIH
68	BIO-MEDICAL INSTRUMENTATION	22BMI3101P	PEC-1	BIOMEDICAL SIGNAL AND IMAGE PROCESSING	P	3	0	4	4	6	11	BEIH

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69	BIO-MEDICAL INSTRUMENTATION	22BMI3202	PEC-2	ADVANCED BIOMEDICAL SIGNAL PROCESSING	R	2	0	2	0	3	4	BEIH
70	BIO-MEDICAL INSTRUMENTATION	22BMI3303R	PEC-3	MATERIALS FOR BIO-MEDICAL APPLICATIONS	R	2	0	2	4	4	8	BSIP
71	BIO-MEDICAL INSTRUMENTATION	22BMI3303A	PEC-3	MATERIALS FOR BIO-MEDICAL APPLICATIONS	A	3	0	4	4	6	11	BSIP
72	BIO-MEDICAL INSTRUMENTATION	22BMI3303P	PEC-3	MATERIALS FOR BIO-MEDICAL APPLICATIONS	P	3	0	4	4	6	11	BSIP
73	BIO-MEDICAL INSTRUMENTATION	22BMI3404M	PEC-4	NANOTECHNOLOGY AND NANOSENSORS	M	3	0	0	0	3	3	BSIP
74	BIO-MEDICAL INSTRUMENTATION	22BMI3505	PEC-5	BIOSENSING AND BIOELECTRONICS	R	2	0	2	0	3	4	BSIP
75	GEO-SPATIAL DATA ANALYTICS	22GSD3101R	PEC-1	BIG DATA SYSTEMS FOR SPATIAL DBMS	R	2	0	2	4	4	8	DBMS
76	GEO-SPATIAL DATA ANALYTICS	22GSD3101A	PEC-1	BIG DATA SYSTEMS FOR SPATIAL DBMS	A	3	0	4	4	6	11	DBMS
77	GEO-SPATIAL DATA ANALYTICS	22GSD3101P	PEC-1	BIG DATA SYSTEMS FOR SPATIAL DBMS	P	3	0	4	4	6	11	DBMS
78	GEO-SPATIAL DATA ANALYTICS	22GSD3202	PEC-2	MULTIVARIATE & GEOGRAPHICAL DATA ANALYSIS	R	2	0	2	0	3	4	DBMS
79	GEO-SPATIAL DATA ANALYTICS	22GSD3203	PEC-2	MULTIVARIATE STATISTICAL MODELLING	R	2	0	2	0	3	4	DBMS
80	GEO-SPATIAL DATA ANALYTICS	22GSD3304R	PEC-3	SPATIAL ANALYSIS IN R	R	2	0	2	4	4	8	DBMS
81	GEO-SPATIAL DATA ANALYTICS	22GSD3304A	PEC-3	SPATIAL ANALYSIS IN R	A	3	0	4	4	6	11	DBMS
82	GEO-SPATIAL DATA ANALYTICS	22GSD3304P	PEC-3	SPATIAL ANALYSIS IN R	P	3	0	4	4	6	11	DBMS
83	GEO-SPATIAL DATA ANALYTICS	22GSD3405M	PEC-4	REMOTE SENSING & GIS	M	3	0	0	0	3	3	DBMS
84	GEO-SPATIAL DATA ANALYTICS	22GSD3406M	PEC-4	IMAGE PROCESSING AND GEO-INFORMATICS	M	3	0	0	0	3	3	DBMS
85	GEO-SPATIAL DATA ANALYTICS	22GSD3507	PEC-5	GEO-DESIGN AND GEO-VISUALIZATION	R	2	0	2	0	3	4	DBMS
86	GEO-SPATIAL DATA ANALYTICS	22GSD3508	PEC-5	DATA SCIENCE & VISUALIZATION FOR GEO-INFORMATICS	R	2	0	2	0	3	4	DBMS
87	GEOTECHNICAL & TRANSPORTATION ENGINEERING	22GTE3101R	PEC-1	ADVANCED FOUNDATION ENGINEERING	R	2	0	2	4	4	8	GTE
88	GEOTECHNICAL & TRANSPORTATION ENGINEERING	22GTE3101A	PEC-1	ADVANCED FOUNDATION ENGINEERING	A	3	0	4	4	6	11	GTE
89	GEOTECHNICAL & TRANSPORTATION ENGINEERING	22GTE3101P	PEC-1	ADVANCED FOUNDATION ENGINEERING	P	3	0	4	4	6	11	GTE
90	GEOTECHNICAL & TRANSPORTATION ENGINEERING	22GTE3202	PEC-2	INTELLIGENT TRANSPORTATION SYSTEMS	R	2	0	2	0	3	4	TE
91	GEOTECHNICAL & TRANSPORTATION ENGINEERING	22GTE3203	PEC-2	GROUND IMPROVEMENT TECHNIQUES	R	2	0	2	0	3	4	GTE

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92	GEOTECHNICAL & TRANSPORTATION ENGINEERING	22GTE3304R	PEC-3	PAVEMENT MATERIALS &DESIGN	R	2	0	2	4	4	8	TE
93	GEOTECHNICAL & TRANSPORTATION ENGINEERING	22GTE3304A	PEC-3	PAVEMENT MATERIALS &DESIGN	A	3	0	4	4	6	11	TE
94	GEOTECHNICAL & TRANSPORTATION ENGINEERING	22GTE3304P	PEC-3	PAVEMENT MATERIALS &DESIGN	P	3	0	4	4	6	11	TE
95	GEOTECHNICAL & TRANSPORTATION ENGINEERING	22GTE3405M	PEC-4	URBAN TRANSPORTATION SYSTEMS PLANNING	M	3	0	0	0	3	3	TE
96	GEOTECHNICAL & TRANSPORTATION ENGINEERING	22GTE3406M	PEC-4	GEOTECHNICAL EARTHQUAKE ENGINEERING	M	3	0	0	0	3	3	GTE
97	GEOTECHNICAL & TRANSPORTATION ENGINEERING	22GTE3507	PEC-5	TRAFFIC ENGINEERING AND MANAGEMENT	R	2	0	2	0	3	4	TE
98	GEOTECHNICAL & TRANSPORTATION ENGINEERING	22GTE3508	PEC-5	DESIGN OF EARTH RETAINING STRUCTURES	R	2	0	2	0	3	4	GTE
99	CLOUD & EDGE COMPUTING	22CEC3101R	PEC-1	CLOUD INFRASTRUCTURE & SERVICES	R	2	0	2	4	4	8	OS
100	CLOUD & EDGE COMPUTING	22CEC3101A	PEC-1	CLOUD INFRASTRUCTURE & SERVICES	A	3	0	4	4	6	11	OS
101	CLOUD & EDGE COMPUTING	22CEC3101P	PEC-1	CLOUD INFRASTRUCTURE & SERVICES	P	3	0	4	4	6	11	OS
102	CLOUD & EDGE COMPUTING	22CEC3202	PEC-2	ADVANCED OPERATING SYSTEMS	R	2	0	2	0	3	4	OS
103	CLOUD & EDGE COMPUTING	22CEC3203	PEC-2	FUNCTIONAL & CONCURRENT PROGRAMMING	R	2	0	2	0	3	4	CTOD
104	CLOUD & EDGE COMPUTING	22CEC3204	PEC-2	CLOUD DEVOPS	R	2	0	2	0	3	4	ASE
105	CLOUD & EDGE COMPUTING	22CEC3305R	PEC-3	CLOUD & SERVERLESS COMPUTING	R	2	0	2	4	4	8	OS
106	CLOUD & EDGE COMPUTING	22CEC3305A	PEC-3	CLOUD & SERVERLESS COMPUTING	A	3	0	4	4	6	11	OS
107	CLOUD & EDGE COMPUTING	22CEC3305P	PEC-3	CLOUD & SERVERLESS COMPUTING	P	3	0	4	4	6	11	OS
108	CLOUD & EDGE COMPUTING	22CEC3406M	PEC-4	ADVANCED COMPUTER ARCHITECTURE	M	3	0	0	0	3	3	DDCA
109	CLOUD & EDGE COMPUTING	22CEC3407M	PEC-4	PARALLEL ALGORITHMS	M	3	0	0	0	3	3	OS
110	CLOUD & EDGE COMPUTING	22CEC3408M	PEC-4	CLOUD SECURITY	M	3	0	0	0	3	3	OS AND CNP
111	CLOUD & EDGE COMPUTING	22CEC3409M	PEC-4	ARCHITECTING CLOUD SOLUTIONS	M	3	0	0	0	3	3	OS AND CNP
112	CLOUD & EDGE COMPUTING	22CEC3510	PEC-5	EDGE COMPUTING	R	2	0	2	0	3	4	OS
113	CLOUD & EDGE COMPUTING	22CEC3511	PEC-5	HIGH PERFORMANCE COMPUTING	R	2	0	2	0	3	4	OS
114	CLOUD & EDGE COMPUTING	22CEC3512	PEC-5	DESIGN OF DISTRIBUTED APPLICATIONS ON CLOUD	R	2	0	2	0	3	4	OS

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115	CLOUD & EDGE COMPUTING	22CEC3513	PEC-5	CLOUD NETWORKING	R	2	0	2	0	3	4	OS
116	COMPUTER COMMUNICATION & 5G TECHNOLOGY	22CCF3101R	PEC-1	TCP/IP & OTHER PROTOCOL SUITE	R	2	0	2	4	4	8	CN
117	COMPUTER COMMUNICATION & 5G TECHNOLOGY	22CCF3101A	PEC-1	TCP/IP & OTHER PROTOCOL SUITE	A	3	0	4	4	6	11	CN
118	COMPUTER COMMUNICATION & 5G TECHNOLOGY	22CCF3101P	PEC-1	TCP/IP & OTHER PROTOCOL SUITE	P	3	0	4	4	6	11	CN
119	COMPUTER COMMUNICATION & 5G TECHNOLOGY	22CCF3202	PEC-2	CLOUD COMPUTING AND NETWORKS SECURITY	R	2	0	2	4	4	8	TCPIP
120	COMPUTER COMMUNICATION & 5G TECHNOLOGY	22CCF3303R	PEC-3	VOIP AND BROADBAND NETWORKS	R	2	0	2	4	4	8	CN
121	COMPUTER COMMUNICATION & 5G TECHNOLOGY	22CCF3303A	PEC-3	VOIP AND BROADBAND NETWORKS	A	3	0	4	4	6	11	CN
122	COMPUTER COMMUNICATION & 5G TECHNOLOGY	22CCF3303P	PEC-3	VOIP AND BROADBAND NETWORKS	P	3	0	4	4	6	11	CN
123	COMPUTER COMMUNICATION & 5G TECHNOLOGY	22CCF3404M	PEC-4	5G MOBILE AND IEEE STANDARDS	M	3	0	0	0	3	3	TCPIP
124	COMPUTER COMMUNICATION & 5G TECHNOLOGY	22CCF3505	PEC-5	IP MULTIMEDIA SUB-SYSTEM & EMERGING TECHNOLOGIES	R	2	0	2	0	3	4	TCPIP
125	COMPUTER COMMUNICATION & 5G TECHNOLOGY	22CCF3506	PEC-5	IT SECURITY: DEFENCE AGAINST THE DIGITAL DARK ARTS	R	2	0	2	0	3	4	TCPIP
126	CONSTRUCTION TECHNOLOGY AND MANAGEMENT	22CTM3101R	PEC-1	BUILDING INFORMATION MODELLING	R	2	0	2	4	4	8	CPM
127	CONSTRUCTION TECHNOLOGY AND MANAGEMENT	22CTM3101A	PEC-1	BUILDING INFORMATION MODELLING	A	3	0	4	4	6	11	CPM
128	CONSTRUCTION TECHNOLOGY AND MANAGEMENT	22CTM3101P	PEC-1	BUILDING INFORMATION MODELLING	P	3	0	4	4	6	11	CPM
129	CONSTRUCTION TECHNOLOGY AND MANAGEMENT	22CTM3202	PEC-2	ADVANCED CONSTRUCTION TECHNOLOGY	R	2	0	2	0	3	4	CPM
130	CONSTRUCTION TECHNOLOGY AND MANAGEMENT	22CTM3203	PEC-2	SUSTAINABLE CONSTRUCTION TECHNOLOGY	R	2	0	2	0	3	4	CPM
131	CONSTRUCTION TECHNOLOGY AND MANAGEMENT	22CTM3304R	PEC-3	CONSTRUCTION PLANNING & SCHEDULING	R	2	0	2	4	4	8	CPM
132	CONSTRUCTION TECHNOLOGY AND MANAGEMENT	22CTM3304A	PEC-3	CONSTRUCTION PLANNING & SCHEDULING	A	3	0	4	4	6	11	CPM
133	CONSTRUCTION TECHNOLOGY AND MANAGEMENT	22CTM3304P	PEC-3	CONSTRUCTION PLANNING & SCHEDULING	P	3	0	4	4	6	11	CPM
134	CONSTRUCTION TECHNOLOGY AND MANAGEMENT	22CTM3405M	PEC-4	CONSTRUCTION CONTRACTS	M	3	0	0	0	3	3	CPM
135	CONSTRUCTION TECHNOLOGY AND MANAGEMENT	22CTM3406M	PEC-4	CONSTRUCTION FORMULATION APPRAISAL	M	3	0	0	0	3	3	CPM
136	CONSTRUCTION TECHNOLOGY AND MANAGEMENT	22CTM3507	PEC-5	QUALITY AND SAFETY IN CONSTRUCTION	R	2	0	2	0	3	4	CPM
137	CONSTRUCTION TECHNOLOGY AND MANAGEMENT	22CTM3508	PEC-5	GREEN BUILDING	R	2	0	2	0	3	4	CPM

Sl No	SPECIALIZATION	Course Code	Elective No	Course Title	Mode	L	T	P	S	Cr	CH	PRE-REQUISITE
138	CROSS PLATFORM DEVELOPMENT FRAMEWORKS	22CPD3101R	PEC-1	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	R	2	0	2	4	4	8	CTOD
139	CROSS PLATFORM DEVELOPMENT FRAMEWORKS	22CPD3101A	PEC-1	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	A	3	0	4	4	6	11	CTOD
140	CROSS PLATFORM DEVELOPMENT FRAMEWORKS	22CPD3101P	PEC-1	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	P	3	0	4	4	6	11	CTOD
141	CROSS PLATFORM DEVELOPMENT FRAMEWORKS	22CPD3202	PEC-2	REACT NATIVE FOR ANDROID AND IOS DEVELOPMENT	R	2	0	2	0	3	4	CTOD
142	CROSS PLATFORM DEVELOPMENT FRAMEWORKS	22CPD3203	PEC-2	FRAMEWORK BASED CROSS PLATFORM APP DEVELOPMENT	R	2	0	2	0	3	4	CTOD
143	CROSS PLATFORM DEVELOPMENT FRAMEWORKS	22CPD3304R	PEC-3	SECURE MOBILE APPLICATION DEVELOPMENT	R	2	0	2	4	4	8	CTOD
144	CROSS PLATFORM DEVELOPMENT FRAMEWORKS	22CPD3304A	PEC-3	SECURE MOBILE APPLICATION DEVELOPMENT	A	3	0	4	4	6	11	CTOD
145	CROSS PLATFORM DEVELOPMENT FRAMEWORKS	22CPD3304P	PEC-3	SECURE MOBILE APPLICATION DEVELOPMENT	P	3	0	4	4	6	11	CTOD
146	CROSS PLATFORM DEVELOPMENT FRAMEWORKS	22CPD3405M	PEC-4	UX DESIGN	M	3	0	0	0	3	3	CTOD
147	CROSS PLATFORM DEVELOPMENT FRAMEWORKS	22CPD3406M	PEC-4	META REACT NATIVE SPECIALIZATION	M	3	0	0	0	3	3	CTOD
148	CROSS PLATFORM DEVELOPMENT FRAMEWORKS	22CPD3507	PEC-5	ADVANCED MOBILE APPLICATION DEVELOPMENT	R	2	0	2	0	3	4	CTOD
149	CROSS PLATFORM DEVELOPMENT FRAMEWORKS	22CPD3508	PEC-5	CROSS PLATFORM USER INTERFACE DESIGN	R	2	0	2	0	3	4	CTOD
150	CYBER PHYSICAL SYSTEMS & IOT	22CPS3101R	PEC-1	IOT SENSING AND ACTUATING DEVICES	R	2	0	2	4	4	8	FIOT
151	CYBER PHYSICAL SYSTEMS & IOT	22CPS3101A	PEC-1	IOT SENSING AND ACTUATING DEVICES	A	3	0	4	4	6	11	FIOT
152	CYBER PHYSICAL SYSTEMS & IOT	22CPS3101P	PEC-1	IOT SENSING AND ACTUATING DEVICES	P	3	0	4	4	6	11	FIOT
153	CYBER PHYSICAL SYSTEMS & IOT	22CPS3202	PEC-2	INTERNET OF THINGS ARCHITECTURES AND PROTOCOLS	R	2	0	2	0	3	4	NPS
154	CYBER PHYSICAL SYSTEMS & IOT	22CPS3303R	PEC-3	CYBER PHYSICAL SYSTEMS	R	2	0	2	4	4	8	NPS
155	CYBER PHYSICAL SYSTEMS & IOT	22CPS3303A	PEC-3	CYBER PHYSICAL SYSTEMS	A	3	0	4	4	6	11	NPS
156	CYBER PHYSICAL SYSTEMS & IOT	22CPS3303P	PEC-3	CYBER PHYSICAL SYSTEMS	P	3	0	4	4	6	11	NPS
157	CYBER PHYSICAL SYSTEMS & IOT	22CPS3404M	PEC-4	FOUNDATIONS OF HYBRID AND EMBEDDED SYSTEMS	M	3	0	0	0	3	3	MFC
158	CYBER PHYSICAL SYSTEMS & IOT	22CPS3505	PEC-5	CLOUD COMPUTING FOR IOT ENGINEERS	R	2	0	2	0	3	4	FIOT
159	CYBER PHYSICAL SYSTEMS & IOT	22CPS3506	PEC-5	WIRELESS SENSOR NETWORKS	R	2	0	2	0	3	4	NPS
160	CYBER PHYSICAL SYSTEMS & IOT	22CPS3507	PEC-5	EDGE COMPUTING	R	2	0	2	0	3	4	OS

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161	CYBER SECURITY & BLOCKCHAIN TECHNOLOGY	22CSB3101R	PEC-1	CRYPT ANALYSIS & CYBER DEFENSE	R	2	0	2	4	4	8	NPS
162	CYBER SECURITY & BLOCKCHAIN TECHNOLOGY	22CSB3101A	PEC-1	CRYPT ANALYSIS & CYBER DEFENSE	A	3	0	4	4	6	11	NPS
163	CYBER SECURITY & BLOCKCHAIN TECHNOLOGY	22CSB3101P	PEC-1	CRYPT ANALYSIS & CYBER DEFENSE	P	3	0	4	4	6	11	NPS
164	CYBER SECURITY & BLOCKCHAIN TECHNOLOGY	22CSB3202	PEC-2	NETWORK & INFRASTRUCTURE SECURITY	R	2	0	2	0	3	4	NPS
165	CYBER SECURITY & BLOCKCHAIN TECHNOLOGY	22CSB3203	PEC-2	INTRODUCTION TO BLOCKCHAIN & CRYPTO CURRENCIES	R	2	0	2	0	3	4	NPS
166	CYBER SECURITY & BLOCKCHAIN TECHNOLOGY	22CSB3304R	PEC-3	DIGITAL FORENSICS	R	2	0	2	4	4	8	CACD
167	CYBER SECURITY & BLOCKCHAIN TECHNOLOGY	22CSB3304A	PEC-3	DIGITAL FORENSICS	A	3	0	4	4	6	11	CACD
168	CYBER SECURITY & BLOCKCHAIN TECHNOLOGY	22CSB3304P	PEC-3	DIGITAL FORENSICS	P	3	0	4	4	6	11	CACD
169	CYBER SECURITY & BLOCKCHAIN TECHNOLOGY	22CSB3405M	PEC-4	DATABASE SYSTEM & SECURITY	M	3	0	0	0	3	3	DBMS
170	CYBER SECURITY & BLOCKCHAIN TECHNOLOGY	22CSB3406M	PEC-4	PROGRAMMING FOR SMART CONTRACTS	M	3	0	0	0	3	3	IBCC
171	CYBER SECURITY & BLOCKCHAIN TECHNOLOGY	22CSB3407M	PEC-4	CLOUD SECURITY	M	3	0	0	0	3	3	NPS
172	CYBER SECURITY & BLOCKCHAIN TECHNOLOGY	22CSB3508	PEC-5	SECURE SOFTWARE ENGINEERING	R	2	0	2	0	3	4	ASE
173	CYBER SECURITY & BLOCKCHAIN TECHNOLOGY	22CSB3509	PEC-5	WEB SECURITY	R	2	0	2	0	3	4	NPS
174	CYBER SECURITY & BLOCKCHAIN TECHNOLOGY	22CSB3510	PEC-5	SECURITY GOVERNANCE & MANAGEMENT	R	2	0	2	0	3	4	CNS
175	DATA COMMUNICATIONS	22DCS3101R	PEC-1	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	R	2	0	2	4	4	8	WC
176	DATA COMMUNICATIONS	22DCS3101A	PEC-1	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	A	3	0	4	4	6	11	WC
177	DATA COMMUNICATIONS	22DCS3101P	PEC-1	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	P	3	0	4	4	6	11	WC
178	DATA COMMUNICATIONS	22DCS3202	PEC-2	MODERN SATELLITE COMMUNICATION SYSTEMS	R	2	0	2	0	3	4	WC
179	DATA COMMUNICATIONS	22DCS3303R	PEC-3	5G WIRELESS TECHNOLOGIES	R	2	0	2	4	4	8	4GWTCC
180	DATA COMMUNICATIONS	22DCS3303A	PEC-3	5G WIRELESS TECHNOLOGIES	A	3	0	4	4	6	11	4GWTCC
181	DATA COMMUNICATIONS	22DCS3303P	PEC-3	5G WIRELESS TECHNOLOGIES	P	3	0	4	4	6	11	4GWTCC
182	DATA COMMUNICATIONS	22DCS3404M	PEC-4	OPTICAL WIRELESS COMMUNICATIONS	M	3	0	0	0	3	3	4GWTCC
183	DATA COMMUNICATIONS	22DCS3505	PEC-5	MACHINE LEARNING FOR WIRELESS COMMUNICATION	R	2	0	2	0	3	4	4GWTCC

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184	DATA SCIENCE & BIG DATA ANALYTICS	22DSB3101R	PEC-1	DATA ANALYTICS AND VISUALIZATION	R	2	0	2	4	4	8	DDAIS, CIS
185	DATA SCIENCE & BIG DATA ANALYTICS	22DSB3101A	PEC-1	DATA ANALYTICS AND VISUALIZATION	A	3	0	4	4	6	11	DDAIS, CIS
186	DATA SCIENCE & BIG DATA ANALYTICS	22DSB3101P	PEC-1	DATA ANALYTICS AND VISUALIZATION	P	3	0	4	4	6	11	DDAIS, CIS
187	DATA SCIENCE & BIG DATA ANALYTICS	22DSB3202	PEC-2	DATA WAREHOUSING & MINING	R	2	0	2	0	3	4	DBMS
188	DATA SCIENCE & BIG DATA ANALYTICS	22DSB3303R	PEC-3	BIG DATA ANALYTICS	R	2	0	2	4	4	8	DBMS
189	DATA SCIENCE & BIG DATA ANALYTICS	22DSB3303A	PEC-3	BIG DATA ANALYTICS	A	3	0	4	4	6	11	DBMS
190	DATA SCIENCE & BIG DATA ANALYTICS	22DSB3303P	PEC-3	BIG DATA ANALYTICS	P	3	0	4	4	6	11	DBMS
191	DATA SCIENCE & BIG DATA ANALYTICS	22DSB3404M	PEC-4	BIG DATA OPTIMIZATION	M	3	0	0	0	3	3	DBMS
192	DATA SCIENCE & BIG DATA ANALYTICS	22DSB3407M	PEC-4	DATA ANALYTICS ON CLOUD	M	3	0	0	0	3	3	DDAIS
193	DATA SCIENCE & BIG DATA ANALYTICS	22DSB3408M	PEC-4	DIGITAL MEDIA ANALYTICS	M	3	0	0	0	3	3	DDAIS
194	DATA SCIENCE & BIG DATA ANALYTICS	22DSB3509	PEC-5	ADVANCED DATABASES	R	2	0	2	0	3	4	DBMS
195	DATA SCIENCE & BIG DATA ANALYTICS	22DSB3510	PEC-5	BUSINESS ANALYTICS	R	2	0	2	0	3	4	DBMS
196	DATA SCIENCE & BIG DATA ANALYTICS	22DSB3511	PEC-5	GRAPH & WEB ANALYTICS	R	2	0	2	0	3	4	DDAIS
197	DATA SCIENCE & BIG DATA ANALYTICS	22DSB3512	PEC-5	DATA GOVERNANCE ON CLOUD	R	2	0	2	0	3	4	DBMS
198	DISTRIBUTED LEDGER ANALYTICS	22DLA3101R	PEC-1	SYSTEM & NETWORK TRAFFIC SECURITY ANALYTICS	R	2	0	2	4	4	8	DBMS
199	DISTRIBUTED LEDGER ANALYTICS	22DLA3101A	PEC-1	SYSTEM & NETWORK TRAFFIC SECURITY ANALYTICS	A	3	0	4	4	6	11	DBMS
200	DISTRIBUTED LEDGER ANALYTICS	22DLA3101P	PEC-1	SYSTEM & NETWORK TRAFFIC SECURITY ANALYTICS	P	3	0	4	4	6	11	DBMS
201	DISTRIBUTED LEDGER ANALYTICS	22DLA3202	PEC-2	AUTOMATED NETWORK ANALYSIS	R	2	0	2	0	3	4	DBMS
202	DISTRIBUTED LEDGER ANALYTICS	22DLA3203	PEC-2	BLOCKCHAIN TECHNOLOGY FOR DIGITAL TRANSFORMATION	R	2	0	2	0	3	4	DBMS
203	DISTRIBUTED LEDGER ANALYTICS	22DLA3304R	PEC-3	MULTI AGENT SYSTEMS	R	2	0	2	4	4	8	DBMS
204	DISTRIBUTED LEDGER ANALYTICS	22DLA3304A	PEC-3	MULTI AGENT SYSTEMS	R	3	0	4	4	6	11	DBMS
205	DISTRIBUTED LEDGER ANALYTICS	22DLA3304P	PEC-3	MULTI AGENT SYSTEMS	R	3	0	4	4	6	11	DBMS
206	DISTRIBUTED LEDGER ANALYTICS	22DLA3405M	PEC-4	BLOCKCHAIN ANALYTICS	M	3	0	0	0	3	3	DBMS

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207	DISTRIBUTED LEDGER ANALYTICS	22DLA3406M	PEC-4	CRYPTOCURRENCY AND BLOCKCHAIN TECHNOLOGY	M	3	0	0	0	3	3	DBMS
208	DISTRIBUTED LEDGER ANALYTICS	22DLA3507	PEC-5	DISTRIBUTED LEDGER ARCHITECTURE FOR AUTOMATION	R	2	0	2	0	3	4	DBMS
209	DISTRIBUTED LEDGER ANALYTICS	22DLA3508	PEC-5	PERMISSIONED DISTRIBUTED LEDGER	R	2	0	2	0	3	4	DBMS
210	EMBEDDED SYSTEMS	22EDS3101R	PEC-1	ADVANCED EMBEDDED SYSTEMS	R	2	0	2	4	4	8	ESD
211	EMBEDDED SYSTEMS	22EDS3101A	PEC-1	ADVANCED EMBEDDED SYSTEMS	A	3	0	4	4	6	11	ESD
212	EMBEDDED SYSTEMS	22EDS3101P	PEC-1	ADVANCED EMBEDDED SYSTEMS	P	3	0	4	4	6	11	ESD
213	EMBEDDED SYSTEMS	22EDS3202	PEC-2	EMBEDDED SYSTEMS FOR IOT	R	2	0	2	0	3	4	ESD
214	EMBEDDED SYSTEMS	22EDS3303R	PEC-3	EMBEDDED AND REAL-TIME SYSTEMS	R	2	0	2	4	4	8	AES
215	EMBEDDED SYSTEMS	22EDS3303A	PEC-3	EMBEDDED AND REAL-TIME SYSTEMS	A	3	0	4	4	6	11	AES
216	EMBEDDED SYSTEMS	22EDS3303P	PEC-3	EMBEDDED AND REAL-TIME SYSTEMS	P	3	0	4	4	6	11	AES
217	EMBEDDED SYSTEMS	22EDS3404M	PEC-4	CLOUD ARCHITECTURE IN IOT	M	3	0	0	0	3	3	AES
218	EMBEDDED SYSTEMS	22EDS3505	PEC-5	EDGE COMPUTING & DATA ANALYTICS IN IOT	R	2	0	2	0	3	4	AES
219	E-MOBILITY ENGINEERING	22EME3101R	PEC-1	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	A	3	0	4	4	6	11	ELM OR ET
220	E-MOBILITY ENGINEERING	22EME3101A	PEC-1	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	P	3	0	4	4	6	11	ELM OR ET
221	E-MOBILITY ENGINEERING	22EME3101P	PEC-1	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	R	2	0	2	0	3	4	ELM OR ET
222	E-MOBILITY ENGINEERING	22EME3202	PEC-2	COMMUNICATION PROTOCOLS & TESTING OF ELECTRIC VEHICLE	R	2	0	2	0	3	4	ELM OR ET
223	E-MOBILITY ENGINEERING	22EME3203	PEC-2	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	R	2	0	2	0	3	4	ELM OR ET
224	E-MOBILITY ENGINEERING	22EME3304R	PEC-3	CHARGING STATIONS FOR ELECTRIC VEHICLES	R	2	0	2	4	4	8	ELM OR ET
225	E-MOBILITY ENGINEERING	22EME3304A	PEC-3	CHARGING STATIONS FOR ELECTRIC VEHICLES	A	3	0	4	4	6	11	ELM OR ET
226	E-MOBILITY ENGINEERING	22EME3304P	PEC-3	CHARGING STATIONS FOR ELECTRIC VEHICLES	P	3	0	4	4	6	11	ELM OR ET
227	E-MOBILITY ENGINEERING	22EME3405M	PEC-4	INTRODUCTION TO BATTERY-MANAGEMENT SYSTEMS	M	3	0	0	0	3	3	TD
228	E-MOBILITY ENGINEERING	22EME3406M	PEC-4	BATTERY STATE ESTIMATION ALGORITHMS FOR ELECTRIC VEHICLE	M	3	0	0	0	3	3	ELM OR ET
229	E-MOBILITY ENGINEERING	22EME3507	PEC-5	AI AND IOT FOR ELECTRIC VEHICLE	R	2	0	2	0	3	4	ELM OR ET

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230	E-MOBILITY ENGINEERING	22EME3508	PEC-5	EV SYSTEM AND WIRING DESIGN	R	2	0	2	0	3	4	ELM OR ET
231	ENERGY ENGINEERING & COMPUTATIONAL FLUID DYNAMICS	22ECF3101R	PEC-1	SOLAR ENERGY TECHNOLOGIES	R	2	0	2	4	4	8	TD
232	ENERGY ENGINEERING & COMPUTATIONAL FLUID DYNAMICS	22ECF3101A	PEC-1	SOLAR ENERGY TECHNOLOGIES	A	3	0	4	4	6	11	TD
233	ENERGY ENGINEERING & COMPUTATIONAL FLUID DYNAMICS	22ECF3101P	PEC-1	SOLAR ENERGY TECHNOLOGIES	P	2	0	2	4	4	8	TD
234	ENERGY ENGINEERING & COMPUTATIONAL FLUID DYNAMICS	22ECF3202	PEC-2	ADVANCED ENERGY STORAGE SYSTEMS	R	2	0	2	0	3	4	TD
235	ENERGY ENGINEERING & COMPUTATIONAL FLUID DYNAMICS	22ECF3203	PEC-2	THERMAL MANAGEMENT OF ELECTRIC AND ELECTRONIC SYSTEMS	R	3	0	0	0	3	3	TD
236	ENERGY ENGINEERING & COMPUTATIONAL FLUID DYNAMICS	22ECF3304R	PEC-3	COMPUTATIONAL FLUID FLOW AND HEAT TRANSFER-FDM APPROACH	R	2	0	2	4	4	8	TD
237	ENERGY ENGINEERING & COMPUTATIONAL FLUID DYNAMICS	22ECF3304A	PEC-3	COMPUTATIONAL FLUID FLOW AND HEAT TRANSFER-FDM APPROACH	A	3	0	4	4	6	11	TD
238	ENERGY ENGINEERING & COMPUTATIONAL FLUID DYNAMICS	22ECF3304P	PEC-3	COMPUTATIONAL FLUID FLOW AND HEAT TRANSFER-FDM APPROACH	P	3	0	4	4	6	11	TD
239	ENERGY ENGINEERING & COMPUTATIONAL FLUID DYNAMICS	22ECF3405M	PEC-4	ENERGY AUDIT AND MANAGEMENT	M	3	0	0	0	3	3	TD
240	ENERGY ENGINEERING & COMPUTATIONAL FLUID DYNAMICS	22ECF3406M	PEC-4	REFRIGERATION & AIR CONDITIONING	M	3	0	0	0	3	3	TD
241	ENERGY ENGINEERING & COMPUTATIONAL FLUID DYNAMICS	22ECF3507	PEC-5	CFD FOR COMPRESSIBLE AND INCOMPRESSIBLE FLOWS	R	2	0	2	0	3	4	TD
242	ENERGY ENGINEERING & COMPUTATIONAL FLUID DYNAMICS	22ECF3508	PEC-5	HYDROGEN AND FUEL CELL TECHNOLOGIES	R	2	0	2	0	3	4	TD
243	ENGINEERING DESIGN	22EGD3101R	PEC-1	MODELING ANALYSIS & DESIGN OF ROBOTIC SYSTEMS	R	2	0	2	4	4	8	KDOM
244	ENGINEERING DESIGN	22EGD3101A	PEC-1	MODELING ANALYSIS & DESIGN OF ROBOTIC SYSTEMS	R	3	0	4	4	6	11	KDOM
245	ENGINEERING DESIGN	22EGD3101P	PEC-1	MODELING ANALYSIS & DESIGN OF ROBOTIC SYSTEMS	R	3	0	4	4	6	11	KDOM
246	ENGINEERING DESIGN	22EGD3202	PEC-2	CREEP, FATIGUE AND FRACTURE MECHANICS	R	3	0	0	0	3	3	SM
247	ENGINEERING DESIGN	22EGD3203	PEC-2	THEORY OF ELASTICITY AND PLASTICITY	R	3	0	0	0	3	3	SM
248	ENGINEERING DESIGN	22EGD3304R	PEC-3	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN ENGINEERING DESIGN	R	2	0	2	4	4	8	MED
249	ENGINEERING DESIGN	22EGD3304A	PEC-3	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN ENGINEERING DESIGN	A	3	0	4	4	6	11	MED
250	ENGINEERING DESIGN	22EGD3304P	PEC-3	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN ENGINEERING DESIGN	P	3	0	4	4	6	11	MED
251	ENGINEERING DESIGN	22EGD3405M	PEC-4	ADVANCED VIBRATIONS	M	3	0	0	0	3	3	KDOM
252	ENGINEERING DESIGN	22EGD3406M	PEC-4	MECHANICS OF COMPOSITE MATERIALS	M	3	0	0	0	3	3	MED

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253	ENGINEERING DESIGN	22EGD3507	PEC-5	ADVANCED STRENGTH OF MATERIALS	R	2	0	2	0	3	4	SM
254	ENGINEERING DESIGN	22EGD3508	PEC-5	HYBRID AND ELECTRIC VEHICLE DESIGN	R	2	0	2	0	3	4	SM
255	ENVIRONMENTAL ENGINEERING	22ELE3101R	PEC-1	RIVER ENGINEERING	R	2	0	2	4	4	8	WRE
256	ENVIRONMENTAL ENGINEERING	22ELE3101A	PEC-1	RIVER ENGINEERING	A	3	0	4	4	6	11	WRE
257	ENVIRONMENTAL ENGINEERING	22ELE3101P	PEC-1	RIVER ENGINEERING	P	3	0	4	4	6	11	WRE
258	ENVIRONMENTAL ENGINEERING	22ELE3202	PEC-2	SOLID WASTE MANAGEMENT AND LANDFILLS	R	2	0	2	0	3	4	EE
259	ENVIRONMENTAL ENGINEERING	22ELE3203	PEC-2	DESIGN OF HYDRAULIC STRUCTURES	R	2	0	2	0	3	4	FM&H
260	ENVIRONMENTAL ENGINEERING	22ELE3304R	PEC-3	WATER RESOURCES FIELD METHODS	R	2	0	2	4	4	8	FM&H
261	ENVIRONMENTAL ENGINEERING	22ELE3304A	PEC-3	WATER RESOURCES FIELD METHODS	A	3	0	4	4	6	11	FM&H
262	ENVIRONMENTAL ENGINEERING	22ELE3304P	PEC-3	WATER RESOURCES FIELD METHODS	P	3	0	4	4	6	11	FM&H
263	ENVIRONMENTAL ENGINEERING	22ELE3405M	PEC-4	URBAN WATER HYDROLOGY AND HYDRAULICS	M	3	0	0	0	3	3	FM&H
264	ENVIRONMENTAL ENGINEERING	22ELE3406M	PEC-4	ENVIRONMENTAL IMPACT ASSESSMENT AND LIFE CYCLE ANALYSES	M	3	0	0	0	3	3	EE
265	ENVIRONMENTAL ENGINEERING	22ELE3507	PEC-5	PHYSICO-CHEMICAL PROCESSES FOR WATER AND WASTEWATER TREATMENT	R	2	0	2	0	3	4	FM&H
266	ENVIRONMENTAL ENGINEERING	22ELE3508	PEC-5	DESIGN OF HYDRAULIC STRUCTURES	R	2	0	2	0	3	4	FM&H
267	GAME DEVELOPMENT & UX DESIGN	22GDU3101R	PEC-1	PROGRAMMING FOR GAME DEVELOPMENT	R	2	0	2	4	4	8	OS
268	GAME DEVELOPMENT & UX DESIGN	22GDU3101A	PEC-1	PROGRAMMING FOR GAME DEVELOPMENT	A	3	0	4	4	6	11	OS
269	GAME DEVELOPMENT & UX DESIGN	22GDU3101P	PEC-1	PROGRAMMING FOR GAME DEVELOPMENT	P	3	0	4	4	6	11	OS
270	GAME DEVELOPMENT & UX DESIGN	22GDU3202	PEC-2	UX DESIGN	R	2	0	2	0	3	4	DTI
271	GAME DEVELOPMENT & UX DESIGN	22GDU3303R	PEC-3	AR & VR APPLICATION DEVELOPMENT	R	2	0	2	4	4	8	OS
272	GAME DEVELOPMENT & UX DESIGN	22GDU3303A	PEC-3	AR & VR APPLICATION DEVELOPMENT	A	3	0	4	4	6	11	OS
273	GAME DEVELOPMENT & UX DESIGN	22GDU3303P	PEC-3	AR & VR APPLICATION DEVELOPMENT	P	3	0	4	4	6	11	OS
274	GAME DEVELOPMENT & UX DESIGN	22GDU3404M	PEC-4	COMPUTER GRAPHICS	M	3	0	0	0	3	3	NIL
275	GAME DEVELOPMENT & UX DESIGN	22GDU3405M	PEC-4	3D MODELLING & ANIMATION	M	3	0	0	0	3	3	NIL

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276	GAME DEVELOPMENT & UX DESIGN	22GDU3506	PEC-5	PRINCIPLES OF GAME DESIGN	R	2	0	2	0	3	4	UXD
277	GAME DEVELOPMENT & UX DESIGN	22GDU3507	PEC-5	BUSINESS OF GAMES & ENTREPRENEURSHIP	R	2	0	2	0	3	4	UXD
278	GENETIC ENGINEERING	22GEG3101R	PEC-1	MOLECULAR GENETICS	R	2	0	2	4	4	8	GE
279	GENETIC ENGINEERING	22GEG3101A	PEC-1	MOLECULAR GENETICS	A	3	0	4	4	6	11	GE
280	GENETIC ENGINEERING	22GEG3101P	PEC-1	MOLECULAR GENETICS	P	3	0	4	4	6	11	GE
281	GENETIC ENGINEERING	22GEG3202	PEC-2	MOLECULAR EXPRESSION TECHNOLOGY	R	2	0	2	0	3	4	GE
282	GENETIC ENGINEERING	22GEG3203	PEC-2	TRANSGENIC TECHNOLOGY	R	2	0	2	0	3	4	GE
283	GENETIC ENGINEERING	22GEG3304R	PEC-3	MOLECULAR MARKERS AND DIAGNOSTICS	R	2	0	2	4	4	8	GE
284	GENETIC ENGINEERING	22GEG3304A	PEC-3	MOLECULAR MARKERS AND DIAGNOSTICS	A	3	0	4	4	6	11	GE
285	GENETIC ENGINEERING	22GEG3304P	PEC-3	MOLECULAR MARKERS AND DIAGNOSTICS	P	3	0	4	4	6	11	GE
286	GENETIC ENGINEERING	22GEG3405M	PEC-4	GENOMICS AND PROTEOMICS	M	3	0	0	0	3	3	GE
287	GENETIC ENGINEERING	22GEG3406M	PEC-4	DNA FORENSICS	M	3	0	0	0	3	3	GE
288	GENETIC ENGINEERING	22GEG3507	PEC-5	MICROBIAL GENETICS	R	2	0	2	0	3	4	GE
289	GENETIC ENGINEERING	22GEG3508	PEC-5	GENE AND ENVIRONMENT	R	2	0	2	0	3	4	GE
290	GREEN ENERGY TECHNOLOGIES	22GET3101R	PEC-1	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	R	2	0	2	4	4	8	PGTD OR EPE OR E
291	GREEN ENERGY TECHNOLOGIES	22GET3101A	PEC-1	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	A	3	0	4	4	6	11	PGTD OR EPE OR E
292	GREEN ENERGY TECHNOLOGIES	22GET3101P	PEC-1	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	P	3	0	4	4	6	11	PGTD OR EPE OR E
293	GREEN ENERGY TECHNOLOGIES	22GET3202	PEC-2	WIND AND ENERGY STORAGE TECHNOLOGIES	R	2	0	2	0	3	4	PGTD OR EPE OR E
294	GREEN ENERGY TECHNOLOGIES	22GET3203	PEC-2	ENERGY ECONOMICS AND POLICY	R	2	0	2	0	3	4	PGTD OR EPE OR E
295	GREEN ENERGY TECHNOLOGIES	22GET3304R	PEC-3	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	R	2	0	2	4	4	8	PGTD OR EPE OR E
296	GREEN ENERGY TECHNOLOGIES	22GET3304A	PEC-3	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	A	3	0	4	4	6	11	PGTD OR EPE OR E
297	GREEN ENERGY TECHNOLOGIES	22GET3304P	PEC-3	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	P	3	0	4	4	6	11	PGTD OR EPE OR E
298	GREEN ENERGY TECHNOLOGIES	22GET3405M	PEC-4	ENERGY MANAGEMENT AND GREEN BUILDING	M	3	0	0	0	3	3	PGTD OR EPE OR E

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299	GREEN ENERGY TECHNOLOGIES	22GET3406M	PEC-4	HYDROGEN FUEL CELL TECHNOLOGY	M	3	0	0	0	3	3	PGTD OR EPE OR ET
300	GREEN ENERGY TECHNOLOGIES	22GET3507	PEC-5	AI AND IOT FOR GREEN ENERGY INTEGRATION	R	2	0	2	0	3	4	PGTD OR EPE OR ET
301	GREEN ENERGY TECHNOLOGIES	22GET3508	PEC-5	POWER ELECTRONICS FOR RENEWABLE ENERGY SYSTEMS	R	2	0	2	0	3	4	PGTD OR EPE OR ET
302	HEALTHCARE DATA ANALYTICS	22HDA3101R	PEC-1	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	R	2	0	2	4	4	8	DDAIS
303	HEALTHCARE DATA ANALYTICS	22HDA3101A	PEC-1	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	A	3	0	4	4	6	11	DDAIS
304	HEALTHCARE DATA ANALYTICS	22HDA3101P	PEC-1	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	P	3	0	4	4	6	11	DDAIS
305	HEALTHCARE DATA ANALYTICS	22HDA3202	PEC-2	BIO MEDICAL INFORMATICS	R	2	0	2	0	3	4	DDAIS
306	HEALTHCARE DATA ANALYTICS	22HDA3203	PEC-2	GENETIC PROGRAMMING	R	2	0	2	0	3	4	DDAIS
307	HEALTHCARE DATA ANALYTICS	22HDA3204	PEC-2	PYTHON FOR GENOMIC DATA SCIENCE	R	2	0	2	0	3	4	DDAIS
308	HEALTHCARE DATA ANALYTICS	22HDA3305R	PEC-3	COMPUTATIONAL NEUROSCIENCE	R	2	0	2	4	4	8	DDAIS
309	HEALTHCARE DATA ANALYTICS	22HDA3305A	PEC-3	COMPUTATIONAL NEUROSCIENCE	A	3	0	4	4	6	11	DDAIS
310	HEALTHCARE DATA ANALYTICS	22HDA3305P	PEC-3	COMPUTATIONAL NEUROSCIENCE	P	3	0	4	4	6	11	DDAIS
311	HEALTHCARE DATA ANALYTICS	22HDA3406M	PEC-4	NGS SEQUENCING AND DATA ANALYSIS	M	3	0	0	0	3	3	DDAIS
312	HEALTHCARE DATA ANALYTICS	22HDA3407M	PEC-4	CLINICAL DATA SCIENCE	M	3	0	0	0	3	3	DDAIS
313	HEALTHCARE DATA ANALYTICS	22HDA3408M	PEC-4	INTRODUCTION TO GENOMIC TECHNOLOGIES	M	3	0	0	0	3	3	DDAIS
314	HEALTHCARE DATA ANALYTICS	22HDA3509	PEC-5	MOLECULAR MODELING AND DRUG DESIGN	R	2	0	2	0	3	4	DDAIS
315	HEALTHCARE DATA ANALYTICS	22HDA3510	PEC-5	GENOMIC DATA SCIENCE & CLUSTERING	R	2	0	2	0	3	4	DDAIS
316	HEALTHCARE DATA ANALYTICS	22HDA3511	PEC-5	EPI GENETIC CONTROL OF GENE EXPRESSION	R	2	0	2	0	3	4	DDAIS
317	INDUSTRIAL AUTOMATION	22ILA3101R	PEC-1	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	R	2	0	2	4	4	8	ELM OR FITS OR ET
318	INDUSTRIAL AUTOMATION	22ILA3101A	PEC-1	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	A	3	0	4	4	6	11	ELM OR FITS OR ET
319	INDUSTRIAL AUTOMATION	22ILA3101P	PEC-1	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	P	3	0	4	4	6	11	ELM OR FITS OR ET
320	INDUSTRIAL AUTOMATION	22ILA3202	PEC-2	INDUSTRIAL AUTOMATION AND ROBOTICS	R	2	0	2	0	3	4	ELM OR ET
321	INDUSTRIAL AUTOMATION	22ILA3203	PEC-2	EDGE COMPUTING FOR INDUSTRY 4.0	R	2	0	2	0	3	4	ELM OR ET

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322	INDUSTRIAL AUTOMATION	22ILA3304R	PEC-3	INDUSTRIAL DRIVES AND CONTROL	R	2	0	2	4	4	8	ELM OR ET
323	INDUSTRIAL AUTOMATION	22ILA3304A	PEC-3	INDUSTRIAL DRIVES AND CONTROL	A	3	0	4	4	6	11	ELM OR ET
324	INDUSTRIAL AUTOMATION	22ILA3304P	PEC-3	INDUSTRIAL DRIVES AND CONTROL	P	3	0	4	4	6	11	ELM OR ET
325	INDUSTRIAL AUTOMATION	22ILA3405M	PEC-4	INDUSTRIAL COMMUNICATION PROTOCOLS AND CYBER SECURITY	M	3	0	0	0	3	3	ELM OR ET
326	INDUSTRIAL AUTOMATION	22ILA3406M	PEC-4	DIGITAL MANUFACTURING AND DESIGN	M	3	0	0	0	3	3	ELM OR ET
327	INDUSTRIAL AUTOMATION	22ILA3507	PEC-5	SMART SENSORS AND SENSOR NETWORKING	R	2	0	2	0	3	4	ELM OR ET
328	INDUSTRIAL AUTOMATION	22ILA3508	PEC-5	PLC PROGRAMMING & CONTROL	R	2	0	2	0	3	4	ELM OR ET
329	INDUSTRIAL BIOTECHNOLOGY	22IBT3101R	PEC-1	PHARMACEUTICAL BIOTECHNOLOGY	R	2	0	2	4	4	8	MBG
330	INDUSTRIAL BIOTECHNOLOGY	22IBT3101A	PEC-1	PHARMACEUTICAL BIOTECHNOLOGY	A	3	0	4	4	6	11	MBG
331	INDUSTRIAL BIOTECHNOLOGY	22IBT3101P	PEC-1	PHARMACEUTICAL BIOTECHNOLOGY	P	3	0	4	4	6	11	MBG
332	INDUSTRIAL BIOTECHNOLOGY	22IBT3202	PEC-2	PHARMACOVIGILANCE AND SAFETY	R	2	0	2	0	3	4	MBG
333	INDUSTRIAL BIOTECHNOLOGY	22IBT3203	PEC-2	BIOPROCESS ECONOMICS AND PLANT DESIGN	R	2	0	2	0	3	4	MBG
334	INDUSTRIAL BIOTECHNOLOGY	22IBT3304R	PEC-3	ENZYME ENGINEERING	R	2	0	2	4	4	8	MBG
335	INDUSTRIAL BIOTECHNOLOGY	22IBT3304A	PEC-3	ENZYME ENGINEERING	A	3	0	4	4	6	11	MBG
336	INDUSTRIAL BIOTECHNOLOGY	22IBT3304P	PEC-3	ENZYME ENGINEERING	P	3	0	4	4	6	11	MBG
337	INDUSTRIAL BIOTECHNOLOGY	22IBT3405M	PEC-4	BIOPROCESS VALIDATION AND CGMP	M	3	0	0	0	3	3	MBG
338	INDUSTRIAL BIOTECHNOLOGY	22IBT3406M	PEC-4	FOOD TECHNOLOGY	M	3	0	0	0	3	3	MBG
339	INDUSTRIAL BIOTECHNOLOGY	22IBT3507	PEC-5	MICROBIAL TECHNOLOGY	R	2	0	2	0	3	4	MBG
340	INDUSTRIAL BIOTECHNOLOGY	22IBT3508	PEC-5	METABOLIC ENGINEERING	R	2	0	2	0	3	4	MBG
341	INTELLIGENT MULTIMEDIA PROCESSING	22IMP3101R	PEC-1	NATURAL LANGUAGE PROCESSING & APPLICATIONS	R	2	0	2	4	4	8	DNA
342	INTELLIGENT MULTIMEDIA PROCESSING	22IMP3101A	PEC-1	NATURAL LANGUAGE PROCESSING & APPLICATIONS	A	3	0	4	4	6	11	DNA
343	INTELLIGENT MULTIMEDIA PROCESSING	22IMP3101P	PEC-1	NATURAL LANGUAGE PROCESSING & APPLICATIONS	P	3	0	4	4	6	11	DNA
344	INTELLIGENT MULTIMEDIA PROCESSING	22IMP3202	PEC-2	DATA ENGINEERING	R	2	0	2	0	3	4	DNA

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345	INTELLIGENT MULTIMEDIA PROCESSING	22IMP3303R	PEC-3	BIO MEDICAL SIGNAL AND IMAGE ANALYSIS	R	2	0	2	4	4	8	NLPA
346	INTELLIGENT MULTIMEDIA PROCESSING	22IMP3303A	PEC-3	BIO MEDICAL SIGNAL AND IMAGE ANALYSIS	A	3	0	4	4	6	11	NLPA
347	INTELLIGENT MULTIMEDIA PROCESSING	22IMP3303P	PEC-3	BIO MEDICAL SIGNAL AND IMAGE ANALYSIS	P	3	0	4	4	6	11	NLPA
348	INTELLIGENT MULTIMEDIA PROCESSING	22IMP3404M	PEC-4	DATA VISUALIZATION	M	3	0	0	0	3	3	NLPA
349	INTELLIGENT MULTIMEDIA PROCESSING	22IMP3505	PEC-5	MULTI MEDIA PROCESSING	R	2	0	2	0	3	4	NLPA
350	INTELLIGENT MULTIMEDIA PROCESSING	22IMP3506	PEC-5	INTRODUCTION TO QUANTUM COMPUTING	R	2	0	2	0	3	4	NLPA
351	IOT ANALYTICS	22IOT3101R	PEC-1	INDUSTRIAL INTERNET OF THINGS	R	2	0	2	4	4	8	FIOT
352	IOT ANALYTICS	22IOT3101A	PEC-1	INDUSTRIAL INTERNET OF THINGS	A	3	0	4	4	6	11	FIOT
353	IOT ANALYTICS	22IOT3101P	PEC-1	INDUSTRIAL INTERNET OF THINGS	P	3	0	4	4	6	11	FIOT
354	IOT ANALYTICS	22IOT3202	PEC-2	EDGE COMPUTING	R	2	0	2	0	3	4	OS
355	IOT ANALYTICS	22IOT3203	PEC-2	PRECISION AGRICULTURE	R	2	0	2	0	3	4	FIS
356	IOT ANALYTICS	22IOT3204	PEC-2	SMART FARMING	R	2	0	2	0	3	4	FIS
357	IOT ANALYTICS	22IOT3305R	PEC-3	DEEP LEARNING	R	2	0	2	4	4	8	ML
358	IOT ANALYTICS	22IOT3305A	PEC-3	DEEP LEARNING	A	2	0	2	4	4	8	ML
359	IOT ANALYTICS	22IOT3305P	PEC-3	DEEP LEARNING	P	2	0	2	4	4	8	ML
360	IOT ANALYTICS	22IOT3406M	PEC-4	DATA VISUALISATION TECHNIQUES	M	3	0	0	0	3	3	DBMS
361	IOT ANALYTICS	22IOT3407M	PEC-4	APPLIED MACHINE LEARNING FOR AGRICULTURE	M	3	0	0	0	3	3	FIS
362	IOT ANALYTICS	22IOT3508	PEC-5	BIG DATA ANALYTICS	R	2	0	2	0	3	4	DBMS
363	MANAGEMENT INFORMATION SYSTEMS	22MIS3101R	PEC-1	ENTERPRISE RESOURCE PLANNING	R	2	0	2	4	4	8	MIS
364	MANAGEMENT INFORMATION SYSTEMS	22MIS3101A	PEC-1	ENTERPRISE RESOURCE PLANNING	A	3	0	4	4	6	11	MIS
365	MANAGEMENT INFORMATION SYSTEMS	22MIS3101P	PEC-1	ENTERPRISE RESOURCE PLANNING	P	3	0	4	4	6	11	MIS
366	MANAGEMENT INFORMATION SYSTEMS	22MIS3202	PEC-2	INFORMATION SYSTEM ANALYSIS & DESIGN	R	2	0	2	0	3	4	MIS
367	MANAGEMENT INFORMATION SYSTEMS	22MIS3203	PEC-2	DATA WAREHOUSING AND DATA MINING	R	2	0	2	0	3	4	MIS

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368	MANAGEMENT INFORMATION SYSTEMS	22MIS3304R	PEC-3	BIG DATA ANALYTICS	R	2	0	2	4	4	8	MIS
369	MANAGEMENT INFORMATION SYSTEMS	22MIS3304A	PEC-3	BIG DATA ANALYTICS	A	3	0	4	4	6	11	MIS
370	MANAGEMENT INFORMATION SYSTEMS	22MIS3304P	PEC-3	BIG DATA ANALYTICS	P	3	0	4	4	6	11	MIS
371	MANAGEMENT INFORMATION SYSTEMS	22MIS3405M	PEC-4	INFORMATION SYSTEMS AUDITING, CONTROLS & ASSURANCE	M	3	0	0	0	3	3	MIS
372	MANAGEMENT INFORMATION SYSTEMS	22MIS3406M	PEC-4	PRODUCTIVITY AND SYSTEM DEVELOPMENT	M	3	0	0	0	3	3	MIS
373	MANAGEMENT INFORMATION SYSTEMS	22MIS3507	PEC-5	E-COMMERCE DESIGN & DEVELOPMENT	R	2	0	2	0	3	4	MIS
374	MEDICAL BIOTECHNOLOGY	22MBT3101R	PEC-1	STEM CELL TECHNOLOGY	R	2	0	2	4	4	8	CBY
375	MEDICAL BIOTECHNOLOGY	22MBT3101A	PEC-1	STEM CELL TECHNOLOGY	A	3	0	4	4	6	11	CBY
376	MEDICAL BIOTECHNOLOGY	22MBT3101P	PEC-1	STEM CELL TECHNOLOGY	P	3	0	4	4	6	11	CBY
377	MEDICAL BIOTECHNOLOGY	22MBT3202	PEC-2	VIROLOGY	R	2	0	2	0	3	4	CBY
378	MEDICAL BIOTECHNOLOGY	22MBT3203	PEC-2	TISSUE ENGINEERING	R	2	0	2	0	3	4	CBY
379	MEDICAL BIOTECHNOLOGY	22MBT3304R	PEC-3	HEALTHCARE BIOTECHNOLOGY	R	2	0	2	4	4	8	CBY
380	MEDICAL BIOTECHNOLOGY	22MBT3304A	PEC-3	HEALTHCARE BIOTECHNOLOGY	A	3	0	4	4	6	11	CBY
381	MEDICAL BIOTECHNOLOGY	22MBT3304P	PEC-3	HEALTHCARE BIOTECHNOLOGY	P	3	0	4	4	6	11	CBY
382	MEDICAL BIOTECHNOLOGY	22MBT3405M	PEC-4	CANCER BIOLOGY	M	3	0	0	0	3	3	CBY
383	MEDICAL BIOTECHNOLOGY	22MBT3405MA	PEC-4	CANCER BIOLOGY	M	3	0	0	0	3	3	CBY
384	MEDICAL BIOTECHNOLOGY	22MBT3406M	PEC-4	NEUROBIOLOGY	M	3	0	0	0	3	3	CBY
385	MEDICAL BIOTECHNOLOGY	22MBT3406MA	PEC-4	NEUROBIOLOGY	M	3	0	0	0	3	3	CBY
386	MEDICAL BIOTECHNOLOGY	22MBT3507	PEC-5	BIOELECTRONICS & BIOSENSORS	R	2	0	2	0	3	4	CBY
387	MEDICAL BIOTECHNOLOGY	22MBT3508	PEC-5	NANOBIOTECHNOLOGY	R	2	0	2	0	3	4	CBY
388	RF & MICROWAVE	22RFM3101R	PEC-1	MICROWAVE ENGINEERING	R	2	0	2	4	4	8	RSWP
389	RF & MICROWAVE	22RFM3101A	PEC-1	MICROWAVE ENGINEERING	A	3	0	4	4	6	11	RSWP
390	RF & MICROWAVE	22RFM3101P	PEC-1	MICROWAVE ENGINEERING	P	3	0	4	4	6	11	RSWP

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391	RF & MICROWAVE	22RFM3202	PEC-2	ADVANCED ANTENNA DESIGN FOR WIRELESS AND 5G APPLICATIONS	R	2	0	2	0	3	4	RSWP
392	RF & MICROWAVE	22RFM3303R	PEC-3	MODERN RADAR SYSTEMS & NAVIGATIONAL AIDS	R	2	0	2	4	4	8	ME
393	RF & MICROWAVE	22RFM3303A	PEC-3	MODERN RADAR SYSTEMS & NAVIGATIONAL AIDS	A	3	0	4	4	6	11	ME
394	RF & MICROWAVE	22RFM3303P	PEC-3	MODERN RADAR SYSTEMS & NAVIGATIONAL AIDS	P	3	0	4	4	6	11	ME
395	RF & MICROWAVE	22RFM3404M	PEC-4	RF AND MILLIMETER-WAVE CIRCUIT DESIGN	M	3	0	0	0	3	3	ME
396	RF & MICROWAVE	22RFM3505	PEC-5	SATELLITE DESIGN	R	2	0	2	0	3	4	ME
397	ROBOTICS & AUTOMATION	22RAN3101R	PEC-1	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	R	2	0	2	4	4	8	KDOM OR FIT
398	ROBOTICS & AUTOMATION	22RAN3101A	PEC-1	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	A	3	0	4	4	6	11	KDOM OR FIT
399	ROBOTICS & AUTOMATION	22RAN3101P	PEC-1	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	P	3	0	4	4	6	11	KDOM OR FIT
400	ROBOTICS & AUTOMATION	22RAN3102R	PEC-1	AUTONOMOUS MOBILE ROBOT SYSTEMS	R	2	0	2	4	4	8	IR
401	ROBOTICS & AUTOMATION	22RAN3102A	PEC-1	AUTONOMOUS MOBILE ROBOT SYSTEMS	A	3	0	4	4	6	11	IR
402	ROBOTICS & AUTOMATION	22RAN3102P	PEC-1	AUTONOMOUS MOBILE ROBOT SYSTEMS	P	3	0	4	4	6	11	IR
403	ROBOTICS & AUTOMATION	22RAN3202	PEC-2	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	R	2	0	2	0	3	4	EM
404	ROBOTICS & AUTOMATION	22RAN3203	PEC-2	ROBOT MANIPULATION AND WHEELED MOBILE ROBOTS	R	2	0	2	0	3	4	FIT OR SM
405	ROBOTICS & AUTOMATION	22RAN3304R	PEC-3	ADVANCED ROBOTICS	R	2	0	2	4	4	8	DMR
406	ROBOTICS & AUTOMATION	22RAN3304A	PEC-3	ADVANCED ROBOTICS	A	3	0	4	4	6	11	DMR
407	ROBOTICS & AUTOMATION	22RAN3304P	PEC-3	ADVANCED ROBOTICS	P	3	0	4	4	6	11	DMR
408	ROBOTICS & AUTOMATION	22RAN3405M	PEC-4	ARTIFICIAL INTELLIBINCE FOR ROBOTICS	M	3	0	0	0	3	3	SM
409	ROBOTICS & AUTOMATION	22RAN3405MA	PEC-4	ARTIFICIAL INTELLIBINCE FOR ROBOTICS	M	3	0	0	0	3	3	SM
410	ROBOTICS & AUTOMATION	22RAN3406M	PEC-4	HUMAN MACHINE INTERFACE & BRAIN MACHINE INTERFACE	M	3	0	0	0	3	3	AMRB
411	ROBOTICS & AUTOMATION	22RAN3507	PEC-5	COMPUTER VISION & APPLICATIONS	R	2	0	2	0	3	4	AMRB
412	SMART GRID TECHNOLOGY	22SGT3101R	PEC-1	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	R	2	0	2	4	4	8	PGTD OR EPE OR ET
413	SMART GRID TECHNOLOGY	22SGT3101A	PEC-1	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	A	3	0	4	4	6	11	PGTD OR EPE OR ET

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414	SMART GRID TECHNOLOGY	22SGT3101P	PEC-1	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	P	3	0	4	4	6	11	PGTD OR EPE OR E
415	SMART GRID TECHNOLOGY	22SGT3202	PEC-2	DISTRIBUTION SYSTEM PRACTICES	R	2	0	2	0	3	4	PGTD OR EPE OR E
416	SMART GRID TECHNOLOGY	22SGT3203	PEC-2	MICROGRID DYNAMICS AND CONTROL	R	2	0	2	0	3	4	PGTD OR EPE OR E
417	SMART GRID TECHNOLOGY	22SGT3304R	PEC-3	ENERGY MANAGEMENT SYSTEMS AND SCADA	R	2	0	2	4	4	8	PGTD OR EPE OR E
418	SMART GRID TECHNOLOGY	22SGT3304A	PEC-3	ENERGY MANAGEMENT SYSTEMS AND SCADA	A	3	0	4	4	6	11	PGTD OR EPE OR E
419	SMART GRID TECHNOLOGY	22SGT3304P	PEC-3	ENERGY MANAGEMENT SYSTEMS AND SCADA	P	3	0	4	4	6	11	PGTD OR EPE OR E
420	SMART GRID TECHNOLOGY	22SGT3405M	PEC-4	SMART GRID COMMUNICATION AND CYBERSECURITY	M	3	0	0	0	3	3	PGTD OR EPE OR E
421	SMART GRID TECHNOLOGY	22SGT3406M	PEC-4	SMART METERS AND SMART CITIES	M	3	0	0	0	3	3	PGTD OR EPE OR E
422	SMART GRID TECHNOLOGY	22SGT3507	PEC-5	INTERNET OF THINGS AND SMART GRID ANALYTICS	R	2	0	2	0	3	4	PGTD OR EPE OR E
423	SMART GRID TECHNOLOGY	22SGT3508	PEC-5	SMART GRID PROTECTION	R	2	0	2	0	3	4	PGTD OR EPE OR E
424	SMART MANUFACTURING	22SMF3101R	PEC-1	MACHINE TO MACHINE COMMUNICATION	R	2	0	2	4	4	8	MP
425	SMART MANUFACTURING	22SMF3101A	PEC-1	MACHINE TO MACHINE COMMUNICATION	A	3	0	4	4	6	11	MP
426	SMART MANUFACTURING	22SMF3101P	PEC-1	MACHINE TO MACHINE COMMUNICATION	P	3	0	4	4	6	11	MP
427	SMART MANUFACTURING	22SMF3202	PEC-2	ADVANCED MATERIALS MANUFACTURING & TESTING	R	3	0	0	0	3	3	MP
428	SMART MANUFACTURING	22SMF3203	PEC-2	MODERN MANUFACTURING PROCESSES	R	3	0	0	0	3	3	MP
429	SMART MANUFACTURING	22SMF3304R	PEC-3	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN SMART MANUFACTURING	R	2	0	2	4	4	8	MP
430	SMART MANUFACTURING	22SMF3304A	PEC-3	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN SMART MANUFACTURING	R	3	0	4	4	6	11	MP
431	SMART MANUFACTURING	22SMF3304P	PEC-3	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN SMART MANUFACTURING	R	3	0	4	4	6	11	MP
432	SMART MANUFACTURING	22SMF3405M	PEC-4	ROBOTICS & INDUSTRIAL AUTOMATION	M	3	0	0	0	3	3	MP
433	SMART MANUFACTURING	22SMF3406M	PEC-4	MECHANICAL MEASUREMENTS AND METROLOGY	M	3	0	0	0	3	3	MP
434	SMART MANUFACTURING	22SMF3507	PEC-5	REVERSE ENGINEERING & RAPID PROTOTYPING	R	3	0	0	0	3	3	MP
435	SMART MANUFACTURING	22SMF3508	PEC-5	FLEXIBLE MANUFACTURING SYSTEMS	R	2	0	2	0	3	4	MP
436	SOCIAL & DIGITAL MEDIA ANALYTICS	22SDM3101R	PEC-1	SENTIMENT ANALYSIS	R	2	0	2	4	4	8	DBMS

Sl No	SPECIALIZATION	Course Code	Elective No	Course Title	Mode	L	T	P	S	Cr	CH	PRE-REQUISITE
437	SOCIAL & DIGITAL MEDIA ANALYTICS	22SDM3101A	PEC-1	SENTIMENT ANALYSIS	A	3	0	4	4	6	11	DBMS
438	SOCIAL & DIGITAL MEDIA ANALYTICS	22SDM3101P	PEC-1	SENTIMENT ANALYSIS	P	3	0	4	4	6	11	DBMS
439	SOCIAL & DIGITAL MEDIA ANALYTICS	22SDM3202	PEC-2	OPINION MINING & RECOMMENDER SYSTEMS	R	2	0	2	0	3	4	DBMS
440	SOCIAL & DIGITAL MEDIA ANALYTICS	22SDM3203	PEC-2	META SOCIAL MEDIA ANALYTICS	R	2	0	2	0	3	4	DBMS
441	SOCIAL & DIGITAL MEDIA ANALYTICS	22SDM3304R	PEC-3	SOCIAL MEDIA MARKETING ANALYTICS	R	2	0	2	4	4	8	DBMS
442	SOCIAL & DIGITAL MEDIA ANALYTICS	22SDM3304A	PEC-3	SOCIAL MEDIA MARKETING ANALYTICS	A	3	0	4	4	6	11	DBMS
443	SOCIAL & DIGITAL MEDIA ANALYTICS	22SDM3304P	PEC-3	SOCIAL MEDIA MARKETING ANALYTICS	P	3	0	4	4	6	11	DBMS
444	SOCIAL & DIGITAL MEDIA ANALYTICS	22SDM3405M	PEC-4	DIGITAL MEDIA ANALYTICS	M	3	0	0	0	3	3	DBMS
445	SOCIAL & DIGITAL MEDIA ANALYTICS	22SDM3406M	PEC-4	ETHICAL SOCIAL MEDIA	M	3	0	0	0	3	3	DBMS
446	SOCIAL & DIGITAL MEDIA ANALYTICS	22SDM3507	PEC-5	INTELLIGENT SOCIAL MEDIA MONITORING SYSTEMS	R	2	0	2	0	3	4	DBMS
447	SOCIAL & DIGITAL MEDIA ANALYTICS	22SDM3508	PEC-5	SEARCH ENGINE OPTIMIZATION	R	2	0	2	0	3	4	DBMS
448	SOFTWARE MODELLING & DEVOPS	22SMD3101R	PEC-1	SOFTWARE VERIFICATION & VALIDATION	R	2	0	2	4	4	8	ASE
449	SOFTWARE MODELLING & DEVOPS	22SMD3101A	PEC-1	SOFTWARE VERIFICATION & VALIDATION	A	3	0	4	4	6	11	ASE
450	SOFTWARE MODELLING & DEVOPS	22SMD3101P	PEC-1	SOFTWARE VERIFICATION & VALIDATION	P	3	0	4	4	6	11	ASE
451	SOFTWARE MODELLING & DEVOPS	22SMD3202	PEC-2	DESIGN PATTERNS & CLEAN CODING TECHNIQUES	R	2	0	2	0	3	4	CTOD
452	SOFTWARE MODELLING & DEVOPS	22SMD3303R	PEC-3	CONTINUOUS DELIVERY & DEVOPS	R	2	0	2	4	4	8	ASE
453	SOFTWARE MODELLING & DEVOPS	22SMD3303A	PEC-3	CONTINUOUS DELIVERY & DEVOPS	A	3	0	4	4	6	11	ASE
454	SOFTWARE MODELLING & DEVOPS	22SMD3303P	PEC-3	CONTINUOUS DELIVERY & DEVOPS	P	3	0	4	4	6	11	ASE
455	SOFTWARE MODELLING & DEVOPS	22SMD3404M	PEC-4	SOFTWARE PROJECT MANAGEMENT	M	3	0	0	0	3	3	ASE
456	SOFTWARE MODELLING & DEVOPS	22SMD3405M	PEC-4	SOFTWARE ARCHITECTURE & DESIGN	M	3	0	0	0	3	3	ASE
457	SOFTWARE MODELLING & DEVOPS	22SMD3506	PEC-5	SOFTWARE RELIABILITY	R	2	0	2	0	3	4	ASE
458	SOFTWARE MODELLING & DEVOPS	22SMD3507	PEC-5	CROSS-PLATFORM USER INTERFACE DESIGN	R	2	0	2	0	3	4	CTOD
459	STRUCTURAL ENGINEERING	22STE3101R	PEC-1	ADVANCED DESIGN OF REINFORCED CONCRETE STRUCTURES	R	2	0	2	4	4	8	DRCS

Sl No	SPECIALIZATION	Course Code	Elective No	Course Title	Mode	L	T	P	S	Cr	CH	PRE-REQUISITE
460	STRUCTURAL ENGINEERING	22STE3101A	PEC-1	ADVANCED DESIGN OF REINFORCED CONCRETE STRUCTURES	A	3	0	4	4	6	11	DRCS
461	STRUCTURAL ENGINEERING	22STE3101P	PEC-1	ADVANCED DESIGN OF REINFORCED CONCRETE STRUCTURES	P	3	0	4	4	6	11	DRCS
462	STRUCTURAL ENGINEERING	22STE3202	PEC-2	ADVANCED STRUCTURAL ANALYSIS	R	2	0	2	0	3	4	SA
463	STRUCTURAL ENGINEERING	22STE3203	PEC-2	ADVANCED DESIGN OF STEEL STRUCTURE	R	2	0	2	0	3	4	DSS
464	STRUCTURAL ENGINEERING	22STE3304R	PEC-3	BRIDGE ENGINEERING	R	2	0	2	4	4	8	DRCS
465	STRUCTURAL ENGINEERING	22STE3304A	PEC-3	BRIDGE ENGINEERING	A	3	0	4	4	6	11	DRCS
466	STRUCTURAL ENGINEERING	22STE3304P	PEC-3	BRIDGE ENGINEERING	P	3	0	4	4	6	11	DRCS
467	STRUCTURAL ENGINEERING	22STE3405M	PEC-4	PRESTRESSED CONCRETE	M	3	0	0	0	3	3	CT
468	STRUCTURAL ENGINEERING	22STE3406M	PEC-4	PRECAST AND PREFABRICATED STRUCTURES	M	3	0	0	0	3	3	CT
469	STRUCTURAL ENGINEERING	22STE3507	PEC-5	PRE ENGINEERING STRUCTURES	R	2	0	2	0	3	4	CT
470	STRUCTURAL ENGINEERING	22STE3508	PEC-5	ADVANCED CONCRETE TECHNOLOGY	R	2	0	2	0	3	4	CT
471	VLSI	22VLS3101R	PEC-1	ANALOG VLSI DESIGN	R	2	0	2	4	4	8	DVD
472	VLSI	22VLS3101A	PEC-1	ANALOG VLSI DESIGN	A	3	0	4	4	6	11	DVD
473	VLSI	22VLS3101P	PEC-1	ANALOG VLSI DESIGN	P	3	0	4	4	6	11	DVD
474	VLSI	22VLS3202	PEC-2	TESTING AND VERIFICATION OF VLSI CIRCUITS	R	2	0	2	0	3	4	DVD
475	VLSI	22VLS3303R	PEC-3	VLSI PHYSICAL DESIGN AUTOMATION	R	2	0	2	4	4	8	AVD
476	VLSI	22VLS3303A	PEC-3	VLSI PHYSICAL DESIGN AUTOMATION	A	3	0	4	4	6	11	AVD
477	VLSI	22VLS3303P	PEC-3	VLSI PHYSICAL DESIGN AUTOMATION	P	3	0	4	4	6	11	AVD
478	VLSI	22VLS3404M	PEC-4	SYSTEM-ON-CHIP	M	3	0	0	0	3	3	AVD
479	VLSI	22VLS3505	PEC-5	MIXED SIGNAL IC DESIGN	R	2	0	2	0	3	4	AVD
480	WATER RESOURCE & ENVIRONMENTAL ENGINEERING	22WRE3101R	PEC-1	RIVER ENGINEERING	R	2	0	2	4	4	8	WRE
481	WATER RESOURCE & ENVIRONMENTAL ENGINEERING	22WRE3101A	PEC-1	RIVER ENGINEERING	A	3	0	4	4	6	11	WRE
482	WATER RESOURCE & ENVIRONMENTAL ENGINEERING	22WRE3101P	PEC-1	RIVER ENGINEERING	P	3	0	4	4	6	11	WRE

Sl No	SPECIALIZATION	Course Code	Elective No	Course Title	Mode	L	T	P	S	Cr	CH	PRE-REQUISITE
483	WATER RESOURCE & ENVIRONMENTAL ENGINEERING	22WRE3202	PEC-2	SOLID WASTE MANAGEMENT AND LANDFILLS	R	2	0	2	0	3	4	EE
484	WATER RESOURCE & ENVIRONMENTAL ENGINEERING	22WRE3203	PEC-2	DESIGN OF HYDRAULIC STRUCTURES	R	2	0	2	0	3	4	HM&H
485	WATER RESOURCE & ENVIRONMENTAL ENGINEERING	22WRE3304R	PEC-3	WATER RESOURCES FIELD METHODS	R	2	0	2	4	4	8	WRE
486	WATER RESOURCE & ENVIRONMENTAL ENGINEERING	22WRE3304A	PEC-3	WATER RESOURCES FIELD METHODS	A	3	0	4	4	6	11	WRE
487	WATER RESOURCE & ENVIRONMENTAL ENGINEERING	22WRE3304P	PEC-3	WATER RESOURCES FIELD METHODS	P	3	0	4	4	6	11	WRE
488	WATER RESOURCE & ENVIRONMENTAL ENGINEERING	22WRE3405M	PEC-4	URBAN WATER HYDROLOGY AND HYDRAULICS	M	3	0	0	0	3	3	WRE
489	WATER RESOURCE & ENVIRONMENTAL ENGINEERING	22WRE3406M	PEC-4	ENVIRONMENTAL IMPACT ASSESSMENT AND LIFE CYCLE ANALYSES	M	3	0	0	0	3	3	EE
490	WATER RESOURCE & ENVIRONMENTAL ENGINEERING	22WRE3507	PEC-5	PHYSICO-CHEMICAL PROCESSES FOR WATER AND WASTEWATER TREATMENT	R	2	0	2	0	3	4	EE
491	WATER RESOURCE & ENVIRONMENTAL ENGINEERING	22WRE3508	PEC-5	SUSTAINABLE ENGINEERING AND TECHNOLOGY	R	2	0	2	0	3	4	FM&H

		LIST OF SKILL DEVELOPMENT COURSES (SDC) - B.TECH								
S.NO	COURSE CODE	COURSE TITLE	MODE	L	T	P	S	CR	CH	PRE-REQUISITE
1	22SDAD01A	APPLICATION DEVELOPMENT USING JAVA	A	0	0	6	4	4	10	OOP
2	22SDAD01P	APPLICATION DEVELOPMENT USING JAVA	P	0	0	6	4	4	10	OOP
3	22SDAD01R	APPLICATION DEVELOPMENT USING JAVA	R	0	0	2	4	2	6	OOP
4	22SDAD03A	TENSOR FLOW DEVELOPER	A	0	0	6	4	4	10	OOP
5	22SDAD03P	TENSOR FLOW DEVELOPER	A	0	0	6	4	4	10	OOP
6	22SDAD03R	TENSOR FLOW DEVELOPER	R	0	0	2	4	2	6	OOP
7	22SDAD05A	MLOPS	A	0	0	6	4	4	10	OOP
8	22SDAD05P	MLOPS	P	0	0	6	4	4	10	OOP
9	22SDAD05R	MLOPS	R	0	0	2	4	2	6	OOP
10	22SDAD06A	ANALYSIS OF DIGITAL MARKETING	A	0	0	6	4	4	10	ML
11	22SDAD06P	ANALYSIS OF DIGITAL MARKETING	P	0	0	6	4	4	10	ML
12	22SDAD06R	ANALYSIS OF DIGITAL MARKETING	R	0	0	2	4	2	6	ML
13	22SDAD07A	BIG DATA ANALYTICS FOR SMART MANUFACTURING	A	0	0	6	4	4	10	BDSSDBMS
14	22SDAD07P	BIG DATA ANALYTICS FOR SMART MANUFACTURING	P	0	0	6	4	4	10	BDSSDBMS
15	22SDAD07R	BIG DATA ANALYTICS FOR SMART MANUFACTURING	R	0	0	2	4	2	6	BDSSDBMS
16	22SDAD08A	EMERGING BLOCKCHAIN MODELS FOR DIGITAL CURRENCIES	A	0	0	6	4	4	10	DWM
17	22SDAD08P	EMERGING BLOCKCHAIN MODELS FOR DIGITAL CURRENCIES	P	0	0	6	4	4	10	DWM
18	22SDAD08R	EMERGING BLOCKCHAIN MODELS FOR DIGITAL CURRENCIES	R	0	0	2	4	2	6	DWM
19	22SDAD09A	AUTONOMOUS VEHICLE SYSTEMS	A	0	0	6	4	4	10	ADS
20	22SDAD09P	AUTONOMOUS VEHICLE SYSTEMS	P	0	0	6	4	4	10	ADS
21	22SDAD09R	AUTONOMOUS VEHICLE SYSTEMS	R	0	0	2	4	2	6	ADS
22	22SDBT01A	MEDICAL LAB TECHNOLOGY	A	0	0	6	4	4	10	CB
23	22SDBT01P	MEDICAL LAB TECHNOLOGY	A	0	0	6	4	4	10	CB
24	22SDBT01R	MEDICAL LAB TECHNOLOGY	R	0	0	2	4	2	6	CB
25	22SDBT02A	ANALYTICAL AND OPTICAL INSTRUMENTATION	A	0	0	6	4	4	10	BCT
26	22SDBT02P	ANALYTICAL AND OPTICAL INSTRUMENTATION	A	0	0	6	4	4	10	BCT
27	22SDBT02R	ANALYTICAL AND OPTICAL INSTRUMENTATION	R	0	0	2	4	2	6	BCT
28	22SDBT03A	BIO-INSTRUMENTATION	A	0	0	6	4	4	10	BCT
29	22SDBT03P	BIO-INSTRUMENTATION	A	0	0	6	4	4	10	BCT
30	22SDBT03R	BIO-INSTRUMENTATION	R	0	0	2	4	2	6	BCT
31	22SDBT04A	PROCESS ENGINEERING TOOLS	A	0	0	6	4	4	10	BCT
32	22SDBT04P	PROCESS ENGINEERING TOOLS	A	0	0	6	4	4	10	BCT
33	22SDBT04R	PROCESS ENGINEERING TOOLS	R	0	0	2	4	2	6	BCT
34	22SDBT05A	COMPUTER AIDED DRUG DESIGN	A	0	0	6	4	4	10	CB
35	22SDBT05P	COMPUTER AIDED DRUG DESIGN	A	0	0	6	4	4	10	CB
36	22SDBT05R	COMPUTER AIDED DRUG DESIGN	R	0	0	2	4	2	6	CB
37	22SDBT06A	GENOMICS DATA SCIENCE & CLUSTERING	A	0	0	6	4	4	10	CB
38	22SDBT06P	GENOMICS DATA SCIENCE & CLUSTERING	A	0	0	6	4	4	10	CB
39	22SDBT06R	GENOMICS DATA SCIENCE & CLUSTERING	R	0	0	2	4	2	6	CB
40	22SDBT07A	ASPECTS OF BIOCHEMICAL ENGINEERING	A	0	0	6	4	4	10	MB
41	22SDBT07p	ASPECTS OF BIOCHEMICAL ENGINEERING	A	0	0	6	4	4	10	MB
42	22SDBT07R	ASPECTS OF BIOCHEMICAL ENGINEERING	R	0	0	2	4	2	6	MB
43	22SDBT08A	DRUG DESIGN: PRINCIPLES AND ENGINEERING	A	0	0	6	4	4	10	BI
44	22SDBT08P	DRUG DESIGN: PRINCIPLES AND ENGINEERING	A	0	0	6	4	4	10	BI
45	22SDBT08R	DRUG DESIGN: PRINCIPLES AND ENGINEERING	R	0	0	2	4	2	6	BI
46	22SDBT09A	CELL CULTURE TECHNOLOGIES	A	0	0	6	4	4	10	PABT
47	22SDBT09P	CELL CULTURE TECHNOLOGIES	A	0	0	6	4	4	10	PABT
48	22SDBT09R	CELL CULTURE TECHNOLOGIES	R	0	0	2	4	2	6	PABT
49	22SDBT10A	MASS SPECTROMETRY BASED PROTEOMICS	A	0	0	6	4	4	10	BAT
50	22SDBT10P	MASS SPECTROMETRY BASED PROTEOMICS	A	0	0	6	4	4	10	BAT

S.NO	COURSE CODE	COURSE TITLE	MODE	L	T	P	S	CR	CH	PRE-REQUISITE
51	22SDBT10R	MASS SPECTROMETRY BASED PROTEOMICS	R	0	0	2	4	2	6	BAT
52	22SDBT11A	ANIMAL PHYSIOLOGY	A	0	0	6	4	4	10	MB
53	22SDBT11P	ANIMAL PHYSIOLOGY	A	0	0	6	4	4	10	MB
54	22SDBT11R	ANIMAL PHYSIOLOGY	R	0	0	2	4	2	6	MB
55	22SDCE02A	BUILDING INFORMATION MODELLING	R	0	0	6	4	4	10	CPM
56	22SDCE02P	BUILDING INFORMATION MODELLING	R	0	0	6	4	4	10	CPM
57	22SDCE02R	BUILDING INFORMATION MODELLING	R	0	0	2	4	2	6	CPM
58	22SDCE03A	ANALYSIS & DESIGN OF MULTI-STORIED STRUCTURES USING ETABS	R	0	0	6	4	4	10	AUTOCAD
59	22SDCE03P	ANALYSIS & DESIGN OF MULTI-STORIED STRUCTURES USING ETABS	R	0	0	6	4	4	10	AUTOCAD
60	22SDCE03R	ANALYSIS & DESIGN OF MULTI-STORIED STRUCTURES USING ETABS	R	0	0	2	4	2	6	AUTOCAD
61	22SDCE04A	PLANNING AND SCHEDULING OF RESIDENTIAL BUILDING USING PRIMAVERA SOFTWARE	R	0	0	6	4	4	10	CPM
62	22SDCE04P	PLANNING AND SCHEDULING OF RESIDENTIAL BUILDING USING PRIMAVERA SOFTWARE	R	0	0	6	4	4	10	CPM
63	22SDCE04R	PLANNING AND SCHEDULING OF RESIDENTIAL BUILDING USING PRIMAVERA SOFTWARE	R	0	0	2	4	2	6	CPM
64	22SDCE05A	DESIGN OF THE PAVEMENT BY USING MX ROADS	R	0	0	6	4	4	10	TE
65	22SDCE05P	DESIGN OF THE PAVEMENT BY USING MX ROADS	R	0	0	6	4	4	10	TE
66	22SDCE05R	DESIGN OF THE PAVEMENT BY USING MX ROADS	R	0	0	2	4	2	6	TE
67	22SDCE06A	DESIGN & ANALYSIS OF DIFFERENT STRUCTURAL COMPONENTS BY USING SAFE AND EXTRACTIVE BAR BENDING SCHEDULE	R	0	0	6	4	4	10	DERS
68	22SDCE06P	DESIGN & ANALYSIS OF DIFFERENT STRUCTURAL COMPONENTS BY USING SAFE AND EXTRACTIVE BAR BENDING SCHEDULE	R	0	0	6	4	4	10	DERS
69	22SDCE06R	DESIGN & ANALYSIS OF DIFFERENT STRUCTURAL COMPONENTS BY USING SAFE AND EXTRACTIVE BAR BENDING SCHEDULE	R	0	0	2	4	2	6	DERS
70	22SDCE07A	ARC-GIS (PRO)	R	0	0	6	4	4	10	RS&GIS
71	22SDCE07P	ARC-GIS (PRO)	R	0	0	6	4	4	10	RS&GIS
72	22SDCE07R	ARC-GIS (PRO)	R	0	0	2	4	2	6	RS&GIS
73	22SDCI01A	PYTHON FULL STACK DEVELOPMENT WITH DJANGO	R	0	0	6	4	4	10	CTOD
74	22SDCI01P	PYTHON FULL STACK DEVELOPMENT WITH DJANGO	R	0	0	6	4	4	10	CTOD
75	22SDCI01R	PYTHON FULL STACK DEVELOPMENT WITH DJANGO	R	0	0	2	4	2	6	CTOD
76	22SDCI04A	ADVANCED ANDROID MOBILE APPLICATION WITH CLOUD-BASED WEB SERVICES	R	0	0	2	4	2	6	CTOD
77	22SDCI04P	ADVANCED ANDROID MOBILE APPLICATION WITH CLOUD-BASED WEB SERVICES	R	0	0	2	4	2	6	CTOD
78	22SDCI04R	ADVANCED ANDROID MOBILE APPLICATION WITH CLOUD-BASED WEB SERVICES	R	0	0	2	4	2	6	CTOD
79	22SDCI05A	CLOUD DEVOPS	A	0	0	6	4	4	10	ASE
80	22SDCI05P	CLOUD DEVOPS	P	0	0	6	4	4	10	ASE
81	22SDCI05R	CLOUD DEVOPS	R	0	0	2	4	2	6	ASE
82	22SDCS01A	MERN STACK WEB DEVELOPMENT	A	0	0	6	4	4	10	CTOD
83	22SDCS01P	MERN STACK WEB DEVELOPMENT	P	0	0	6	4	4	10	CTOD
84	22SDCS01R	MERN STACK WEB DEVELOPMENT	R	0	0	2	4	2	6	CTOD
85	22SDCS03A	JAVA FULL STACK DEVELOPMENT + MICROSERVICES	A	0	0	6	4	4	10	CTOD
86	22SDCS03P	JAVA FULL STACK DEVELOPMENT + MICROSERVICES	P	0	0	6	4	4	10	CTOD
87	22SDCS03R	JAVA FULL STACK DEVELOPMENT + MICROSERVICES	R	0	0	2	4	2	6	CTOD
88	22SDCS04A	CLOUD BASED SOLUTIONS ARCHITECT	A	0	0	6	4	4	10	OS
89	22SDCS04P	CLOUD BASED SOLUTIONS ARCHITECT	P	0	0	6	4	4	10	OS
90	22SDCS04R	CLOUD BASED SOLUTIONS ARCHITECT	R	0	0	2	4	2	6	OS
91	22SDCS05A	CLOUD BASED SECURITY SPECIALITY	A	0	0	6	4	4	10	CNS
92	22SDCS05P	CLOUD BASED SECURITY SPECIALITY	P	0	0	6	4	4	10	CNS
93	22SDCS05R	CLOUD BASED SECURITY SPECIALITY	R	0	0	2	4	2	6	CNS
94	22SDCS06A	CERTIFIED GAME DEVELOPER	A	0	0	6	4	4	10	PGD
95	22SDCS06P	CERTIFIED GAME DEVELOPER	P	0	0	6	4	4	10	PGD
96	22SDCS06R	CERTIFIED GAME DEVELOPER	R	0	0	2	4	2	6	PGD

S.NO	COURSE CODE	COURSE TITLE	MODE	L	T	P	S	CR	CH	PRE-REQUISITE
97	22SDCS07A	CLOUD BASED AI/ML SPECIALITY	A	0	0	6	4	4	10	DDAIS
98	22SDCS07P	CLOUD BASED AI/ML SPECIALITY	P	0	0	6	4	4	10	DDAIS
99	22SDCS07R	CLOUD BASED AI/ML SPECIALITY	R	0	0	2	4	2	6	DDAIS
100	22SDCS08A	CLOUD BASED DATA ANALYTICS SPECIALITY	A	0	0	6	4	4	10	DS
101	22SDCS08P	CLOUD BASED DATA ANALYTICS SPECIALITY	P	0	0	6	4	4	10	DS
102	22SDCS08R	CLOUD BASED DATA ANALYTICS SPECIALITY	R	0	0	2	4	2	6	DS
103	22SDCS09A	CLOUD BASED IOT DEVELOPER	A	0	0	6	4	4	10	FIOT
104	22SDCS09P	CLOUD BASED IOT DEVELOPER	P	0	0	6	4	4	10	FIOT
105	22SDCS09R	CLOUD BASED IOT DEVELOPER	R	0	0	2	4	2	6	FIOT
106	22SDCS10A	IT VENTURE MANAGEMENT	A	0	0	6	4	4	10	DTI
107	22SDCS10P	IT VENTURE MANAGEMENT	P	0	0	6	4	4	10	DTI
108	22SDCS10R	IT VENTURE MANAGEMENT	R	0	0	2	4	2	6	DTI
109	22SDEC01A	ELECTRONIC SYSTEM DESIGN	A	0	0	6	4	4	10	FIOT
110	22SDEC01P	ELECTRONIC SYSTEM DESIGN	P	0	0	6	4	4	10	FIOT
111	22SDEC01R	ELECTRONIC SYSTEM DESIGN	R	0	0	2	4	2	6	FIOT
112	22SDEC02A	ELECTRONIC SYSTEM DESIGN AUTOMATION	A	0	0	6	4	4	10	ESD
113	22SDEC02P	ELECTRONIC SYSTEM DESIGN AUTOMATION	A	0	0	6	4	4	10	ESD
114	22SDEC02R	ELECTRONIC SYSTEM DESIGN AUTOMATION	R	0	0	2	4	2	6	ESD
115	22SDEC03A	BIOSENSOR SYSTEM DESIGN	A	0	0	6	4	4	10	ESDA
116	22SDEC03P	BIOSENSOR SYSTEM DESIGN	P	0	0	6	4	4	10	ESDA
117	22SDEC03R	BIOSENSOR SYSTEM DESIGN	R	0	0	2	4	2	6	ESDA
118	22SDEC04A	DESIGN OF NETWORKS USING NS-3	A	0	0	6	4	4	10	ESDA
119	22SDEC04P	DESIGN OF NETWORKS USING NS-3	P	0	0	6	4	4	10	ESDA
120	22SDEC04R	DESIGN OF NETWORKS USING NS-3	R	0	0	2	4	2	6	ESDA
121	22SDEC05A	4G - LTE COMMUNICATION SYSTEMS	A	0	0	6	4	4	10	ESDA
122	22SDEC05P	4G - LTE COMMUNICATION SYSTEMS	P	0	0	6	4	4	10	ESDA
123	22SDEC05R	4G - LTE COMMUNICATION SYSTEMS	R	0	0	2	4	2	6	ESDA
124	22SDEC06A	EMBEDDED DESIGN	A	0	0	6	4	4	10	ESDA
125	22SDEC06P	EMBEDDED DESIGN	P	0	0	6	4	4	10	ESDA
126	22SDEC06R	EMBEDDED DESIGN	R	0	0	2	4	2	6	ESDA
127	22SDEC07A	DEEP LEARNING WITH TENSORFLOW FRAMEWORK	A	0	0	6	4	4	10	ESDA
128	22SDEC07P	DEEP LEARNING WITH TENSORFLOW FRAMEWORK	P	0	0	6	4	4	10	ESDA
129	22SDEC07R	DEEP LEARNING WITH TENSORFLOW FRAMEWORK	R	0	0	2	4	2	6	ESDA
130	22SDEC08A	PLANAR ANTENNA DESIGN	A	0	0	6	4	4	10	ESDA
131	22SDEC08P	PLANAR ANTENNA DESIGN	P	0	0	6	4	4	10	ESDA
132	22SDEC08R	PLANAR ANTENNA DESIGN	R	0	0	2	4	2	6	ESDA
133	22SDEC09A	ROBOTICS AND AUTOMATION WITH WEBOTS	A	0	0	6	4	4	10	ESDA
134	22SDEC09P	ROBOTICS AND AUTOMATION WITH WEBOTS	P	0	0	6	4	4	10	ESDA
135	22SDEC09R	ROBOTICS AND AUTOMATION WITH WEBOTS	R	0	0	2	4	2	6	ESDA
136	22SDEC10A	INTEGRATED SYSTEM DESIGN AUTOMATION	A	0	0	6	4	4	10	ESDA
137	22SDEC10P	INTEGRATED SYSTEM DESIGN AUTOMATION	P	0	0	6	4	4	10	ESDA
138	22SDEC10R	INTEGRATED SYSTEM DESIGN AUTOMATION	R	0	0	2	4	2	6	ESDA
139	22SDEC11A	BIOMEDICAL SYSTEM INTERFACING AND SIGNAL ANALYSIS	A	0	0	6	4	4	10	ESDA
140	22SDEC11P	BIOMEDICAL SYSTEM INTERFACING AND SIGNAL ANALYSIS	P	0	0	6	4	4	10	ESDA
141	22SDEC11R	BIOMEDICAL SYSTEM INTERFACING AND SIGNAL ANALYSIS	R	0	0	2	4	2	6	ESDA
142	22SDEC12A	NETWORK PROGRAMMABILITY AND AUTOMATION	A	0	0	6	4	4	10	ESDA
143	22SDEC12P	NETWORK PROGRAMMABILITY AND AUTOMATION	P	0	0	6	4	4	10	ESDA
144	22SDEC12R	NETWORK PROGRAMMABILITY AND AUTOMATION	R	0	0	2	4	2	6	ESDA
145	22SDEC13A	5G PRIVATE AND INDUSTRIAL AUTOMATION NETWORKS	A	0	0	6	4	4	10	ESDA
146	22SDEC13P	5G PRIVATE AND INDUSTRIAL AUTOMATION NETWORKS	P	0	0	6	4	4	10	ESDA
147	22SDEC13R	5G PRIVATE AND INDUSTRIAL AUTOMATION NETWORKS	R	0	0	2	4	2	6	ESDA

S.NO	COURSE CODE	COURSE TITLE	MODE	L	T	P	S	CR	CH	PRE-REQUISITE
148	22SDEC14A	EMBEDDED PROTOTYPE	A	0	0	6	4	4	10	ESDA
149	22SDEC14P	EMBEDDED PROTOTYPE	P	0	0	6	4	4	10	ESDA
150	22SDEC14R	EMBEDDED PROTOTYPE	R	0	0	2	4	2	6	ESDA
151	22SDEC15A	NATURAL LANGUAGE PROCESSING USING TENSOR FLOW	A	0	0	6	4	4	10	ESDA
152	22SDEC15P	NATURAL LANGUAGE PROCESSING USING TENSOR FLOW	P	0	0	6	4	4	10	ESDA
153	22SDEC15R	NATURAL LANGUAGE PROCESSING USING TENSOR FLOW	R	0	0	2	4	2	6	ESDA
154	22SDEC16A	ADVANCED RADIATING SYSTEM MODELING	A	0	0	6	4	4	10	ESDA
155	22SDEC16P	ADVANCED RADIATING SYSTEM MODELING	P	0	0	6	4	4	10	ESDA
156	22SDEC16R	ADVANCED RADIATING SYSTEM MODELING	R	0	0	2	4	2	6	ESDA
157	22SDEC17A	ROBOT DESIGN AND ANALYSIS	A	0	0	6	4	4	10	ESDA
158	22SDEC17P	ROBOT DESIGN AND ANALYSIS	P	0	0	6	4	4	10	ESDA
159	22SDEC17R	ROBOT DESIGN AND ANALYSIS	R	0	0	2	4	2	6	ESDA
160	22SDEC18A	VLSI SUBMICRON DESIGN AND VERIFICATION	A	0	0	6	4	4	10	ESDA
161	22SDEC18P	VLSI SUBMICRON DESIGN AND VERIFICATION	P	0	0	6	4	4	10	ESDA
162	22SDEC18R	VLSI SUBMICRON DESIGN AND VERIFICATION	R	0	0	2	4	2	6	ESDA
163	23SDEE01R	VISUALIZATION AND MODELING OF CIRCUIT	R	0	0	2	4	2	6	NIL
164	23SDEE01A	VISUALIZATION AND MODELING OF CIRCUIT	A	0	0	6	4	4	10	NIL
165	23SDEE01P	VISUALIZATION AND MODELING OF CIRCUIT	P	0	0	6	4	4	10	NIL
166	22SDEE02A	EMBEDDED SYSTEM DESIGN WITH ARM	A	0	0	6	4	4	10	DDC
167	22SDEE02P	EMBEDDED SYSTEM DESIGN WITH ARM	P	0	0	6	4	4	10	DDC
168	22SDEE02R	EMBEDDED SYSTEM DESIGN WITH ARM	R	0	0	2	4	2	6	DDC
169	22SDEE03A	IOT INTERFACE DESIGN	A	0	0	6	4	4	10	FITS
170	22SDEE03P	IOT INTERFACE DESIGN	P	0	0	6	4	4	10	FITS
171	22SDEE03R	IOT INTERFACE DESIGN	R	0	0	2	4	2	6	FITS
172	22SDEE04A	AI & ML FOR SMART GRIDS	A	0	0	6	4	4	10	EPGTD OR ET
173	22SDEE04P	AI & ML FOR SMART GRIDS	P	0	0	6	4	4	10	EPGTD OR ET
174	22SDEE04R	AI & ML FOR SMART GRIDS	R	0	0	2	4	2	6	EPGTD OR ET
175	22SDEE05R	MODELING AND SIMULATION OF GREEN ENERGY SYSTEMS	R	0	0	2	4	2	6	EPGTD OR ET
176	22SDEE05A	MODELING AND SIMULATION OF GREEN ENERGY SYSTEMS	A	0	0	6	4	4	10	EPGTD OR ET
177	22SDEE05P	MODELING AND SIMULATION OF GREEN ENERGY SYSTEMS	P	0	0	6	4	4	10	EPGTD OR ET
178	22SDEE06R	EVT HARDWARE PROTOTYPING	R	0	0	2	4	2	6	BEEC OR ET
179	22SDEE06A	EVT HARDWARE PROTOTYPING	A	0	0	6	4	4	10	BEEC OR ET
180	22SDEE06P	EVT HARDWARE PROTOTYPING	P	0	0	6	4	4	10	BEEC OR ET
181	22SDEE07R	IA HARDWARE PROTOTYPING	R	0	0	2	4	2	6	EPGTD OR ET OR FITS
182	22SDEE07A	IA HARDWARE PROTOTYPING	A	0	0	6	4	4	10	EPGTD OR ET OR FITS
183	22SDEE07P	IA HARDWARE PROTOTYPING	P	0	0	6	4	4	10	EPGTD OR ET OR FITS
184	22SDIN01A	IOT HARDWARE PROGRAMMING	A	0	0	6	4	4	10	FITS
185	22SDIN01P	IOT HARDWARE PROGRAMMING	P	0	0	6	4	4	10	FITS
186	22SDIN01R	IOT HARDWARE PROGRAMMING	R	0	0	2	4	2	6	FITS
187	22SDIN02A	MOBILE APP DEVELOPMENT USING FLUTTER	A	0	0	6	4	4	10	NIL
188	22SDIN02P	MOBILE APP DEVELOPMENT USING FLUTTER	P	0	0	6	4	4	10	NIL
189	22SDIN02R	MOBILE APP DEVELOPMENT USING FLUTTER	R	0	0	2	4	2	6	NIL
190	22SDIN03A	IOT FULL STACK DEVELOPMENT	A	0	0	6	4	4	10	IOTHP
191	22SDIN03P	IOT FULL STACK DEVELOPMENT	P	0	0	6	4	4	10	IOTHP
192	22SDIN03R	IOT FULL STACK DEVELOPMENT	R	0	0	2	4	2	6	IOTHP
193	22SDIN04A	IOT PRODUCT DEVELOPMENT	A	0	0	6	4	4	10	IOTPA
194	22SDIN04P	IOT PRODUCT DEVELOPMENT	P	0	0	6	4	4	10	IOTPA
195	22SDIN04R	IOT PRODUCT DEVELOPMENT	R	0	0	2	4	2	6	IOTPA
196	22SDIN05A	IOT ANALYTICS FOR THE CLOUD	A	0	0	6	4	4	10	CCIOT
197	22SDIN05P	IOT ANALYTICS FOR THE CLOUD	P	0	0	6	4	4	10	CCIOT
198	22SDIN05R	IOT ANALYTICS FOR THE CLOUD	R	0	0	2	4	2	6	CCIOT

S.NO	COURSE CODE	COURSE TITLE	MODE	L	T	P	S	CR	CH	PRE-REQUISITE
199	22SDIN06A	EMBEDDED AND IOT ROGRAMMING	A	0	0	6	4	4	10	FITS
200	22SDIN06P	EMBEDDED AND IOT ROGRAMMING	P	0	0	6	4	4	10	FITS
201	22SDIN06R	EMBEDDED AND IOT ROGRAMMING	R	0	0	2	4	2	6	FITS
202	22SDME01A	VISUALIZATION & MODELLING FOR ENGINEERING DESIGN	A	0	0	6	4	4	10	EG
203	22SDME01P	VISUALIZATION & MODELLING FOR ENGINEERING DESIGN	P	0	0	6	4	4	10	EG
204	22SDME01R	VISUALIZATION & MODELLING FOR ENGINEERING DESIGN	R	0	0	2	4	2	6	EG
205	22SDME02A	COMPUTER INTEGRATED MANUFACTURING	A	0	0	6	4	4	10	MP
206	22SDME02P	COMPUTER INTEGRATED MANUFACTURING	P	0	0	6	4	4	10	MP
207	22SDME02R	COMPUTER INTEGRATED MANUFACTURING	R	0	0	2	4	2	6	MP
208	22SDME03A	FINITE ELEMENT ANALYSIS	A	0	0	6	4	4	10	SM
209	22SDME03P	FINITE ELEMENT ANALYSIS	P	0	0	6	4	4	10	SM
210	22SDME03R	FINITE ELEMENT ANALYSIS	R	0	0	2	4	2	6	SM
211	22SDME04A	ANALYSIS OF ENERGY SYSTEMS	A	0	0	6	4	4	10	TD
212	22SDME04P	ANALYSIS OF ENERGY SYSTEMS	P	0	0	6	4	4	10	TD
213	22SDME04R	ANALYSIS OF ENERGY SYSTEMS	R	0	0	2	4	2	6	TD
214	22SDME05A	3D MODELLING AND DIGITAL PROTOTYPING	A	0	0	6	4	4	10	MP
215	22SDME05P	3D MODELLING AND DIGITAL PROTOTYPING	P	0	0	6	4	4	10	MP
216	22SDME05R	3D MODELLING AND DIGITAL PROTOTYPING	R	0	0	2	4	2	6	MP
217	22SDME06A	GEOMETRIC DIMENSIONING AND TOLERANCING	A	0	0	6	4	4	10	MT
218	22SDME06P	GEOMETRIC DIMENSIONING AND TOLERANCING	P	0	0	6	4	4	10	MT
219	22SDME06R	GEOMETRIC DIMENSIONING AND TOLERANCING	R	0	0	2	4	2	6	MT
220	23SDEE01A	VISUALIZATION AND MODELING OF CIRCUITS	A	0	0	6	4	4	10	BEEC
221	23SDEE01P	VISUALIZATION AND MODELING OF CIRCUITS	P	0	0	6	4	4	10	BEEC
222	23SDEE01R	VISUALIZATION AND MODELING OF CIRCUITS	R	0	0	2	4	2	6	BEEC
223	22SDDT01R	ENTREPRENEURIAL TECHNOLOGY DEVELOPMENT AND PROTOTYPING	R	0	0	2	4	2	6	DTI
224	22SDDT01A	ENTREPRENEURIAL TECHNOLOGY DEVELOPMENT AND PROTOTYPING	A	0	0	6	4	4	10	DTI
225	22SDDT01P	ENTREPRENEURIAL TECHNOLOGY DEVELOPMENT AND PROTOTYPING	P	0	0	6	4	4	10	DTI
226	22SDDT02R	ENTREPRENEURSHIP AND BUSINESS PLANNING	R	0	0	2	4	2	6	DTI
227	22SDDT02A	ENTREPRENEURSHIP AND BUSINESS PLANNING	A	0	0	6	4	4	10	DTI
228	22SDDT02P	ENTREPRENEURSHIP AND BUSINESS PLANNING	P	0	0	6	4	4	10	DTI
229	22SDDT03R	STRATEGIC MARKETING FOR ENTREPRENEURIAL SUCCESS	R	0	0	2	4	2	6	ETDP
230	22SDDT03A	STRATEGIC MARKETING FOR ENTREPRENEURIAL SUCCESS	A	0	0	6	4	4	10	ETDP
231	22SDDT03P	STRATEGIC MARKETING FOR ENTREPRENEURIAL SUCCESS	P	0	0	6	4	4	10	ETDP
232	22SDDT04R	ENTREPRENEURIAL SCALE-UP & COMMERCIALIZATION STRATEGIES	R	0	0	2	4	2	6	EBP
233	22SDDT04A	ENTREPRENEURIAL SCALE-UP & COMMERCIALIZATION STRATEGIES	A	0	0	6	4	4	10	EBP
234	22SDDT04P	ENTREPRENEURIAL SCALE-UP & COMMERCIALIZATION STRATEGIES	P	0	0	6	4	4	10	EBP
235	22TBAD01	COMPUTATIONAL INTELLIGENCE USING PYTHON	R	0	0	0	4	0	4	CTSD
236	22TBAD02	CLOUD BASED AI TOOLS	R	0	0	0	4	0	4	OS
237	22TBBT01	DOCKING	R	0	0	0	4	0	4	BI
238	22TBCE01	AUTO-CAD	R	0	0	0	4	0	4	BMPD
239	22TBCE02	PROJECT MANAGEMENT READY	R	0	0	0	4	0	4	CPM
240	22TBCI01	ROBOTIC PROCESS AUTOMATION	R	0	0	0	4	0	4	CTOD
241	22TBCI02	MOBILE APPLICATION DEVELOPMENT	R	0	0	0	4	0	4	CTOD
242	22TBCS01	CLOUD FOUNDATIONS - AWS	R	0	0	0	4	0	4	OS
243	22TBCS02	GOOGLE CLOUD	R	0	0	0	4	0	4	NIL
244	22TBCS03	AUTOMATION ANYWHERE	R	0	0	0	4	0	4	NIL
245	22TBCS04	BLUE PRISM	R	0	0	0	4	0	4	NIL
246	22TBCS05	UI PATH	R	0	0	0	4	0	4	NIL
247	22TBEC01	BIO ELECTRONICS SYSTEMS	R	0	0	0	4	0	4	NIL
248	22TBEC02	NETWORK DESIGN AND DEVELOPMENT	R	0	0	0	4	0	4	NIL
249	22TBEC03	DATA COMMUNICATION TOOLS - MATLAB/PYTHON	R	0	0	0	4	0	4	NIL

S.NO	COURSE CODE	COURSE TITLE	MODE	L	T	P	S	CR	CH	PRE-REQUISITE
250	22TBEC04	EDA TOOLS FOR PCB	R	0	0	0	4	0	4	NIL
251	22TBEC05	MACHINE LEARNING WITH PYTORCH	R	0	0	0	4	0	4	NIL
252	22TBEC06	ROBOTICS ASSIMILATION USING PYTHON	R	0	0	0	4	0	4	NIL
253	22TBEC07	ELECTRONICS SYSTEM DESIGN USING ORCAD CAPTURE / PSPICE	R	0	0	0	4	0	4	NIL
254	22TBEC08	RADIO FREQUENCY CIRCUIT DESIGN	R	0	0	0	4	0	4	NIL
255	22TBEC09	BIO INSTRUMENTATION	R	0	0	0	4	0	4	NIL
256	22TBEC10	NETWORK AUTOMATION USING PYTHON	R	0	0	0	4	0	4	NIL
257	22TBEC11	SATELLITE MISSION ANALYSIS TOOL USING AGI-STK	R	0	0	0	4	0	4	NIL
258	22TBEC12	EMBEDDED PROGRAMMING	R	0	0	0	4	0	4	NIL
259	22TBEC13	SIGNAL AND IMAGE PROCESSING USING MATLAB	R	0	0	0	4	0	4	NIL
260	22TBEC14	ROBOT MODELING AND SIMULATION USING MATLAB	R	0	0	0	4	0	4	NIL
261	22TBEC15	DIGITAL SYSTEM DESIGN USING XILINX IDE	R	0	0	0	4	0	4	NIL
262	22TBEC16	ANTENNA MODELLING AND SIMULATION	R	0	0	0	4	0	4	NIL
263	22TBEE01	MULTISIM	R	0	0	0	4	0	4	BEEC
264	22TBEE02	POWER WORLD SIMULATOR	R	0	0	0	4	0	4	BEEC
265	22TBME01	PYTHON PROGRAMMING FOR MECHANICAL ENGINEERS	R	0	0	0	4	0	4	CTSD
266	22TBME02	JAVA PROGRAMMING FOR MECHANICAL ENGINEERS	R	0	0	0	4	0	4	OOP
267	22TBBT02	BIOVIA	R	0	0	0	4	0	4	BI
268	22TBIN01	EMBEDDED LINUX	R	0	0	0	4	0	4	ESD
269	22TBIN02	COMPUTER VISION WITH OPENCV	R	0	0	0	4	0	4	CTSD

Sl No	COURSE CODE	COURSE TITLE	MODE	L	T	P	S	Cr	CH	PRE-REQUISITE
		LIST OF OPEN ELECTIVES								
1	OEEC0001	WIRELESS AD-HOC NETWORKS	R	3	0	0	0	3	3	NIL
2	OEEC0002	SWAM ROBOTICS CONTROL SYSTEMS	R	3	0	0	0	3	3	NIL
3	OEEC0003	DATA SCIENCE: DL AND NN	R	3	0	0	0	3	3	NIL
4	OEEC0004	SATELLITE SUB-SYSTEMS	R	3	0	0	0	3	3	NIL
5	OEEC0005	ML FOR ENGINEERING AND SCIENTIFIC APPLICATIONS	R	3	0	0	0	3	3	NIL
6	OEEC0006	INTRODUCTION TO MEMS	R	3	0	0	0	3	3	NIL
7	OEEC0007	ENERGY HARVESTING TECHNOLOGIES FOR IOT	R	3	0	0	0	3	3	NIL
8	OEEC0008	ELECTRONIC WARFARE, EMI & EMC	R	3	0	0	0	3	3	NIL
9	OEEC0011	IMAGE PROCESSING	R	3	0	0	0	3	3	NIL
10	OEEC0012	NANO ELECTRONICS	R	3	0	0	0	3	3	NIL
11	OEBT0001	IPR AND PATENT LAWS	R	3	0	0	0	3	3	NIL
12	OEBT0002	BIOMATERIALS	R	3	0	0	0	3	3	NIL
13	OEBT0003	ENVIRONMENTAL BIOTECHNOLOGY	R	3	0	0	0	3	3	NIL
14	OEBT0004	BIOLOGY FOR ENGINEERS	R	3	0	0	0	3	3	NIL
15	OEME0001	ROBOTICS	R	3	0	0	0	3	3	NIL
16	OEME0002	MECHATRONICS	R	3	0	0	0	3	3	NIL
17	OEME0003	OPERATIONS RESEARCH	R	3	0	0	0	3	3	NIL
18	OEEE0013	RENEWABLE ENERGY RESOURCES	R	3	0	0	0	3	3	NIL
19	OEEE0014	ENERGY ESTIMATION & AUDIT	R	3	0	0	0	3	3	NIL
20	OEEE0003	ELECTRICAL POWER ENGINEERING	R	3	0	0	0	3	3	NIL
21	OECE0002	ENVIRONMENTAL POLLUTION CONTROL METHODS	R	3	0	0	0	3	3	NIL
22	OECE0003	SOLID AND HAZARDOUS WASTE MANAGEMENT	R	3	0	0	0	3	3	NIL
23	OECE0004	REMOTE SENSING & GIS	R	3	0	0	0	3	3	NIL
24	OECS0006	FUNDAMENTAL OF SOFTWARE ENGINEERING	R	3	0	0	0	3	3	NIL
25	OECS0007	FUNDAMENTAL OF DBMS	R	3	0	0	0	3	3	NIL
26	OECS0008	FUNDAMENTALS OF INFORMATION TECHNOLOGY	R	3	0	0	0	3	3	NIL
27	OEAD0001	FUNDAMENTALS OF BIG DATA	R	3	0	0	0	3	3	NIL
28	OEAD0002	DATA SCIENCE AND VISUALIZATION	R	3	0	0	0	3	3	NIL
29	OEAD0003	MEDICAL DATA ANALYTICS	R	3	0	0	0	3	3	NIL
30	OEIN0001	FUNDAMENTALS OF IOT	R	3	0	0	0	3	3	NIL
31	OECI0001	FOUNDATIONS OF INFORMATION SYSTEMS	R	3	0	0	0	3	3	NIL
32	OEME4001M	GRAPHIC DESIGN	M	4	0	0	0	4	4	NIL
33	OEVC4002M	PHOTOGRAPHY BASICS	M	4	0	0	0	4	4	NIL
34	OECE4003M	EXPLORING OUR RESPONSES TO CLIMATE CHANGE	M	4	0	0	0	4	4	NIL
35	OEEE4224M	SELF-DRIVING CARS	M	4	0	0	0	4	4	NIL
36	OEEE4222M	ENERGY PRODUCTION, DISTRIBUTION & SAFETY	M	4	0	0	0	4	4	NIL
37	OECE4221M	CONSTRUCTION MANAGEMENT	M	4	0	0	0	4	4	NIL
38	OECE4223M	GEOGRAPHIC INFORMATION SYSTEMS	M	4	0	0	0	4	4	NIL
39	OEGN0001	NATIONAL CADET CORPS (NCC)-1	R	2	0	2	0	3	2	Nil
40	OEGN0002	NATIONAL CADET CORPS (NCC)-2	R	2	0	2	0	3	2	Nil
41	OEGN0003	NATIONAL CADET CORPS (NCC)-3	R	2	0	2	0	3	2	Nil
42	OEGN0004	NATIONAL SERVICE SCHEME-1	R	2	0	2	0	3	2	Nil
43	OEGN0005	NATIONAL SERVICE SCHEME-2	R	2	0	2	0	3	2	Nil
44	OEGN0006	NATIONAL SERVICE SCHEME-3	R	2	0	2	0	3	2	Nil
45	OEGN0007	ACTING SKILLS	R	2	0	0	4	3	6	Nil

		List of Campus Recruitment & Career Adavancement Training Courses					
Sl No	**COURSE CODE**	**COURSE TITLE**	**L**	**T**	**P**	**S**	**Cr**
1	22UCCOD1	CAMPUS RECRUITMENT: LOGIC BUILDING SKILLS TRAINING (LEVEL 1)	0	0	0	8	0
2	22UCCOD2	CAMPUS RECRUITMENT: CODING SKILLS TRAINING - DATA STRUCTURES (LEVEL 2)	0	0	0	8	0
3	22UCCOD3	CAMPUS RECRUITMENT: CODING SKILLS TRAINING - ALGORITHMS (LEVEL 3)	0	0	0	8	0
4	22UCSSS1	CAMPUS RECRUITMENT: SOFT SKILLS TRAINING	0	0	0	8	0
5	22UCVQR1	CAMPUS RECRUITMENT: VERBAL APTITUDE TRAINING	0	0	0	8	0
6	22UCCSS1	CAMPUS RECRUITMENT: COMMUNICATION SKILLS TRAINING	0	0	0	8	0
7	22UCVQR2	CAMPUS RECRUITMENT: QUANTITATIVE APTITUDE TRAINING	0	0	0	8	0
8	22UCVQR3	CAMPUS RECRUITMENT: REASONING APTITUDE TRAINING	0	0	0	8	0
9	22UCIND1	CAMPUS RECRUITMENT: INDUSTRY-SPECIFIC TRAINING	0	0	0	8	0
10	22UCIND2	CAMPUS RECRUITMENT: INDUSTRY-SPECIFIC TRAINING	0	0	0	8	0
11	22UCCOR1	CAREER ADVANCEMENT: TRAINING IN CORE DOMAIN	0	0	0	8	0
12	22UCCOR2	CAREER ADVANCEMENT: TRAINING IN CORE DOMAIN	0	0	0	8	0
13	22UCCOR3	CAREER ADVANCEMENT: TRAINING IN CORE DOMAIN	0	0	0	8	0
14	22UCCOR4	CAREER ADVANCEMENT: TRAINING IN CORE DOMAIN	0	0	0	8	0
15	22UCTBL1	CAMPUS RECRUITMENT: TOOL BASED TRAINING	0	0	0	8	0
16	22UCTBL2	CAMPUS RECRUITMENT: TOOL BASED TRAINING	0	0	0	8	0
17	22UCUPS1	CAREER ADVANCEMENT: UPSC-CSE TRAINING	0	0	0	8	0
18	22UCUPS2	CAREER ADVANCEMENT: UPSC-CIVIL SERVICES EXAM TRAINING	0	0	0	8	0
19	22UCUPS3	CAREER ADVANCEMENT: UPSC-CIVIL SERVICES EXAM TRAINING	0	0	0	8	0
20	22UCGAT1	CAREER ADVANCEMENT: GATE TRAINING	0	0	0	8	0
21	22UCGAT2	CAREER ADVANCEMENT: GATE TRAINING	0	0	0	8	0
22	22UCGRE1	CAREER ADVANCEMENT: GRE, TOEFL & IELTS TRAINING	0	0	0	8	0
23	22UCGRE2	CAREER ADVANCEMENT: GRE, TOEFL & IELTS TRAINING	0	0	0	8	0
24	22UCGRE3	CAREER ADVANCEMENT: GRE, TOEFL & IELTS TRAINING	0	0	0	8	0
25	22UCCAT1	CAREER ADVANCEMENT: CAT, GMAT TRAINING	0	0	0	8	0
26	22UCCAT2	CAREER ADVANCEMENT: CAT, GMAT TRAINING	0	0	0	8	0