



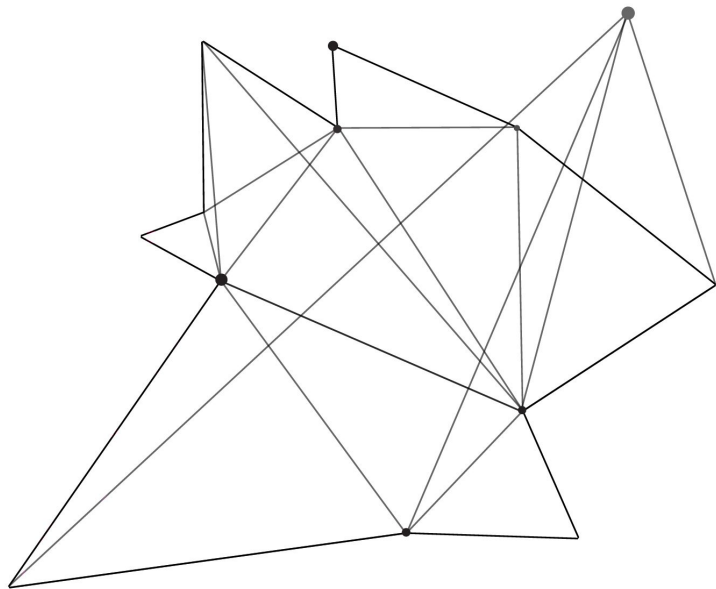
**CATEGORY 1
UNIVERSITY**
BY MHRD, Govt. of India

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

nirf
2023
NATIONAL
INSTITUTIONAL
RANKING
FRAMEWORK

RANKED 28
AMONG ALL
UNIVERSITIES

**43 YEARS OF
EDUCATIONAL
LEADERSHIP**



BACHELOR OF TECHNOLOGY

CIVIL ENGINEERING

**PROGRAM
HANDBOOK | 2023**
For Students Admitted in Academic Year 2023-24





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2024
NATIONAL
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AMONG ALL
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**44 YEARS OF
EDUCATIONAL
LEADERSHIP**

This Program Handbook is approved in
XXXIX Academic Council, dated: 29/06/2023

Dr. P.Polu Raju
BoS chairman

Prof. Hari Kiran Vege
Dean (Addl.) Academics

Dr. G.P.Saradhi Varma
Vice Chancellor

Dr. K. Subba Rao
Registrar

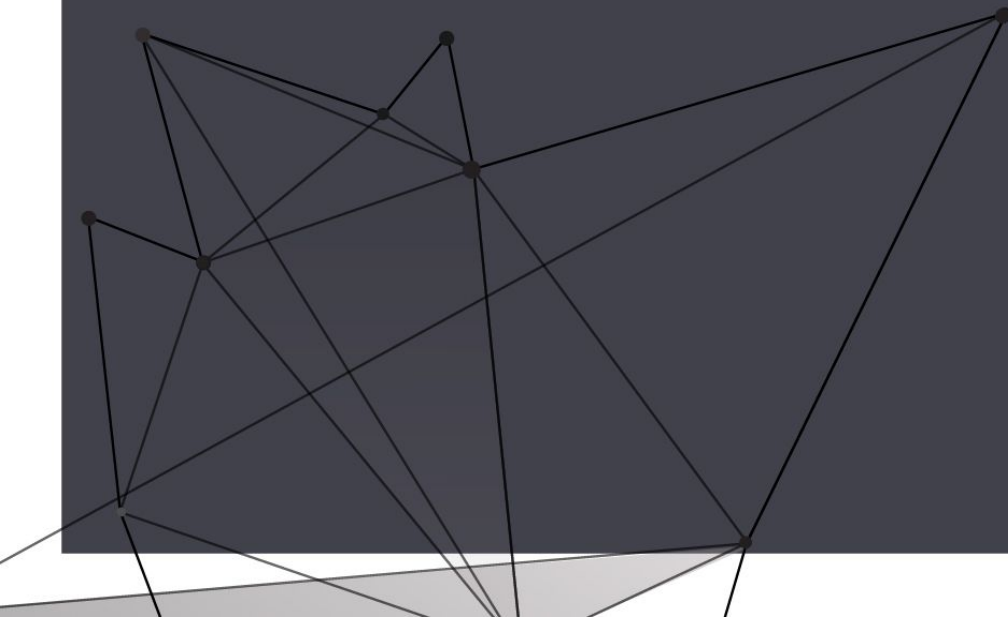


VISION

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.



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2023

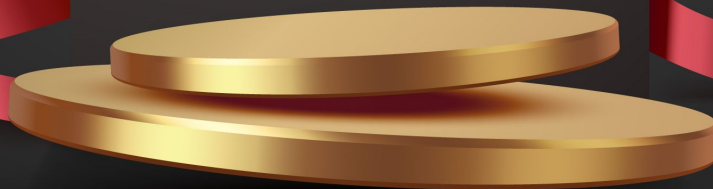
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AWARDS





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, TSEM CET 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. N Venkatram
Pro-Vice Chancellor



Dr. Venkatram Nidumolu, Pro-Vice Chancellor is High performing, strategic thinking professional with more than 15 years of administration experience and 20 years of teaching experience in KLEF and 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.



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. Dr. Prasad 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 K.L. University for 3 years.

Dr. Prasad 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 has to his credit many papers published in indexed journals. He has experience in organizing various National Level Events, Workshops and Conferences. He served as Member, Chairman of Board of Studies at JNTU(A), KLCE(Autonomous) and K.L. University. Above all he is soft spoken, congenial and an effective team worker and team leader.

OFFICE OF DEAN ACADEMICS



Hari Kiran Vege
Dean (Addl) Academics



Dr. V N Sailaja
Associate Dean Academics
(Curricular Aspects)



Dr. P Kasi Visweswara Rao
Associate Dean Academics
(Curricular Aspects)



Dr. M Kameswara Rao
Associate Dean Academics
(Academic Registrations)



Dr. K Uday Kiran
Associate Dean Academics
(Academic Registrations)



Dr. M Venkata Naresh
Associate Dean Academics
(Strategic Planning & Policy Making)



Dr. N V K Ramesh
Associate Dean Academics
(Teaching & Learning Process)



Dr. Aravindhan Alagarsamy
Associate Dean Academics
(Teaching & Learning Process)



Dr. Padmanabhan K
Associate Professor, CSE



Dr. B Chaitanya Krishna
Associate Dean Academics
(OBE & Evaluation)



Dr. E Vamsidhar
Associate Dean Academics
(OBE & Evaluation)



Dr. S Balaji
Associate Dean Academics
(Off-campus Operations)



Dr. P Vidya Sagar
Associate Dean Academics
(Projects, Academic Research & Internships)



Mr. A Gopi
Assistant Dean Academics
(Projects, Academic Research & Internships)



Dr. Fazal Noor Basha
Associate Dean Academics
(Academic Counselling)



Dr. M Latha
Associate Dean Academics
(Academic Counselling)



Dr. A S Chandra Sekhara Sastry
Controller of Examinations



Dr. Ch V Ramana Murthy
Addl. Controller of Examinations



Dr. Chakka Raghava Prasad
Addl. Controller of Examinations



Dr. Chetty Manna Sheela Rani
Addl. Controller of Examinations



Dr. Sreevardhan Cheerla
Addl. Controller of Examinations



Dr. Kallakunta Ravi Kumar
Addl. Controller of Examinations



Dr. M V V K Srinivas Prasad
Asst. Controller of Examinations



Dr. Kallipalli Venkata Raju
Addl. Controller of Examinations

COLLEGE OF ENGINEERING



Dr. T K RAMA KRISHNA RAO
Principal - College of Engineering



Dr. V KRISHNA REDDY
Principal- Freshman Engineering Department



Dr. P POLU RAJU
*Head of the Department
Civil Engineering*



Dr. V VISWANATH SHENOI
*Head of Department
Integrated Research & Discovery*



Dr. K NARASIMHA RAJU
*Head of The Department
Multi-disciplinary Innovation & Entrepreneurship*



Dr. ASWIN KUMER S V
*Head of Department
Experiential Learning & Global Engagement*



Dr. J D CHAITANYA KUMAR
Alternate HoD



Mr. K SHYAM CHAMBERLIN
Academic Professor Incharge

ABOUT THE DEPARTMENT

Department of Civil Engineering

The Department of Civil Engineering was established in 1980 with an intake of 60 students and five faculty members. The department has been successful in producing excellent and well-trained graduates. Today, we have 320 Students from UG & PG and 45 teaching faculty drawn from premium institutes throughout India, out of whom 5 are Professors, 10 are Associate Professors and 30 are Assistant Professors. Eleven staff members have more than ten years' experience, ten are doctorates and thirteen are pursuing Ph.D and ten are non-teaching Staff.

The departmental activities embrace Testing, Planning, Design, Construction and Management. The department offers courses for graduates in civil engineering, postgraduates in Structural Engineering, Construction Technology and Management, and Geotechnical Engineering, also we have Ph.D. program in civil engineering discipline for those who wants to pursue research. The department offers flexible syllabus for the students for their post-graduation in specializations like Structural Engineering, Geotechnical Engineering, Construction Technology and Management.

The department of civil engineering has well equipped laboratories in all areas. Also, many of our alumni hold prestigious positions in leading academic institutions, industry and government in different countries all over the world.

TABLE OF CONTENTS

VISION & MISSION

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PROGRAM OUTCOMES (POS) AND PROGRAM SPECIFIC OUTCOMES (PSOS)

PROGRAM RULES & REGULATIONS

Admission Eligibility Criteria

Program Structure and Curriculum

Academic Flexibilities

Registration Process

Course Categories

Requirements for the award of degree

Multiple Entry and Exit

Branch Transfer

Academic Bank of Credits

Award of Class

Award of Medals

Course Flexibilities

Attendance

Attendance calculation in a course

Attendance requirements leading to promotion

Attendance-based marks

Attendance waiver

Compensatory (Extra) attendance policy

Course-based promotion and detention policy

Eligibility for appearing Sem-End Examination

Assessment and Evaluation

Semester-In Evaluation

Semester-End Evaluation

Absence in Assessment and Examination

Remedial Classes Policy

Assessment of Project/Research based Courses

Grading Process

Course handout

Betterment

Supplementary

Revaluation

Credit Transfer

Semester Promotion policy

Counselling

Counselling procedure

Mentor-mentee allocation

Academic Counselling Board

Rustication policy

Malpractice penalty policy

Plagiarism penalty policy

Terminology

FAQs

TABLE OF CONTENTS

PROGRAM - DEGREES (DESIGN YOUR OWN DEGREE)

DEGREE-WISE CREDIT REQUIREMENTS

- Honors through Experiential Learning with Minor
- Honors through Experiential Learning with Double Major
- Honors through Experiential Learning with Specialization
- Honors through Experiential Learning with No Add-on
- Honors through Innovation with Minor
- Honors through Innovation with Double Major
- Honors through Innovation with Specialization
- Honors through Innovation with No Add-on
- Honors through Research with Minor
- Honors through Research with Double Major
- Honors through Research with Specialization
- Honors through Research with No Add-on
- Honors with Minor
- Honors with Double Major
- Honors with Specialization
- Honors with No Add-on
- No Flexibility with Minor
- No Flexibility with Double Major
- No Flexibility with Specialization
- No Flexibility with No Add-on

PROGRAM STRUCTURE

CATEGORY & GROUPING

CATEGORY & GROUPING COURSES

PROGRAM ARTICULATION MATRIX

STAKEHOLDER'S FEEDBACK

COURSE SYLLABUS

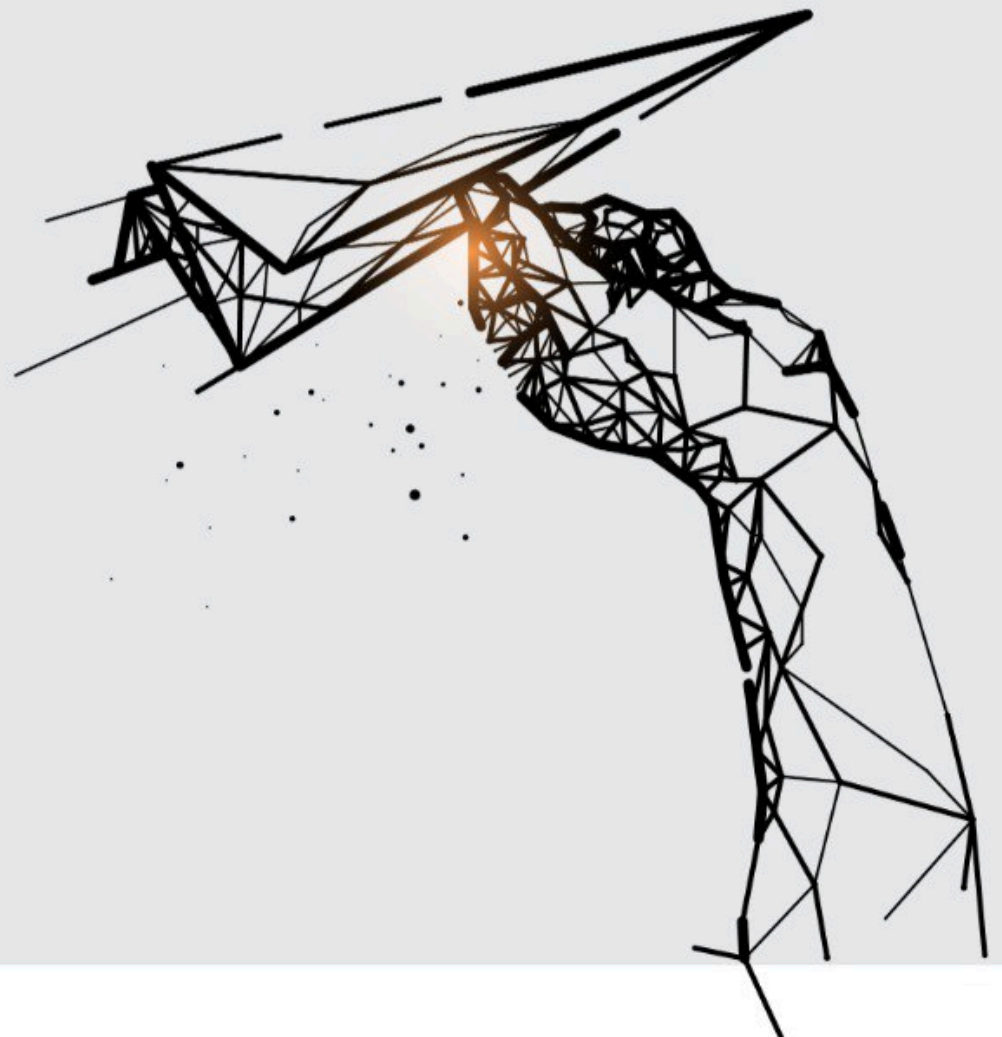
- Humanities Arts and Social Sciences
- Basic Science Courses
- Engineering Science Courses
- Professional Core Courses
- Flexi Core Courses
- Honors Flexi Core Courses
- Honors Through Research Courses
- Honors Through Innovation Courses
- Honors Through Experiential Learning Courses
- Skill Development Courses
- Professional Elective Courses
- Project Research and Internship
- Open Elective Courses
- Value Added Courses
- Audit Courses
- Social Immersive Learning
- Minor Degree Courses
- Minor Skill Development Courses
- Second Major Flexi Core Courses

VISION

To impart knowledge and excellence in Civil Engineering with global perspectives to the student community and to make them ethically strong engineers to build our nation.

MISSION

Our mission is to provide holistic development of student community to meet the ever-changing needs of civil engineering industry and to be involved in forward looking research and consultancy useful to society.





(DEEMED TO BE U N I V E R S I T Y)

Y23: B.Tech. - Civil Engineering

Program Handbook

Program Educational Objectives (PEOs)**PEOs**

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

Program Outcomes & Program Specific Outcomes (PO & PSO)

PO & PSO

PO/PSO	PO/PSO Description
P01	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
P02	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
P03	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.
P04	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
P05	Modern tool usage: Ability to create, select and apply appropriate techniques, resources and modern engineering activities, with an understanding of the limitations.
P06	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.
P07	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.
P08	Ethics: An ability to apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice
P09	Individual and team work: An ability to function effectively as an individual, and as a member or leader in diverse teams and in multi- disciplinary settings.
P010	Communication: Ability to communicate effectively oral, written reports and graphical forms on complex engineering activities.
P011	Project management and finance: Ability to demonstrate knowledge and understanding of engineering and management principles and apply those ones own work, as a member and leader in team, to manage projects and in multi-disciplinary environments
P012	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
PSO1	Function as design consultants in construction industry for the design of civil engineering structures.
PSO2	Provide sustainable solutions to the Civil Engineering Problems.

Program Rules & Regulations

Admission Eligibility Criteria

A Pass in 10+2 or equivalent examination with 60% in aggregate and 60% and above (or) equivalent CGPA in Group subjects - Physics, Chemistry and Mathematics.

Program Structure and Curriculum

For each academic program, the curriculum serves as a framework that specifies the credits, course category, codes, titles, and delivery methods (Lectures, Tutorials, Practice, Skills, Projects, Self-Study, Capstone Design, etc.) under the **Choice-Based Credit System (CBCS)**. The curriculum is designed, implemented, and assessed following the **Outcome-Based Education (OBE)** framework. In designing the curriculum, we ensure the integration of key contemporary and traditional values by embedding Indian Knowledge Systems (IKS), Sustainable Development Goals (SDGs), and Design Thinking principles into courses at their inception.

- Each **Academic Year** consists of two regular semesters, each approximately 20 weeks including classwork and exams:
 - **Odd Semester:** July to December
 - **Even Semester:** December to May
- A **Summer Term** may be offered from May to June but is not considered a regular semester for calculating program duration.
- Students have the flexibility to choose courses as prescribed by KLEF.
- Each course has a **Lecture-Tutorial-Practice-Skill (L-T-P-S)** component.

Course Credit Structure:

Credits are allocated to courses based on the **L-T-P-S** structure:

- Every **Lecture** or **Tutorial** hour equals **1 credit**.
- Every **Practical** hour equals **0.5 credits**.
- Every **Skill-based practice** hour equals **0.25 credits**.

Course Precedence:

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

- A 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.

Academic Flexibilities

Major Flexibilities:

- **Honors:** 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:** 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:** 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:** 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, she/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 of his/her interest.
- **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 40 additional credits from the selected second major stream in addition to fulfilling the requirements of their first major.

	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

Registration Process

Key Guidelines:

- **Course Availability:** Students are permitted to register only for courses offered in the specific semester of enrollment.
- **Prerequisites:** Any prerequisite courses must be successfully completed before registering for subsequent courses.
- **Timely Registration:** Students must register on the designated registration day. KLEF reserves the right to deny late registrations.
- **Add/Drop/Change Period:** Students have a one-week window from the start of classes to add a course and two-weeks to drop or change courses.
- **Credit Limits:**
 - The recommended credit load is 22-24.
 - The maximum credit load per semester is 30.
 - If a student finds the standard load overwhelming, they can opt for deceleration, taking fewer courses now and making up the credits in a future summer semester.
 - Students in honors programs or pursuing a minor may be allowed to take on a heavier load through overloading, subject to eligibility criteria.
- **Elective Course Availability:** KLEF may cancel elective courses with low enrollment within the first week. Students will be able to switch to another elective if they meet its prerequisites.
- **Re-registration:** If a student wants to improve their grade in a course, they can re-register for it with approval from the Dean of Academics.
- **Registration Cancellation:** KLEF can cancel a student's registration for disciplinary reasons or plagiarism.
- **Timetable Clashes:** Students are responsible for resolving any timetable conflicts. They should contact their Department Year Coordinator immediately if any clashes arise.
- **Irregularities:** If any irregularities are found in a student's registration later on, KLEF may cancel their registration for a course or even the entire semester.

Registration Flexibilities:

- **Choice of electives:** Students have the flexibility to choose from a diverse set of elective courses that align with their personal interests or career objectives.
- **Choice of faculty:** Students have the flexibility to choose their preferred faculty members for certain courses, depending on departmental policies and course availability.
- **Acceleration & Overloading:** Students can accelerate their progress by taking courses from the next semester in advance, or overload by taking more credits than the standard limit. Prior permission from the Dean of Academics is required for either of these.
- **Deceleration & Underloading:** If students need to lighten their course load, they can decelerate by postponing some courses to the next semester, or underload by taking fewer credits than usual. Students who do not register on time, may also be forced to decelerate to compensate the classwork that they missed due to late registration. In both the cases of deceleration, permission must be sought from Office of Dean Academics through proper channel.

- **Special Purpose Semesters:**

- **Innovation Semester:** An Innovation Semester is a dedicated academic term focused on cultivating a culture of creativity, problem-solving, and entrepreneurial thinking. It provides students with the opportunity to develop innovative solutions to real-world challenges.
- **Product Development Semester:** A Product Development Semester is an academic term dedicated to the process of creating new products or improving existing ones. It provides students with hands-on experience in the entire product lifecycle, from ideation to market launch.
- **Rapid Prototyping Semester:** A Rapid Prototyping Semester is an academic term dedicated to the practical application of rapid prototyping techniques to create physical models or prototypes of products or designs. It provides students with hands-on experience in transforming digital designs into tangible objects.
- **Research Semester:** A research semester is a dedicated period within an academic program focused on independent research or scholarly inquiry. It provides students with the opportunity to delve deep into a specific research topic or project under the guidance of a faculty mentor.

Summer Term Registration:

The Summer Term is designed to help students catch up or get ahead. Here are the guidelines:

- **Eligibility:** Students can register for summer courses if they have backlogs to clear, need to fulfill pre-requisites, or have been approved for acceleration.
- **Credit Limit:** The maximum credit load for the summer term is 12.
- **Timetable Clashes:** Students should ensure there are no conflicts in their summer course schedule.
- **Attendance & Promotion:** The same policies apply as in regular semesters, except that attendance condonation is not available in the summer.

Course Categories

- **Humanities, Arts and Social Sciences (HAS):** The Humanities, Arts, and Social Sciences (HAS) category encompasses a diverse range of academic disciplines designed to broaden students' perspectives beyond their core areas of study. As part of the undergraduate curriculum, students can choose from a variety of courses within this category, including Foreign Language Electives and Management Electives. These courses offer valuable opportunities for students to develop skills in communication, cultural understanding, and management, complementing their technical education and fostering a well-rounded academic experience.
- **Basic Science Courses (BSC):** The Basic Science category covers key courses in subjects like Mathematics, Physics, and Chemistry, providing a strong scientific foundation for undergraduate students. This category includes Mathematics Electives and Science Electives, offering students the flexibility to choose courses that align with their interests. These courses help develop essential problem-solving and analytical skills, which are critical for understanding advanced concepts in their field. Basic Science courses also play a vital role in applying scientific principles to real-world engineering and research challenge.
- **Engineering Science Courses (ESC):** The Engineering Science category comprises foundational engineering courses that introduce students to essential principles and methods used in various engineering fields. These courses provide the necessary technical background and practical knowledge required for more advanced study and specialization in engineering disciplines.
- **Professional Core Courses (PCC):** Professional Core Courses (PCC) are essential courses within each engineering discipline that provide foundational knowledge and skills critical to the field. These courses are integral to the curriculum and ensure that students acquire the core competencies necessary for their professional practice.

- **Flexi Core Courses (FCC):** Flexi Core Courses offer students a degree of flexibility within their core curriculum. These courses are designed to complement the professional core courses while allowing students to select topics that align with their career goals and personal interests. Flexi Core Courses are integral to ensuring that students receive a comprehensive education while exploring specialized areas that may not be covered in the traditional core courses.
- **Skill Development Courses (SDC):** Skill Development Courses are designed to equip students with practical, hands-on skills that enhance their employability and professional capabilities. These courses often focus on soft skills, technical proficiency, and industry-relevant competencies, such as communication, teamwork, leadership, digital literacy, and industry-specific software tools. By offering both theoretical knowledge and practical training, these courses help bridge the gap between academia and the professional world.
- **Professional Elective Courses (PEC):** Professional Elective Courses (PEC) are required for students who wish to pursue a specific specialization within their field of study. These courses allow students to focus on advanced topics and gain in-depth knowledge in their area of interest, tailoring their education to align with their career goals. By completing the designated PECs, students can achieve a degree of specialization that enhances their expertise and prepares them for specific roles or industries in their professional journey.
- **Project Research and Internship (PRI):** Project Research and Internship courses provide students with real-world experience by engaging them in research projects and internships in industry or academia. These courses are essential for developing practical problem-solving skills, fostering innovation, and giving students the opportunity to apply the theoretical knowledge gained in the classroom to real-life scenarios. Through internships and research projects, students can gain industry exposure, improve their technical skills, and prepare themselves for professional careers or advanced studies.
- **Open Elective Courses (OEC):** Open Elective Courses offer students the flexibility to explore subjects outside their core discipline, fostering interdisciplinary learning and intellectual diversity. Available across all university programs, these courses encourage students to integrate knowledge from various fields, promoting innovation and a holistic understanding of global issues. Open Electives play a key role in broadening student academic perspectives and preparing them for multifaceted professional challenges.
- **Value-Added Courses (VAC):** Value-Added Courses are designed to enhance employability by providing students with training that leads to globally recognized certifications or specialized skills. These courses focus on industry-relevant knowledge and practical applications, ensuring students are well-prepared for current job market demands. By offering advanced skills and certifications, Value-Added Courses give students a competitive edge in their careers.
- **Social Immersive Learning (SIL):** Social Immersive Learning (SIL) is an informal learning approach facilitated through the Student Activity Centre, where students earn credits by actively participating in a wide range of events. These include Extension, Social & Outreach Events, Technology Club Events, Literary, Hobby & Cultural Events, Innovation, Incubation & Entrepreneurship Events, and Health & Well-Being Events. SIL emphasizes experiential and activity-based learning, fostering personal growth and social engagement. The course is evaluated based on the points students accumulate through their involvement, offering a flexible, real-world learning experience that complements their formal education.
- **Bridge Courses:** Bridge Courses are designed to address academic gaps and ensure continuity between Basic Sciences, Engineering Sciences, and Professional Courses. These courses, identified through gap analysis and stakeholder feedback, serve as a foundation for students, helping them transition smoothly between academic levels or disciplines. Bridge Courses reinforce fundamental concepts and skills, preparing students for more advanced coursework in their academic programs.
- **Audit Courses (AUC):** Audit courses are courses that students can attend without receiving a formal grade or credit towards their degree. These courses are often chosen by students who want to learn a subject for personal enrichment or to gain knowledge in areas outside of their major.

- **Honors Flexi Core Courses (HFC):** Honors Flexi Core Courses (HFC) provide students pursuing honors programs with the flexibility to choose from a range of core courses tailored to their specific academic interests and career goals. These courses are designed to offer advanced content and greater depth in core subjects, allowing students to personalize their academic journey while fulfilling the requirements of their honors program.
- **Honors Through Research Courses (HRC):** Honors Through Research Courses (HRC) enable students to engage in in-depth research projects as part of their honors curriculum. These courses focus on developing student research skills, critical thinking, and analytical abilities, allowing them to contribute original knowledge to their field of study. Through hands-on research experiences, students gain valuable insights and prepare for advanced academic or professional pursuits.
- **Honors Through Innovation Courses (HIC):** Honors Through Innovation Courses (HIC) emphasize creativity and innovation within the honors program framework. These courses encourage students to explore cutting-edge technologies, develop novel solutions to real-world problems, and engage in entrepreneurial activities. By focusing on innovation, students can apply their learning to create impactful projects and drive advancements in their areas of interest.
- **Honors Through Experiential Learning Courses (HEC):** Honors Through Experiential Learning Courses (HEC) integrate practical, hands-on experiences with academic study. These courses offer students opportunities to apply theoretical knowledge in real-world settings through internships, fieldwork, or community projects. HEC courses aim to enhance student learning by providing experiential opportunities that complement their honors education and contribute to their personal and professional development.
- **Minor Degree Courses (MIN):** Students pursuing a Minor Degree must complete a designated set of Minor Degree Courses. These courses are carefully selected to provide a structured and cohesive understanding of the minor subject, complementing the student's major field of study. By fulfilling these requirements, students gain specialized knowledge and skills in an additional discipline, which enhances their overall academic profile and broadens their career opportunities.
- **Minor Skill Development Courses (MSDC):** Minor Skill Development Courses (MSDC) must be completed as part of the selected minor degree. These courses are designed to provide targeted skill-building opportunities relevant to the minor field, focusing on practical and industry-specific competencies. By engaging in MSDC, students develop specialized skills that complement their major and enhance their overall expertise, making them more versatile and competitive in their chosen career paths.
- **Second Major Flexi Core Courses (SMFC):** Second Major Flexi Core Courses (SMFC) are designed for students pursuing a second major, offering flexibility in selecting core courses that meet the requirements of both their primary and secondary majors. These courses allow students to integrate and balance the demands of two distinct fields of study, providing a comprehensive educational experience across discipline.

Requirements for the award of Degree

To be eligible for the award of a B.Tech. degree, a student must successfully fulfill the following criteria:

- **Credit Requirements:** Earn the minimum number of credits specified in the program structure.
- **Focused Training:** 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.
- **Certifications:** Successfully complete at least three global certifications or value-added courses in the chosen discipline, along with one in yoga, sports & games, or fine arts.
- **Internships:** Complete both a Social Internship and a Technical Internship.

- **Audit Courses:** Successfully complete all audit courses outlined in the program structure.
- **Minimum CGPA:** Achieve a minimum Cumulative Grade Point Average (CGPA) of 5.25 by the end of the program.
- **Extra Courses:** Students with extra courses having 'DT' or 'F' grades can still graduate if they meet all other requirements. However, these courses will be factored into the CGPA calculation.
- **Time Limit:** Complete all requirements within:
 - A minimum of 8 regular semesters (excluding summer terms)
 - A maximum of 8 years

Note: The student is awarded a B.Tech. (Honors / Specialization / Minor / Double Major) degree based on the chosen academic flexibility, provided they fulfill all the credit and outcome requirements specified for each degree (refer to degree-wise requirements under Design your own Degree) in addition to meeting the regular B.Tech. degree requirements mentioned above.

Multiple Entry and Exit System

Multiple Entry and Exit System (MEES) empowers students to make their own academic decisions, allowing them to rejoin their studies at a later point and achieve their career goals. As per NEP guidelines, undergraduate degrees can be three or four years long, with multiple entry and exit points. Students can earn certificates, diplomas, or degrees based on their progress.

Entry and Exit Options:

- 1st Year (Level 5 - Undergraduate Certificate):
 - Entry: Secondary School Leaving Certificate (Grade 12/Intermediate)
 - Exit: Certificate in Computational Thinking & Engineering Science (40 credits + 4 skill development credits)
- 2nd Year (Level 6 - Undergraduate Diploma):
 - Entry: Completion of the first year with a certificate.
 - Exit: Diploma in the respective discipline (80 credits + 4 skill development credits, with at least 40 credits at Level 6)
- 3rd Year (Level 7 - Bachelor's Degree):
 - Entry: Completion of two years with a diploma
 - Exit: Bachelor of Science in the respective discipline (120 credits + 4 skill development credits across Levels 5, 6, and 7)
- 4th Year (Level 8 - Bachelor's Engineering Degree):
 - Entry: Completion of a three-year B.Sc. degree with a minimum CGPA of 7.5.
 - Exit: B.Tech. degree (minimum 160 credits from Levels 5 to 8).

Note: These degree levels align with the NHEQF. While the student is provided with MEES, the maximum time limit for completion of degree must still be adhered for the award of degree.

Branch Transfer

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:

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

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.
- 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.

Award of Class

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

- **Pass class:** CGPA greater than or equal to 5.25 and lesser than 5.75.
- **Second class:** CGPA greater than or equal to 5.75 and lesser than 6.75.
- **First class:** CGPA greater than or equal to 6.75 and lesser than 7.75
- **First class with Distinction:** CGPA greater than or equal to 7.75, provided the student has cleared all the courses in first attempt and must have fulfilled all the program requirements in program specified minimum years duration.

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:

- The grade obtained through betterment/ supplementary will not be considered for this award.
- He/She must have obtained first class with distinction for the award of Gold or Silver-medal.

Course Flexibilities

In line with the institution's commitment to personalized learning, courses are offered in multiple modes, allowing students to tailor their academic journey based on personal preferences, career goals, and learning styles. The available modes include:

- **Regular Mode:** It is the traditional method of learning, involving in-person classroom instruction, a structured curriculum, and traditional assessments. This mode provides students with a structured and predictable learning environment, facilitating direct interaction with professors and classmates. It is suitable for students who prefer a traditional learning approach and value face-to-face interaction.
- **Advanced Mode:** This mode is designed for students seeking a more rigorous academic experience, this mode offers additional credits, in-depth theoretical studies, research projects, and complex problem-solving evaluations. It is particularly suitable for students participating in honors programs.

- **Experiential Mode:** This mode emphasizes practical learning through real-world projects, lab work, or industry interactions. It offers variable credits based on the extent of practical involvement and assessments centered around project outcomes and presentations. Honors students pursuing experiential learning often choose this option.
- **MOOCs Mode:** Massive Open Online Courses (MOOCs) are utilized to support independent learners, such as students engaged in internships or practice school. Students can earn credits by completing accredited online courses at their own pace. Assessments in this mode may include online quizzes, certifications, and institutional evaluations.
- **Work-in-lieu Mode:** It allows students to substitute certain coursework with relevant work experience, internships, or on-the-job training. Credits are awarded based on the work performed, and evaluations are typically centered around performance reports, supervisor evaluations, and reflective essays. This mode is ideal for students who want to gain practical experience while fulfilling academic requirements.

Attendance calculation in a course

- **Attendance calculation for LTPS:** Attendance of a student on a course is calculated based on the credit-weighted average of the student's attendance in each of the LTPS components of the course.
- **Attendance start date:** Attendance is counted from the class commencement date. However, for transferred or newly admitted students, attendance in their admitted semester is counted from the date of admission.

Attendance requirements leading to promotion

- **Minimum Attendance:** 85% attendance is required for course promotion and appearing for the semester-end exam.
- **Condonation:** Up to 10% condonation by Principal, College of Engineering, is possible for medical emergencies with proper documentation submitted within a week. Students will be levied a condonation fee to appear for the semester-end exam.
- **Marginal Cases:** Attendance slightly below 75% due to severe medical or valid reasons may be considered for further relaxation by the condonation board appointed and headed by the Vice-Chancellor.

Attendance-based marks

- **Optional Marks:** Course coordinators can allocate up to 5% of the total marks for attendance, clearly stated in the course handout and approved by the Dean of Academics through proper channel.
- **Mark Distribution:** Marks are awarded based on attendance ranges: 85-88% = 1 mark, 89-91% = 2 marks, and so on. Below 85% results in zero marks, even with condonation.
- **Applicability:** Attendance marks, if given, apply to all L-T-P-S components cumulatively, not just the theory part.

Attendance waiver

- **Eligibility:** Students with a CGPA and SGPA of 9.00 or higher in the previous semester can get an attendance waiver for up to three courses in the next semester, with prior approval from the Dean of Academics through proper channel.
- **Conditions:** Students using the attendance waiver can participate in all assessments and evaluation components without being marked ineligible due to attendance-based regulations.

Compensatory (Extra) attendance policy

- **Eligibility:** Students representing KLEF in events or participating in co-curricular / extracurricular activities can get compensatory attendance with prior written approval.
- **Limit:** Compensation is limited to 10% of total classes per course per semester and doesn't apply to the summer term.

Course-based promotion and detention policy

- **Minimum Attendance:** Students must meet the minimum attendance requirement to be promoted in a course. If a student fails to meet this requirement, their grade in the course will be marked as "DT", indicating that the student is detained in the course.
- **Next Steps after detention:** Student must re-register in a detained course and study it completely by attending the classwork, submitting all assessments, taking all evaluation components

Eligibility for appearing Sem-End Examination

A Student registered for a course and got promoted 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.
- Non-payment of examination fees.
- Without a hall ticket.

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 Examination (SEE). Students are advised to refer to the course handout to get more detailed information on assessment.

- Sem In Examinations 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 in percent) (A)	Sem End Examination (Weightage in percent) (B)	Minimum requirement for pass percent	
			(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 percent of aggregate marks of the course.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.

Semester-End Evaluation

The following guidelines are followed for the End Semester evaluation.

- The end-semester evaluation typically includes a variety of components such as Sem End Exams, projects, presentations, or practical assessments, skill assessments as detailed in the course handout.
- Each component is evaluated based on the criteria outlined in the course handout.
- 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.
- To pass in a course, student must meet or exceed the minimum passing marks specified for each end semester summative assessment component mentioned in the course handout.
- The 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.
- In case the student is unable to appear for any Sem end summative evaluation component owing to hospitalization, participation in extra/ co-curricular activities representing KLEF/ state/ country; student can request for re-examination by taking prior permission from Dean Academics.
- 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.

Absence in Assessment and Examination

If a student misses a formative assessment component (quizzes, assignments, etc.) due to illness or other valid reasons, no retakes will be permitted, and a score of zero will be recorded. However, in cases of an excused absence, the instructor may allow the student to retake the assessment, subject to written approval from both the Principal and the relevant Head of Department.

Make-up Exams:

A student's absence from Semester In or Semester End Exams will only be considered for a make-up exam under the following circumstances.

- Pre-approved participation in university/state/national/international co-curricular or extracurricular activities.
- Illness or medical emergencies resulting in hospitalization, with a doctor's certification explicitly stating the student's inability to attend the exam within the designated period.
- Death of an immediate family member.

Remedial Exams:

- Remedial exams are conducted for students who score less than 60% on Semester In Exam I and have attended at least 85% of the remedial classes.
- For courses without remedial classes, no remedial exam will be scheduled.
- If a student does not take or scores less than 60% on Semester In Exam I, they must attend remedial classes and maintain a minimum 85% attendance to be eligible for the remedial exam. The remedial exam score will then be considered.
- The number of remedial classes will be 33% of the regular classes held prior to Semester In Exam I. However, there are no remedial exams for Semester In Exam II or laboratory exams.

Remedial Classes Policy

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

- Students who did not attend or obtain a minimum of 60 percent 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 33 percent of regular classes held till the Sem In exam I.
- Remedial classes MUST NOT be scheduled during regular class work hours.

Assessment of Project/Research based Courses

- 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.

(i) 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

(ii) Relative Grading:

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

Letter Grade	Grade Point	Grade Calculation
O	10	total marks $\geq 90\%$ and total marks $\geq \mu + 1.50\sigma$
A+	9	$\mu + 0.50\sigma \leq \text{total marks} < \mu + 1.50\sigma$
A	8	$\mu \leq \text{total marks} < \mu + 0.50\sigma$
B+	7	$\mu - 0.50\sigma \leq \text{total marks} < \mu$
B	6	$\mu - 1.00\sigma \leq \text{total marks} < \mu - 0.50\sigma$
C	5	$\mu - 1.25\sigma \leq \text{total marks} < \mu - 1.00\sigma$
P	4	$\mu - 1.50\sigma \leq \text{total marks} < \mu - 1.25\sigma$ 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 greater than or equal 90 percent and less than or equal 40 percent after rounding the percentages to the next highest integer. σ is the standard deviation of the marks.

Course handout

A course handout is a document that provides essential information about a specific course. It's like a roadmap that guides you through the course, helping you understand the expectations, assignments, and grading criteria.

Significance of Course Handout:

- **Clarity and Organization:** Course handouts help you stay organized and focused by outlining the course structure, topics, and deadlines.
- **Expectations:** They communicate the instructor's expectations for your participation, assignments, and overall performance.
- **Grading:** Course handouts outline the grading criteria, so you know exactly how your work will be evaluated.
- **Resources:** They often list valuable resources, such as textbooks, articles, or online tools, that can aid your learning.

Expectations from the course handout:

- **Course Description:** A brief overview of the course, its goals, and its relevance to your studies.
- **Learning Outcomes:** Clear goals for what you should be able to do by the end of the course. These outcomes will help you understand the skills and knowledge that are expected to gain.
- **Instructor Information:** Contact details, office hours, and specific communication preferences.
- **Course Schedule:** A tentative timeline of topics, assignments, and exams.
- **Required Materials:** A list of textbooks, articles, or other materials essential for the course.
- **Assessment Methods:** A breakdown of how your final grade will be determined, including the weight of assignments, exams, and participation.
- **Assignment Guidelines:** Detailed instructions for each assignment, including due dates, submission requirements, and expectations.

Effective use of the course handout:

- **Refer to it regularly:** Check back to keep track of important dates and assignments.
- **Highlight key points:** Make notes or highlight sections that are particularly important to you.
- **Ask questions:** If something isn't clear, bring it up in class or during office hours.

Betterment

- A student may reappear for the semester-end examination for betterment, only in the theory part of a course to improve their grade, provided that the student has passed the course, his/her CGPA is less than or equal to 6.75 and the grade in the respective course is equal to or lower than a 'C'. In case of reappearing for a course, the best of the two grades will be considered.
- A student may re-register for any course in any semester during the program to improve their grade if the current grade in the course is lower than 'B+', with the approval of the Dean Academics and in accordance with academic regulations.
- A student cannot reappear for the semester-end examination in courses with an L-T-P-S structure such as 0-0-X-X, 0-0-X-0, 0-0-0-X, Social Internship, Technical Internship, Seminar, Term Paper, Project, Capstone Project, Practice School, Industrial Internship.
- A student is not eligible for the award of a Degree with Honors if they opt for the betterment option.

Supplementary

- A student is eligible for a supplementary exam if they don't meet the minimum passing marks for a course or if they fail any component of the end-of-semester assessments listed in the course handout.
- If a student has failed courses from a previous odd semester that are not offered in the current semester, the supplementary exams for those courses will be scheduled for the summer supply.

- As per the end semester assessment components listed in the course handout (i.e. end semester summative) if student fail any component, they are eligible for a supplementary exam. Only the component(s) student failed will be considered for this supplementary attempt, though in some cases, you might be allowed to retake all components to improve your marks.
- If a student fails any of the end-of-semester examinations in an odd semester, supplementary exams for the current semester's courses will be conducted within one month after the release of the results. These supplementary exams will only cover the courses offered in that specific odd semester.
- In cases where there is a clash between odd semester supplementary exams and other scheduled exams, students may take the supplementary exams during the summer supply.
- If a student fails any of the end-of-semester examinations in an even semester, supplementary exams will be scheduled either within one month after the release of the results (i.e. summer supply) or during the summer term.
- Student must register for supplementary exams within a specified period after the results are declared.
- Student may be required to pay a supplementary exam fee. Details on the fee structure and payment process will be provided along with the supplementary exam notification.
- A student is not eligible for the award of a degree with first class with Distinction, if they opt for the Supplementary option.

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, 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.

Credit Transfer

Credit transfer between KLEF and other Institution:

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

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.

Semester Promotion policy

Promotion is only course-based. Semester-based promotion is not applicable for B.Tech. students.

Counselling procedure

KLEF is committed to fostering a supportive and nurturing environment for our students, addressing not only their academic needs but also their psychological well-being. To achieve this, KLEF is implementing a comprehensive Mentor-Mentee Scheme aimed at providing holistic support through academic, career, and psychological counselling. To achieve this, KLEF implement a comprehensive Mentor-Mentee Scheme and establish the Central Academic Counselling Board (CACB) in addressing academic, career and student-psychological issues.

The Mentor-Mentee Scheme aims to provide personalized guidance and support to students throughout their academic journey. Each student shall be assigned a mentor from the faculty, who will act as a guide, counselor, and advocate for the student's academic and personal growth. The mentor-mentee relationship is intended to facilitate communication, goal-setting, and problem-solving.

The primary objectives of the Mentor-Mentee Scheme are:

- To facilitate a strong and positive mentor-mentee relationship that supports students' academic growth, personal development, and psychological well-being.
- To offer career counselling, guiding mentees in exploring career options, developing professional skills, and making informed career-related decisions.

- To provide psychological counselling, offering a safe space for mentees to discuss psychological concerns and providing appropriate support or referrals when needed.
- To provide tailored academic counselling, helping mentees set academic goals, plan their course of study, and navigate academic challenges effectively.

Academic Counselling:

The mentors oversee the following academic counselling activities which are not limited to:

- Providing guidance during academic registration sessions
- Monitoring attendance and addressing attendance-related concerns
- Communicating attendance and marks information to parents/guardians
- Addressing concerns related to backlogs and providing advice
- Advising on domain specializations and academic flexibilities
- Assisting students in exploring study abroad opportunities
- Conducting student and parent meetings to address academic concerns

Career Counselling:

The mentors oversee the following career counselling activities which are not limited to:

- Recommending technical skilling courses and certificate programs
- Facilitating internship opportunities and competitive exam preparations
- Guiding students through term papers, projects, hackathons, and coding challenges
- Providing information on higher education options and entrance exams
- Encouraging entrepreneurship awareness and guiding start-ups initiatives
- Assisting students in preparing for placements and future career goals
- Conducting student and parent meetings to discuss career aspirations

Psychological Counselling:

The Mentors oversee the following psychological counselling activities which are not limited to:

- Providing guidance on time management and classroom activities
- Addressing anti-ragging issues and promoting a positive attitude
- Providing support for managing mental stress and promoting well-being
- Addressing hostel, room, home, and food-related concerns
- Conducting student and parent meetings to address personal well-being

Mentor-Mentee allocation

- The Department Academic Counselling Board (DACB) is responsible for assigning approximately 20 students to each faculty member, who will act as their mentor. The mentors will guide and support their assigned students throughout their academic journey.
- For engineering students, the procedure includes a specific approach: during their first year, faculty members from the Fresh Engineering Department (FED) will be designated as counsellors/mentors. From the second year onwards, counsellors/mentors will be appointed from the students' respective parent departments, and these faculty members will continue as mentors until the students complete their course.
- The counselling program aims to help students develop their character, academic abilities, professional skills, and social responsibilities. Mentors play a vital role in this process by:
 - Maintaining detailed records of mentor-mentee interactions in the ERP system. Mentors are required to update the ERP with counselling remarks for both students and their parents every fortnight.
 - Providing regular updates to parents about students' academic progress, career developments, and physiological status through various communication channels, including phone calls, SMS, WhatsApp, and Telegram.
 - Ensuring that counselling remarks are accurately recorded in the ERP system, and reflecting these updates in DACB monthly reports and CACB semester reports.

Academic Counselling Board

- 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.

Rustication policy

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

Malpractice penalty policy

The following actions constitute malpractice during examinations and are subject to disciplinary actions as outlined below:

Clause 1: Possession of unauthorized material in the examination hall (e.g., paper, notebooks, programmable calculators, cell phones, or any material related to the exam subject). This includes any marks on the candidate's body that could be used as an aid.

Penalty: Immediate expulsion from the examination hall, without cancelling the paper.

Clause 2: a) Providing or receiving assistance, or communicating with others via oral means, body language, or electronic devices (such as cell phones), either inside or outside the examination hall. b) Smuggling in or out answer sheets, additional sheets, or arranging to send out the question paper or answer sheets during or after the exam. c) Using objectionable or offensive language in the answer paper or in communication with examiners, or attempting to influence examiners to award passing marks. d) Exchanging answer scripts or additional sheets in the examination hall

Penalty: Expulsion from the examination hall and cancellation of the comprehensive examination performance in that subject only of all the candidates involved. In case of an outsider, he will be handed over to the police and a case is registered against him

Clause 3: Copying from any unauthorized material (e.g., paper, books, programmable calculators, palm computers) during the exam.

Penalty: Expulsion from the examination hall, cancellation of the exam performance in that subject, and a fine of Rs. 1000.

Clause 4: a) Taking the answer script outside the exam hall, tearing the script or any part of it inside or outside the hall. b) Appearing for the exam in a drunken condition.

Penalty: Expulsion from the examination hall and cancellation of comprehensive examination performance in that subject and all the other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining comprehensive examinations of the subjects of that semester/year.

Clause 5: a) Disobeying examination authorities, creating disturbances, organizing or instigating a walk-out, threatening or assaulting officials, or damaging property inside or outside the exam hall. b) Possession of any lethal weapon or firearm in the examination hall.

Penalty: Expulsion from the exam hall and cancellation of exam performance in all subjects. The student will be debarred from future exams and may forfeit their seat. Outsiders will be handed over to the police.

Clause 6: Impersonation during the examination.

Penalty: Both the impersonator and the original candidate will be expelled from the exam hall. The original candidate's performance will be cancelled in all subjects, including practical and project work, and they will be barred from exams for two consecutive semesters. Continuation in the course is subject to academic regulations. The impersonator (if an outsider) will be handed over to the police.

Clause 7: Repeated offenses.

Penalty: For a second offense, the candidate will face expulsion from the exam hall and cancellation of all exam performances for that term, with a fine of Rs. 1000. Repeated academic dishonesty may result in the issuance of a transfer certificate (TC).

Clause 8: Any other form of malpractice not specified.

Penalty: Punishment will be determined by the Examination Malpractice Committee and approved by the Vice-Chancellor.

Plagiarism Penalty Policy

Plagiarism is considered a serious breach of academic integrity, compromising both the ethical standards of the university and the intellectual development of students. The university enforces a strict zero-tolerance policy regarding plagiarism, and all students are expected to uphold the highest standards of academic honesty.

Penalties for plagiarism will be applied as follows:

First Offense:

- Minor Plagiarism (e.g., improper citation, small portions of copied work): The student will receive a warning and be required to resubmit the work with proper citations. Marks may be reduced up to 50%.
- Major Plagiarism (e.g., copying significant portions, submitting another person's work): The assignment will receive a grade of zero. The student may be required to attend a mandatory workshop on academic integrity.

Second Offense:

- Any second offense, regardless of severity, will result in a zero for the assignment and an official letter of reprimand placed in the student's record. The student will be placed on academic probation.

Third Offense:

- The student will face suspension from the university for one academic term. A record of academic misconduct will be permanently placed in the student's academic file.

Repeated Violations:

- Further violations after the third offense may lead to expulsion from the university.

In cases of group work, if plagiarism is identified, all group members will be held equally accountable unless it can be demonstrated that the act of plagiarism was isolated to specific individuals.

Terminology

Absolute Grading: Absolute grading is a method of assigning grades based on predetermined criteria or standards rather than comparing student performance to other students in the class (See: Relative Grading where the performances are compared).

Academic Bank of Credits (ABC): Academic Bank of Credits, an initiative of Government of India, is a digital platform that stores the academic credits earned by a student throughout their educational journey. It's essentially a virtual repository of a student's academic achievements.

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 has the right to decide 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 regular semesters i.e., Odd and Even semesters.

Acceleration: Acceleration of courses refers to a student's ability to progress through their academic program at a faster pace than traditional timelines.

Attendance: Attendance refers to the record of a student's presence or absence in educational institutions. It is a critical factor influencing academic performance, overall development, and future success.

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 'F' grade or detained in the course.

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.)

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.

Capstone Project: A capstone project is the culminating academic experience for many students, typically undertaken in the final year of a degree program. It's designed to integrate and apply the knowledge and skills acquired throughout the course of study.

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.

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.

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.

Deceleration: Deceleration of courses typically refers to a student's decision to reduce their course load or extend the time taken to complete a degree program.

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

Degree Requirements: Degree requirements are the specific courses, credits, and academic standards that a student must fulfill to earn a particular degree.

Degree with Specialization: A student who fulfils 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.

Designing Your Own Degree: Designing your own degree is a revolutionary concept that empowers students to create a customized educational path aligned with their passions, career goals, and unique learning styles.

Dissertation: Dissertation is a substantial piece of original research written and defended by a candidate for a degree.

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.

Double Major Degree: A double major degree allows students to specialize in two academic fields while earning a single bachelor's degree.

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.

End-semester Evaluation: End-semester evaluation is a summative assessment conducted at the conclusion of an academic term to measure students' overall performance.

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.

EPICS: EPICS stands for Engineering Projects in Community Service. It's a unique program that combines engineering education with community service.

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.

Experiential Learning: Experiential learning is a process through which students develop knowledge, skills, and values from direct experiences outside a traditional academic setting. It involves learning by doing, where students engage in hands-on activities, real-world problem-solving, and reflective practices to gain deeper understanding and practical application of the concepts they are studying.

Flexi-Core course: A Flexi-Core course typically refers to an elective or optional course within a degree program that offers students flexibility in choosing subjects based on their interests and career goals.

Formative Assessment: Formative assessment is ongoing evaluation of student understanding to inform instruction and facilitate learning.

Flipped Learning: Flipped learning is an instructional strategy that reverses the traditional teaching model. In flipped learning, students are introduced to new content outside of class, usually through video lectures, readings, or other materials. The in-class time is then used for more interactive activities, such as discussions, problem-solving, group work, and applying the concepts learned at home.

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.

Grade Point Average (GPA): Grade Point Average is a numerical representation of a student's academic performance. It is calculated by averaging the numerical equivalents of letter grades earned in courses, considering the number of credit hours for each course.

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, Arts and Social Sciences (HAS): It is a broad term that groups together the academic disciplines of humanities, arts and social sciences.

Industrial Training: Training program undergone by the student as per the academic requirement in any company/firm.

Industrial Visit: Visit to a company/firm as per the academic requirement.

Internship: Internship is a temporary work experience offered by an organization for a limited period. It provides students, graduates, or career changers with an opportunity to gain practical skills and experience in a specific field.

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

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.

Innovation Semester: An Innovation Semester is a dedicated academic term focused on cultivating a culture of creativity, problem-solving, and entrepreneurial thinking.

Lecture: A lecture is a formal instructional session where an instructor presents information to a large group of students.

Make-up Test: An additional test scheduled on a date other than the originally scheduled date.

Malpractice: Malpractice typically refers to academic dishonesty or misconduct during examinations or coursework. This can include a wide range of behaviors that compromise the integrity of the evaluation process.

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.

Multiple Entry and Multiple Exit (MEME): It is an educational framework designed to provide flexibility in learning pathways, allowing students to enter and exit educational programs at various stages based on their individual needs, prior knowledge, and career goals.

National Education Policy (NEP): NEP 2020 is a comprehensive framework for transforming India's Education System. It aims to create an equitable and vibrant knowledge society by providing high-quality education to all.

NHEQF: NHEQF stands for National Higher Education Qualifications Framework. It's a comprehensive framework designed to standardize and classify higher education qualifications in India. The primary goal of NHEQF is to ensure that qualifications from different institutions are comparable and recognized nationally and internationally.

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.

Peer Learning: Peer learning is a collaborative learning process where students learn from each other. It involves sharing knowledge, skills, and experiences among peers.

Practical: A practical is a hands-on session where students apply theoretical knowledge in a real-world or laboratory setting. Practical sessions are designed to develop students' technical skills, problem-solving abilities, and understanding of experimental procedures.

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 final year to meet the final requirements for the award of degree.

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

Product Development Semester: A Product Development Semester is an academic term dedicated to the process of creating new products or improving existing ones.

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.

Program Outcome (PO): Program outcomes are statements that describe what students are expected to know, understand, and be able to do upon completing a specific academic program.

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

Project-Based Learning (PBL): Project-Based Learning is an instructional approach where students actively engage in real-world and personally meaningful projects.

Rapid Prototyping Semester: A Rapid Prototyping Semester is an academic term dedicated to the practical application of rapid prototyping techniques to create physical models or prototypes of products or designs.

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.

Relative Grading: Relative grading is a method of assigning grades based on a student's performance compared to the rest of the class.

Remedial Exam: A remedial Exam is an assessment designed to identify specific areas of weakness or gaps in a student's knowledge or skills. It is typically administered after a student has performed poorly on a regular assessment.

Research Project: A research project is a systematic investigation undertaken to answer a specific question or address a particular problem.

Research Semester: A research semester is a dedicated period within an academic program focused on independent research or scholarly inquiry.

Research Seminar: A research seminar is a formal academic gathering where researchers present their ongoing work to a group of peers, faculty, and other interested individuals.

Self-learning: Self-learning is the process of acquiring knowledge and skills independently without formal instruction.

Semester: It is a period of study consisting of 15+1 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.

Skilling: It is a process of developing and enhancing specific skills that are essential for performing particular tasks or activities effectively. It involves structured training and practice aimed at equipping individuals with the practical abilities, knowledge, and competencies required for professional success and personal development.

Social Immersive Learning (SIL): Social Immersive Learning is a pedagogical approach that combines the power of social interaction with immersive technologies to create engaging and impactful learning experiences.

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.

Summative Assessment: Summative Assessment is a type of evaluation that occurs at the end of a learning period.

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.

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

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.

Tutorial: A tutorial is a small group session designed to provide personalized guidance and support to students. Tutorials often involve discussions, problem-solving activities, and hands-on practice to reinforce concepts learned in lectures.

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

Value-Added Courses: Courses leading to global certification and those which are conducted exclusively for employability are referred to as value added courses.

FAQs

Q: What is the Choice-Based Credit System (CBCS) and how does it work?

A: CBCS allows student to choose courses from various categories based on your interests and career goals. Each course has a credit value assigned to it, and you need to earn a minimum number of credits in each category and in total to complete your program.

Q: Can I choose electives based on my interests?

A: Yes, student has the flexibility to choose electives that align with your personal interests and career objectives.

Q: Can I choose my preferred faculty members for certain courses?

A: During registrations prior to commencement of each semester, if a course is offered for multiple sections and if multiple faculty are teaching the same course, you will then have a choice of selecting the section being taught by that faculty under whom you wish to study.

Q: When and how do I register for courses?

A: Student must register for courses on the designated registration day. There is a one-week window for adding courses and a two-week window for dropping or changing them.

Q: Can I get an attendance waiver?

A: Students with a CGPA and SGPA of 9.00 or higher in the previous semester can get an attendance waiver for up to three courses with prior approval.

Q: What is the minimum attendance requirement for promotion?

A: 85% attendance is required for course promotion and appearing for the semester-end exam.

Q: Can I transfer to a different branch?

A: Under special circumstances, you may be permitted to transfer branches after the second semester based on your CGPA and seat availability.

Q: Can I pursue a minor degree?

A: Yes, any student can pursue a minor degree by completing a specified set of courses from another discipline.

Q: Can I study some semesters in abroad?

A: KLEF University may have exchange programs or partnerships with foreign universities, allowing you to study abroad for a semester or year.

Q: Are there any extracurricular activities or clubs available?

A: Yes, KLEF offers various extracurricular activities and clubs, such as sports, cultural events, and student organizations.

Q: What happens if I have less than 85% attendance?

A: Upto 75% attendance, student may be eligible for condonation or marginal case consideration, but need to provide proper documentation and may be subject to fees. But falling below 75% will make you detain in the course.

Q: What happens if I detain a course?

A: Student who detained in a course must re-register for the course and study it again in summer term. If the detained course is not offered by the department, then the student can study other equivalent course from the same category upon taking approval from office of Dean Academics.

Q: What is ABC?

A: ABC enables you to digitally store your earned credits and potentially use them towards future studies at other institutions.

Q: Can I accelerate or decelerate my studies?

A: Students are generally recommended to register for 20 to 24 credits in each semester. Students who cannot cope up with such load, may consult their counsellor and Head of the Department to register in lower number of credits. This process is called "Deceleration". Students who do not register on time, may also be forced to decelerate to compensate the classwork that they missed due to late registration. In both the cases of deceleration, permission must be sought from Office of Dean Academics through proper channel. On the contrary, Students who wish to accelerate can register for upto 30 credits by selecting courses that are usually offered in later semesters and complete them in advance. Students may also use the optional Summer Term for accelerating courses upto 12 credits. In Similarly, a student may also register for credits lower than. However, you'll need approval from the Dean of Academics.

Q: Will I get my degree upon acquiring all the required credits?

A: Apart from fulfilling the total credit requirement, it is required to fulfill category and sub-category wise credit requirements and outcome requirements (which are clearly mentioned in the degree-wise credit requirements section) to be eligible for award of specific degree.

Q: Can I register for a course without promoting in its pre-requisite course?

A: No, student must promote in the pre-requisite course in order to register for a course having pre-requisite.

Program - Degrees(Design your own Degree)

S#	Major Flexibility	Program Addon
1	Honors through Experiential Learning	Minor
2	Honors through Experiential Learning	Double Major
3	Honors through Experiential Learning	Specialization
4	Honors through Experiential Learning	No Add-on
5	Honors through Innovation	Minor
6	Honors through Innovation	Double Major
7	Honors through Innovation	Specialization
8	Honors through Innovation	No Add-on
9	Honors through Research	Minor
10	Honors through Research	Double Major
11	Honors through Research	Specialization
12	Honors through Research	No Add-on
13	Honors	Minor
14	Honors	Double Major
15	Honors	Specialization
16	Honors	No Add-on
17	No Flexibility	Minor
18	No Flexibility	Double Major
19	No Flexibility	Specialization
20	No Flexibility	No Add-on

Degree-wise Credit Requirements

1. Honors through Experiential Learning with Minor

a) Credit Requirement

Total Credit Required: 210

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-SE-1	4	4	1	1	
8	BSC	BSC-SE-2	4	4	1	1	
9	BSC	BSC-SE-3	4	4	1	1	
10	ESC	ESC-CORE	29	29	9	9	
11	PCC	PCC-CORE	44	50	11	11	
12	FCC	FC-1	3	3	1	1	
13	HFC	HFC-CORE	0	16	0	4	
14	HEC	HEC-CORE	8	16	2	4	
15	SDC	SDP-1	2	4	1	1	
16	SDC	SDP-2	2	4	1	1	
17	SDC	SDP-3	2	4	1	1	
18	PEC	PE-1	5	5	1	1	
19	PEC	PE-2	3	3	1	1	
20	PEC	PE-3	5	5	1	1	
21	PEC	PE-4	3	3	1	1	
22	PRI	PRI-CORE	20	20	4	4	PROJECT
23	OEC	OE-1	4	4	1	1	
24	OEC	OE-2	4	4	1	1	
25	OEC	OE-3	4	4	1	1	
26	VAC	VAC-SPORTS	0	0	1	1	
27	VAC	VAC-CERT	0	0	4	4	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
28	AUC	AUC-CORE	0	0	5	6	
29	AUC	AUC-CAREER	0	0	1	1	
30	SIL	SIL-CORE	3	3	3	3	
31	MIN	MIN-CORE	16	16	4	4	MINOR
32	MSDC	MIN-SDP	4	4	1	1	MINOR

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses PCC, HFC, HEC, SDC, PRI
- No History of Backlogs & No History of Betterment
- Minimum One Scopus Journal Publication
- Minimum One Design Patents
- Two Consultancy Projects
- All MIN & MSDC Credits (16 + 4) must be from selected MINOR Degree
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

2. Honors through Experiential Learning with Double Major

a) Credit Requirement

Total Credit Required: 215

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-SE-1	4	4	1	1	
8	BSC	BSC-SE-2	4	4	1	1	
9	BSC	BSC-SE-3	4	4	1	1	
10	ESC	ESC-CORE	29	29	9	9	
11	PCC	PCC-CORE	44	50	11	11	
12	FCC	FC-1	3	3	1	1	DOUBLE MAJOR
13	HFC	HFC-CORE	0	16	0	4	
14	HEC	HEC-CORE	8	16	2	4	
15	SDC	SDP-1	2	4	1	1	
16	SDC	SDP-2	2	4	1	1	
17	SDC	SDP-3	2	4	1	1	
18	PEC	PE-1	5	5	1	1	
19	PEC	PE-2	3	3	1	1	
20	PEC	PE-3	5	5	1	1	
21	PEC	PE-4	3	3	1	1	
22	PRI	PRI-CORE	20	20	4	4	PROJECT
23	OEC	OE-1	4	4	1	1	DOUBLE MAJOR
24	OEC	OE-2	4	4	1	1	DOUBLE MAJOR
25	OEC	OE-3	4	4	1	1	DOUBLE MAJOR
26	VAC	VAC-SPORTS	0	0	1	1	
27	VAC	VAC-CERT	0	0	4	4	
28	AUC	AUC-CORE	0	0	5	6	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	AUC	AUC-CAREER	0	0	1	1	
30	SIL	SIL-CORE	3	3	3	3	
31	SMFC	SMFC-CORE	21	21	5	5	DOUBLE MAJOR
32	SMFC	SMFC-SDP	4	4	1	1	DOUBLE MAJOR

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses PCC, HFC, HEC, SDC, PRI
- No History of Backlogs & No History of Betterment
- Minimum One Scopus Journal Publication
- Minimum One Design Patents
- Two Consultancy Projects
- All 40 Credits (SMFC+OEC+FCC) must be from selected Second Major Degree
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

3. Honors through Experiential Learning with Specialization

a) Credit Requirement

Total Credit Required: 200

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-SE-1	4	4	1	1	
8	BSC	BSC-SE-2	4	4	1	1	
9	BSC	BSC-SE-3	4	4	1	1	
10	ESC	ESC-CORE	29	29	9	9	
11	PCC	PCC-CORE	44	50	11	11	
12	FCC	FC-1	3	3	1	1	
13	HFC	HFC-CORE	0	16	0	4	
14	HEC	HEC-CORE	8	16	2	4	
15	SDC	SDP-1	2	4	1	1	
16	SDC	SDP-2	2	4	1	1	
17	SDC	SDP-3	2	4	1	1	
18	SDC	SDP-4	4	4	1	1	SPECIALIZATION
19	PEC	PE-1	7	7	1	1	SPECIALIZATION
20	PEC	PE-2	3	3	1	1	SPECIALIZATION
21	PEC	PE-3	7	7	1	1	SPECIALIZATION
22	PEC	PE-4	3	3	1	1	SPECIALIZATION
23	PEC	PE-5	3	3	1	1	SPECIALIZATION
24	PRI	PRI-CORE	20	20	4	4	PROJECT
25	OEC	OE-1	4	4	1	1	
26	OEC	OE-2	4	4	1	1	
27	OEC	OE-3	4	4	1	1	
28	VAC	VAC-SPORTS	0	0	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	VAC	VAC-CERT	0	0	4	4	
30	AUC	AUC-CORE	0	0	5	6	
31	AUC	AUC-CAREER	0	0	1	1	
32	SIL	SIL-CORE	3	3	3	3	

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses PCC, HFC, HEC, SDC, PRI
- No History of Backlogs & No History of Betterment
- Minimum One Scopus Journal Publication
- Minimum One Design Patents
- Two Consultancy Projects
- All PEC and SDP-4 Credits must be from selected specialization
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

4. Honors through Experiential Learning with No Add-on

a) Credit Requirement

Total Credit Required: 190

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-SE-1	4	4	1	1	
8	BSC	BSC-SE-2	4	4	1	1	
9	BSC	BSC-SE-3	4	4	1	1	
10	ESC	ESC-CORE	29	29	9	9	
11	PCC	PCC-CORE	44	50	11	11	
12	FCC	FC-1	3	3	1	1	
13	HFC	HFC-CORE	0	16	0	4	
14	HEC	HEC-CORE	8	16	2	4	
15	SDC	SDP-1	2	4	1	1	
16	SDC	SDP-2	2	4	1	1	
17	SDC	SDP-3	2	4	1	1	
18	PEC	PE-1	5	5	1	1	
19	PEC	PE-2	3	3	1	1	
20	PEC	PE-3	5	5	1	1	
21	PEC	PE-4	3	3	1	1	
22	PRI	PRI-CORE	20	20	4	4	PROJECT
23	OEC	OE-1	4	4	1	1	
24	OEC	OE-2	4	4	1	1	
25	OEC	OE-3	4	4	1	1	
26	VAC	VAC-SPORTS	0	0	1	1	
27	VAC	VAC-CERT	0	0	4	4	
28	AUC	AUC-CORE	0	0	5	6	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	AUC	AUC-CAREER	0	0	1	1	
30	SIL	SIL-CORE	3	3	3	3	

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses PCC, HFC, HEC, SDC, PRI
- No History of Backlogs & No History of Betterment
- Minimum One Scopus Journal Publication
- Minimum One Design Patents
- Two Consultancy Projects
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

5. Honors through Innovation with Minor

a) Credit Requirement

Total Credit Required: 210

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-SE-1	4	4	1	1	
8	BSC	BSC-SE-2	4	4	1	1	
9	BSC	BSC-SE-3	4	4	1	1	
10	ESC	ESC-CORE	29	29	9	9	
11	PCC	PCC-CORE	44	44	11	11	
12	FCC	FC-1	3	3	1	1	
13	HFC	HFC-CORE	0	16	0	4	
14	HIC	HIC-CORE	8	16	2	4	
15	HEC	HEC-CORE	0	16	0	4	
16	SDC	SDP-1	2	4	1	1	
17	SDC	SDP-2	2	4	1	1	
18	SDC	SDP-3	2	4	1	1	
19	PEC	PE-1	5	5	1	1	
20	PEC	PE-2	3	3	1	1	
21	PEC	PE-3	5	5	1	1	
22	PEC	PE-4	3	3	1	1	
23	PRI	PRI-CORE	20	20	4	4	PROJECT
24	OEC	OE-1	4	4	1	1	
25	OEC	OE-2	4	4	1	1	
26	OEC	OE-3	4	4	1	1	
27	VAC	VAC-SPORTS	0	0	1	1	
28	VAC	VAC-CERT	0	0	3	3	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	AUC	AUC-CORE	0	0	5	6	
30	AUC	AUC-CAREER	0	0	1	1	
31	SIL	SIL-CORE	3	3	3	3	
32	MIN	MIN-CORE	16	16	4	4	MINOR
33	MSDC	MIN-SDP	4	4	1	1	MINOR

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses HFC, HIC, HEC, SDC, PRI
- No History of Backlogs & No History of Betterment
- Minimum One Web of Science Journal Publications
- Minimum Two Design Patents & One Utility Patent
- LLP Establishment
- All MIN & MSDC Credits (16 + 4) must be from selected MINOR Degree
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

6. Honors through Innovation with Double Major

a) Credit Requirement

Total Credit Required: 215

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-SE-1	4	4	1	1	
8	BSC	BSC-SE-2	4	4	1	1	
9	BSC	BSC-SE-3	4	4	1	1	
10	ESC	ESC-CORE	29	29	9	9	
11	PCC	PCC-CORE	44	44	11	11	
12	FCC	FC-1	3	3	1	1	DOUBLE MAJOR
13	HFC	HFC-CORE	0	16	0	4	
14	HIC	HIC-CORE	8	16	2	4	
15	HEC	HEC-CORE	0	16	0	4	
16	SDC	SDP-1	2	4	1	1	
17	SDC	SDP-2	2	4	1	1	
18	SDC	SDP-3	2	4	1	1	
19	PEC	PE-1	5	5	1	1	
20	PEC	PE-2	3	3	1	1	
21	PEC	PE-3	5	5	1	1	
22	PEC	PE-4	3	3	1	1	
23	PRI	PRI-CORE	20	20	4	4	PROJECT
24	OEC	OE-1	4	4	1	1	DOUBLE MAJOR
25	OEC	OE-2	4	4	1	1	DOUBLE MAJOR
26	OEC	OE-3	4	4	1	1	DOUBLE MAJOR
27	VAC	VAC-SPORTS	0	0	1	1	
28	VAC	VAC-CERT	0	0	3	3	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	AUC	AUC-CORE	0	0	5	6	
30	AUC	AUC-CAREER	0	0	1	1	
31	SIL	SIL-CORE	3	3	3	3	
32	SMFC	SMFC-CORE	21	21	5	5	DOUBLE MAJOR
33	SMFC	SMFC-SDP	4	4	1	1	DOUBLE MAJOR

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses HFC, HIC, HEC, SDC, PRI
- No History of Backlogs & No History of Betterment
- Minimum One Web of Science Journal Publications
- Minimum Two Design Patents & One Utility Patent
- LLP Establishment
- All 40 Credits (SMFC+OEC+FCC) must be from selected Second Major Degree
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

7. Honors through Innovation with Specialization

a) Credit Requirement

Total Credit Required: 200

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-SE-1	4	4	1	1	
8	BSC	BSC-SE-2	4	4	1	1	
9	BSC	BSC-SE-3	4	4	1	1	
10	ESC	ESC-CORE	29	29	9	9	
11	PCC	PCC-CORE	44	44	11	11	
12	FCC	FC-1	3	3	1	1	
13	HFC	HFC-CORE	0	16	0	4	
14	HIC	HIC-CORE	8	16	2	4	
15	HEC	HEC-CORE	0	16	0	4	
16	SDC	SDP-1	2	4	1	1	
17	SDC	SDP-2	2	4	1	1	
18	SDC	SDP-3	2	4	1	1	
19	SDC	SDP-4	4	4	1	1	SPECIALIZATION
20	PEC	PE-1	7	7	1	1	SPECIALIZATION
21	PEC	PE-2	3	3	1	1	SPECIALIZATION
22	PEC	PE-3	7	7	1	1	SPECIALIZATION
23	PEC	PE-4	3	3	1	1	SPECIALIZATION
24	PEC	PE-5	3	3	1	1	SPECIALIZATION
25	PRI	PRI-CORE	20	20	4	4	PROJECT
26	OEC	OE-1	4	4	1	1	
27	OEC	OE-2	4	4	1	1	
28	OEC	OE-3	4	4	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	VAC	VAC-SPORTS	0	0	1	1	
30	VAC	VAC-CERT	0	0	3	3	
31	AUC	AUC-CORE	0	0	5	6	
32	AUC	AUC-CAREER	0	0	1	1	
33	SIL	SIL-CORE	3	3	3	3	

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses HFC, HIC, HEC, SDC, PRI
- No History of Backlogs & No History of Betterment
- Minimum One Web of Science Journal Publications
- Minimum Two Design Patents & One Utility Patent
- LLP Establishment
- All PEC and SDP-4 Credits must be from selected specialization
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

8. Honors through Innovation with No Add-on**a) Credit Requirement****Total Credit Required: 190**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-SE-1	4	4	1	1	
8	BSC	BSC-SE-2	4	4	1	1	
9	BSC	BSC-SE-3	4	4	1	1	
10	ESC	ESC-CORE	29	29	9	9	
11	PCC	PCC-CORE	44	44	11	11	
12	FCC	FC-1	3	3	1	1	
13	HFC	HFC-CORE	0	16	0	4	
14	HIC	HIC-CORE	8	16	2	4	
15	HEC	HEC-CORE	0	16	0	4	
16	SDC	SDP-1	2	4	1	1	
17	SDC	SDP-2	2	4	1	1	
18	SDC	SDP-3	2	4	1	1	
19	PEC	PE-1	5	5	1	1	
20	PEC	PE-2	3	3	1	1	
21	PEC	PE-3	5	5	1	1	
22	PEC	PE-4	3	3	1	1	
23	PRI	PRI-CORE	20	20	4	4	PROJECT
24	OEC	OE-1	4	4	1	1	
25	OEC	OE-2	4	4	1	1	
26	OEC	OE-3	4	4	1	1	
27	VAC	VAC-SPORTS	0	0	1	1	
28	VAC	VAC-CERT	0	0	3	3	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	AUC	AUC-CORE	0	0	5	6	
30	AUC	AUC-CAREER	0	0	1	1	
31	SIL	SIL-CORE	3	3	3	3	

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses HFC, HIC, HEC, SDC, PRI
- 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 have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

9. Honors through Research with Minor

a) Credit Requirement

Total Credit Required: 210

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-ME-3	0	0	0	0	
8	BSC	BSC-ME-4	0	0	0	0	
9	BSC	BSC-ME-5	0	0	0	0	
10	BSC	BSC-SE-1	4	4	1	1	
11	BSC	BSC-SE-2	4	4	1	1	
12	BSC	BSC-SE-3	4	4	1	1	
13	ESC	ESC-CORE	29	29	9	9	
14	PCC	PCC-CORE	44	50	11	11	
15	FCC	FC-1	3	3	1	1	
16	FCC	FC-2	0	0	0	0	
17	HFC	HFC-CORE	0	16	0	4	
18	HRC	HRC-CORE	9	12	3	4	
19	HIC	HIC-CORE	0	0	0	0	
20	HEC	HEC-CORE	0	16	0	4	
21	SDC	SDP-1	2	4	1	1	
22	SDC	SDP-2	2	4	1	1	
23	SDC	SDP-3	2	4	1	1	
24	PEC	PE-1	5	5	1	1	
25	PEC	PE-2	3	3	1	1	
26	PEC	PE-3	5	5	1	1	
27	PEC	PE-4	3	3	1	1	
28	PRI	PRI-CORE	20	20	4	4	PROJECT

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	OEC	OE-1	4	4	1	1	
30	OEC	OE-2	4	4	1	1	
31	OEC	OE-3	4	4	1	1	
32	VAC	VAC-SPORTS	0	0	1	1	
33	VAC	VAC-CERT	0	0	3	3	
34	AUC	AUC-CORE	0	0	5	6	
35	AUC	AUC-CAREER	0	0	1	1	
36	SIL	SIL-CORE	3	3	3	3	
37	MIN	MIN-CORE	16	16	4	4	MINOR
38	MSDC	MIN-SDP	4	4	1	1	MINOR

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses PCC, HFC, HRC, SDC, PRI
- No History of Backlogs & No History of Betterment
- Minimum Three Web of Science Journal Publications
- Minimum One Design Patent
- All MIN & MSDC Credits (16 + 4) must be from selected MINOR Degree
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

10. Honors through Research with Double Major

a) Credit Requirement

Total Credit Required: 215

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-SE-1	4	4	1	1	
8	BSC	BSC-SE-2	4	4	1	1	
9	BSC	BSC-SE-3	4	4	1	1	
10	ESC	ESC-CORE	29	29	9	9	
11	PCC	PCC-CORE	44	50	11	11	
12	FCC	FC-1	3	3	1	1	DOUBLE MAJOR
13	HFC	HFC-CORE	0	16	0	4	
14	HRC	HRC-CORE	9	12	3	4	
15	HEC	HEC-CORE	0	16	0	4	
16	SDC	SDP-1	2	4	1	1	
17	SDC	SDP-2	2	4	1	1	
18	SDC	SDP-3	2	4	1	1	
19	PEC	PE-1	5	5	1	1	
20	PEC	PE-2	3	3	1	1	
21	PEC	PE-3	5	5	1	1	
22	PEC	PE-4	3	3	1	1	
23	PRI	PRI-CORE	20	20	4	4	PROJECT
24	OEC	OE-1	4	4	1	1	DOUBLE MAJOR
25	OEC	OE-2	4	4	1	1	DOUBLE MAJOR
26	OEC	OE-3	4	4	1	1	DOUBLE MAJOR
27	VAC	VAC-SPORTS	0	0	1	1	
28	VAC	VAC-CERT	0	0	3	3	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	AUC	AUC-CORE	0	0	5	6	
30	AUC	AUC-CAREER	0	0	1	1	
31	SIL	SIL-CORE	3	3	3	3	
32	SMFC	SMFC-CORE	21	21	5	5	DOUBLE MAJOR
33	SMFC	SMFC-SDP	4	4	1	1	DOUBLE MAJOR

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses PCC, HFC, HRC, SDC, PRI
- No History of Backlogs & No History of Betterment
- Minimum Three Web of Science Journal Publications
- Minimum One Design Patent
- All 40 Credits (SMFC+OEC+FCC) must be from selected Second Major Degree
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

11. Honors through Research with Specialization

a) Credit Requirement

Total Credit Required: 200

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-SE-1	4	4	1	1	
8	BSC	BSC-SE-2	4	4	1	1	
9	BSC	BSC-SE-3	4	4	1	1	
10	ESC	ESC-CORE	29	29	9	9	
11	PCC	PCC-CORE	44	50	11	11	
12	FCC	FC-1	3	3	1	1	
13	HFC	HFC-CORE	0	16	0	4	
14	HRC	HRC-CORE	9	12	3	4	
15	HEC	HEC-CORE	0	16	0	4	
16	SDC	SDP-1	2	4	1	1	
17	SDC	SDP-2	2	4	1	1	
18	SDC	SDP-3	2	4	1	1	
19	SDC	SDP-4	4	4	1	1	SPECIALIZATION
20	PEC	PE-1	7	7	1	1	SPECIALIZATION
21	PEC	PE-2	3	3	1	1	
22	PEC	PE-3	7	7	1	1	SPECIALIZATION
23	PEC	PE-4	3	3	1	1	
24	PEC	PE-5	3	3	1	1	SPECIALIZATION
25	PRI	PRI-CORE	20	20	4	4	PROJECT
26	OEC	OE-1	4	4	1	1	
27	OEC	OE-2	4	4	1	1	
28	OEC	OE-3	4	4	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	VAC	VAC-SPORTS	0	0	1	1	
30	VAC	VAC-CERT	0	0	3	3	
31	AUC	AUC-CORE	0	0	5	6	
32	AUC	AUC-CAREER	0	0	1	1	
33	SIL	SIL-CORE	3	3	3	3	

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses PCC, HFC, HRC, SDC, PRI
- No History of Backlogs & No History of Betterment
- Minimum Three Web of Science Journal Publications
- Minimum One Design Patent
- All PEC and SDP-4 Credits must be from selected specialization
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

12. Honors through Research with No Add-on**a) Credit Requirement****Total Credit Required: 190**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-ME-3	0	0	0	0	
8	BSC	BSC-SE-1	4	4	1	1	
9	BSC	BSC-SE-2	4	4	1	1	
10	BSC	BSC-SE-3	4	4	1	1	
11	ESC	ESC-CORE	29	29	9	9	
12	PCC	PCC-CORE	44	50	11	11	
13	FCC	FC-1	3	3	1	1	
14	HFC	HFC-CORE	0	16	0	4	
15	HRC	HRC-CORE	9	12	3	4	
16	HEC	HEC-CORE	0	16	0	4	
17	SDC	SDP-1	2	4	1	1	
18	SDC	SDP-2	2	4	1	1	
19	SDC	SDP-3	2	4	1	1	
20	PEC	PE-1	5	5	1	1	
21	PEC	PE-2	3	3	1	1	
22	PEC	PE-3	5	5	1	1	
23	PEC	PE-4	3	3	1	1	
24	PRI	PRI-CORE	20	20	4	4	PROJECT
25	OEC	OE-1	4	4	1	1	
26	OEC	OE-2	4	4	1	1	
27	OEC	OE-3	4	4	1	1	
28	VAC	VAC-SPORTS	0	0	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	VAC	VAC-CERT	0	0	3	3	
30	AUC	AUC-CORE	0	0	5	6	
31	AUC	AUC-CAREER	0	0	1	1	
32	SIL	SIL-CORE	3	3	3	3	

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses PCC, HFC, HRC, SDC, PRI
- No History of Backlogs & No History of Betterment
- Minimum Three Web of Science Journal Publications
- Minimum One Design Patent
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

13. Honors with Minor**a) Credit Requirement****Total Credit Required: 210**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-SE-1	4	4	1	1	
8	BSC	BSC-SE-2	4	4	1	1	
9	BSC	BSC-SE-3	4	4	1	1	
10	ESC	ESC-CORE	29	29	9	9	
11	PCC	PCC-CORE	44	50	11	11	
12	FCC	FC-1	3	3	1	1	
13	HFC	HFC-CORE	8	16	2	4	
14	HEC	HEC-CORE	0	16	0	4	
15	SDC	SDC-CORE	0	0	0	0	
16	SDC	SDP-1	2	4	1	1	
17	SDC	SDP-2	2	4	1	1	
18	SDC	SDP-3	2	4	1	1	
19	PEC	PE-1	5	5	1	1	
20	PEC	PE-2	3	3	1	1	
21	PEC	PE-3	5	5	1	1	
22	PEC	PE-4	3	3	1	1	
23	PRI	PRI-CORE	16	16	4	4	
24	OEC	OE-1	4	4	1	1	
25	OEC	OE-2	4	4	1	1	
26	OEC	OE-3	4	4	1	1	
27	VAC	VAC-SPORTS	0	0	1	1	
28	VAC	VAC-CERT	0	0	4	4	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	AUC	AUC-CORE	0	0	5	6	
30	AUC	AUC-CAREER	0	0	1	1	
31	SIL	SIL-CORE	3	3	3	3	
32	MIN	MIN-CORE	16	16	4	4	MINOR
33	MSDC	MIN-SDP	4	4	1	1	MINOR

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses PCC, HFC, HEC, SDC
- No History of Backlogs & No History of Betterment
- Minimum one Scopus Journal Publication
- All MIN & MSDC Credits (16 + 4) must be from selected MINOR Degree
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

14. Honors with Double Major

a) Credit Requirement

Total Credit Required: 215

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-ME-3	0	0	0	0	
8	BSC	BSC-SE-1	4	4	1	1	
9	BSC	BSC-SE-2	4	4	1	1	
10	BSC	BSC-SE-3	4	4	1	1	
11	ESC	ESC-CORE	29	29	9	9	
12	PCC	PCC-CORE	44	50	11	11	
13	FCC	FC-1	3	3	1	1	DOUBLE MAJOR
14	HFC	HFC-CORE	8	16	2	4	
15	HEC	HEC-CORE	0	16	0	4	
16	SDC	SDP-1	2	2	1	1	
17	SDC	SDP-2	2	2	1	1	
18	SDC	SDP-3	2	2	1	1	
19	PEC	PE-1	5	5	1	1	
20	PEC	PE-2	3	3	1	1	
21	PEC	PE-3	5	5	1	1	
22	PEC	PE-4	3	3	1	1	
23	PRI	PRI-CORE	16	16	4	4	
24	OEC	OE-1	4	4	1	1	DOUBLE MAJOR
25	OEC	OE-2	4	4	1	1	DOUBLE MAJOR
26	OEC	OE-3	4	4	1	1	DOUBLE MAJOR
27	VAC	VAC-SPORTS	0	0	1	1	
28	VAC	VAC-CERT	0	0	3	3	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	AUC	AUC-CORE	0	0	5	6	
30	AUC	AUC-CAREER	0	0	1	1	
31	SIL	SIL-CORE	3	3	3	3	
32	MSDC	MIN-SDP	4	4	1	1	DOUBLE MAJOR
33	SMFC	SMFC-CORE	21	21	5	5	DOUBLE MAJOR

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses PCC, HFC, HEC, SDC
- No History of Backlogs & No History of Betterment
- Minimum one Scopus Journal Publication
- All 40 Credits (SMFC+OEC+FCC) must be from selected Second Major Degree
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

15. Honors with Specialization

a) Credit Requirement

Total Credit Required: 200

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	0	0	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-ME-3	0	0	0	0	
8	BSC	BSC-SE-1	4	4	1	1	
9	BSC	BSC-SE-2	4	4	1	1	
10	BSC	BSC-SE-3	4	4	1	1	
11	ESC	ESC-CORE	29	29	9	9	
12	PCC	PCC-CORE	44	50	11	11	
13	FCC	FC-1	3	3	1	1	
14	HFC	HFC-CORE	8	16	2	4	
15	HEC	HEC-CORE	0	16	0	4	
16	SDC	SDP-1	2	4	1	1	
17	SDC	SDP-2	2	4	1	1	
18	SDC	SDP-3	2	4	1	1	
19	SDC	SDP-4	4	4	1	1	SPECIALIZATION
20	PEC	PE-1	7	7	1	1	SPECIALIZATION
21	PEC	PE-2	3	3	1	1	
22	PEC	PE-3	7	7	1	1	SPECIALIZATION
23	PEC	PE-4	3	3	1	1	
24	PEC	PE-5	3	3	1	1	SPECIALIZATION
25	PRI	PRI-CORE	16	16	4	4	
26	OEC	OE-1	4	4	1	1	
27	OEC	OE-2	4	4	1	1	
28	OEC	OE-3	4	4	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	VAC	VAC-SPORTS	0	0	1	1	
30	VAC	VAC-CERT	0	0	3	3	
31	AUC	AUC-CORE	0	0	5	6	
32	AUC	AUC-CAREER	0	0	1	1	
33	SIL	SIL-CORE	3	3	3	3	

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses PCC, HFC, HEC, SDC
- No History of Backlogs & No History of Betterment
- Minimum one Scopus Journal Publication
- All PEC and SDP-4 Credits must be from selected specialization
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

16. Honors with No Add-on**a) Credit Requirement****Total Credit Required: 190**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-ME-3	0	0	0	0	
8	BSC	BSC-SE-1	4	4	1	1	
9	BSC	BSC-SE-2	4	4	1	1	
10	BSC	BSC-SE-3	4	4	1	1	
11	ESC	ESC-CORE	29	29	9	9	
12	PCC	PCC-CORE	44	50	11	11	
13	FCC	FC-1	3	3	1	1	
14	HFC	HFC-CORE	8	16	2	4	
15	HEC	HEC-CORE	0	16	0	4	
16	SDC	SDC-CORE	0	0	0	0	
17	SDC	SDP-1	2	2	1	1	
18	SDC	SDP-2	2	2	1	1	
19	SDC	SDP-3	2	2	1	1	
20	PEC	PE-1	5	5	1	1	
21	PEC	PE-2	3	3	1	1	
22	PEC	PE-3	5	5	1	1	
23	PEC	PE-4	3	3	1	1	
24	PRI	PRI-CORE	16	16	4	4	
25	OEC	OE-1	4	4	1	1	
26	OEC	OE-2	4	4	1	1	
27	OEC	OE-3	4	4	1	1	
28	VAC	VAC-SPORTS	0	0	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	VAC	VAC-CERT	0	0	3	3	
30	AUC	AUC-CORE	0	0	5	6	
31	AUC	AUC-CAREER	0	0	1	1	
32	SIL	SIL-CORE	3	3	3	3	

b) Outcome Requirement

- Minimum CGPA 8.00
- Additional credits must be acquired from specified category of courses PCC, HFC, HEC, SDC
- No History of Backlogs & No History of Betterment
- Minimum one Scopus Journal Publication
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

17. No Flexibility with Minor**a) Credit Requirement****Total Credit Required: 190**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-ME-3	0	0	0	0	
8	BSC	BSC-SE-1	4	4	1	1	
9	BSC	BSC-SE-2	4	4	1	1	
10	BSC	BSC-SE-3	4	4	1	1	
11	ESC	ESC-CORE	29	29	9	9	
12	PCC	PCC-CORE	44	44	11	11	
13	FCC	FC-1	3	3	1	1	
14	SDC	SDP-1	2	2	1	1	
15	SDC	SDP-2	2	2	1	1	
16	SDC	SDP-3	2	2	1	1	
17	PEC	PE-1	5	5	1	1	
18	PEC	PE-2	3	3	1	1	
19	PEC	PE-3	5	5	1	1	
20	PEC	PE-4	3	3	1	1	
21	PRI	PRI-CORE	16	16	4	4	
22	OEC	OE-1	4	4	1	1	
23	OEC	OE-2	4	4	1	1	
24	OEC	OE-3	4	4	1	1	
25	VAC	VAC-SPORTS	0	0	1	1	
26	VAC	VAC-CERT	0	0	3	3	
27	AUC	AUC-CORE	0	0	5	6	
28	AUC	AUC-CAREER	0	0	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	SIL	SIL-CORE	3	3	3	3	
30	MIN	MIN-CORE	16	16	4	4	MINOR
31	MSDC	MIN-SDP	4	4	1	1	MINOR

b) Outcome Requirement

- Minimum CGPA 6.75
- All MIN & MSDC Credits (16 + 4) must be from selected MINOR Degree
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

18. No Flexibility with Double Major**a) Credit Requirement****Total Credit Required: 195**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-ME-3	0	0	0	0	
8	BSC	BSC-SE-1	4	4	1	1	
9	BSC	BSC-SE-2	4	4	1	1	
10	BSC	BSC-SE-3	4	4	1	1	
11	ESC	ESC-CORE	29	29	9	9	
12	PCC	PCC-CORE	44	44	11	11	
13	FCC	FC-1	3	3	1	1	DOUBLE MAJOR
14	SDC	SDP-1	2	2	1	1	
15	SDC	SDP-2	2	2	1	1	
16	SDC	SDP-3	2	2	1	1	
17	PEC	PE-1	5	5	1	1	
18	PEC	PE-2	3	3	1	1	
19	PEC	PE-3	5	5	1	1	
20	PEC	PE-4	3	3	1	1	
21	PRI	PRI-CORE	16	16	4	4	
22	OEC	OE-1	4	4	1	1	DOUBLE MAJOR
23	OEC	OE-2	4	4	1	1	DOUBLE MAJOR
24	OEC	OE-3	4	4	1	1	DOUBLE MAJOR
25	VAC	VAC-SPORTS	0	0	1	1	
26	VAC	VAC-CERT	0	0	3	3	
27	AUC	AUC-CORE	0	0	5	6	
28	SIL	SIL-CORE	3	3	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	SMFC	SMFC-CORE	21	21	5	5	DOUBLE MAJOR
30	SMFC	SMFC-SDP	4	4	1	1	DOUBLE MAJOR

b) Outcome Requirement

- Minimum CGPA 7.75
- All 40 Credits (SMFC+OEC+FCC) must be from selected Second Major Degree
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

19. No Flexibility with Specialization**a) Credit Requirement****Total Credit Required: 175**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	4	4	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-ME-3	0	0	0	0	
8	BSC	BSC-ME-5	0	0	0	0	
9	BSC	BSC-SE-1	4	4	1	1	
10	BSC	BSC-SE-2	4	4	1	1	
11	BSC	BSC-SE-3	4	4	1	1	
12	ESC	ESC-CORE	29	29	9	9	
13	PCC	PCC-CORE	44	44	1	1	
14	FCC	FC-1	3	3	1	1	
15	SDC	SDP-1	2	2	1	1	
16	SDC	SDP-2	2	2	1	1	
17	SDC	SDP-3	2	2	1	1	
18	SDC	SDP-4	2	2	1	1	SPECIALIZATION
19	PEC	PE-1	5	5	1	1	
20	PEC	PE-2	3	3	1	1	
21	PEC	PE-3	5	5	1	1	
22	PEC	PE-4	3	3	1	1	
23	PEC	PE-5	3	3	1	1	SPECIALIZATION
24	PRI	PRI-CORE	16	16	4	4	
25	OEC	OE-1	4	4	1	1	
26	OEC	OE-2	4	4	1	1	
27	OEC	OE-3	4	4	1	1	
28	VAC	VAC-SPORTS	0	0	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	VAC	VAC-CERT	0	0	3	3	
30	AUC	AUC-CORE	0	0	5	6	
31	SIL	SIL-CORE	3	3	3	3	

b) Outcome Requirement

- Minimum CGPA 6.75
- All PEC and SDP-4 Credits must be from selected specialization
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

20. No Flexibility with No Add-on**a) Credit Requirement****Total Credit Required: 170**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10	10	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-ME-3	0	0	0	0	
8	BSC	BSC-SE-1	4	4	1	1	
9	BSC	BSC-SE-2	4	4	1	1	
10	BSC	BSC-SE-3	4	4	1	1	
11	ESC	ESC-CORE	29	29	9	9	
12	PCC	PCC-CORE	44	44	11	11	
13	FCC	FC-1	3	3	1	1	
14	SDC	SDP-1	2	2	1	1	
15	SDC	SDP-2	2	2	1	1	
16	SDC	SDP-3	2	2	1	1	
17	PEC	PE-1	5	5	1	1	
18	PEC	PE-2	3	3	1	1	
19	PEC	PE-3	5	5	1	1	
20	PEC	PE-4	3	3	1	1	
21	PRI	PRI-CORE	16	16	4	4	
22	OEC	OE-1	4	4	1	1	
23	OEC	OE-2	4	4	1	1	
24	OEC	OE-3	4	4	1	1	
25	VAC	VAC-SPORTS	0	0	1	1	
26	VAC	VAC-CERT	0	0	3	3	
27	AUC	AUC-CORE	0	0	5	6	
28	AUC	AUC-CAREER	0	0	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	SIL	SIL-CORE	3	3	3	3	

b) Outcome Requirement

- Minimum CGPA 5.25
- Must have finished all the above-mentioned requirements in less than twice the period of the program, which includes deceleration period chosen by the student, deceleration imposed by KLEF or debarred from the KLEF.

Program Structure

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	HAS	HAS-CORE	23UC1203	DESIGN THINKING AND INNOVATION	R	DTI	0	0	4	0	2	4	
2	HAS	HAS-CORE	23UC0026	HUMAN VALUES, GENDER EQUALITY & PROFESSIONAL ETHICS	R	HGP	2	0	0	0	2	2	
3	HAS	HAS-CORE	23UC1101	INTEGRATED PROFESSIONAL ENGLISH	R	IPE	0	0	4	0	2	4	
4	HAS	HAS-CORE	23UC1202	ENGLISH PROFICIENCY	R	EP	0	0	4	0	2	4	
5	HAS	HAS-CORE	23UC0027	LEADERSHIP AND MANAGEMENT SKILLS	R	LAMS	0	0	4	0	2	4	OS(1) Rule:1
6	HAS	HAS-FLE	23FL3054	FRENCH LANGUAGE	R	FLG	3	0	0	0	3	3	
7	HAS	HAS-FLE	23FL3055	GERMAN LANGUAGE	R	GLG	3	0	0	0	3	3	
8	HAS	HAS-FLE	23FL3058	JAPANESE LANGUAGE	R	JLG	3	0	0	0	3	3	
9	HAS	HAS-MGE	23MB4062	CONSTRUCTION PROJECT MANAGEMENT	R	CPM	4	0	0	0	4	4	
10	HAS	HAS-MGE	23MB4063	RESOURCES SAFETY AND QUALITY MANAGEMENT	R	RSQM	4	0	0	0	4	4	
11	HAS	HAS-MGE	23MB4068	INNOVATION MANAGEMENT	R	IMG	4	0	0	0	4	4	
12	BSC	BSC-ME-1	23MT1001	LINEAR ALGEBRA AND CALCULUS FOR ENGINEERS	R	LACE	2	2	0	0	4	4	
13	BSC	BSC-ME-2	23MT2003	MATHEMATICAL MODELLING & NUMERICAL METHODS	R	MMNM	2	2	0	0	4	4	
14	BSC	BSC-ME-3	23MT2005	PROBABILITY, STATISTICS & QUEUEING THEORY	R	PSQT	2	2	0	0	4	4	
15	BSC	BSC-SE-1	22CE1201	ENGINEERING GEOLOGY	R	EGY	3	0	2	0	4	5	
16	BSC	BSC-SE-2	23CY1001	ENGINEERING CHEMISTRY	R	ECY	3	0	2	0	4	5	
17	BSC	BSC-SE-3	23CE3109	ENVIRONMENTAL ENGINEERING	R	EVE	3	0	2	0	4	5	
18	ESC	ESC-CORE	23CE2102R	FLUID MECHANICS & HYDRAULICS	R	FMH	3	0	2	0	4	5	
19	ESC	ESC-CORE	23SC1202	DATA STRUCTURES	R	DS	2	0	2	4	4	8	
20	ESC	ESC-CORE	23ME1004	WORKSHOP PRACTICES FOR ENGINEERS	R	WPE	0	0	4	0	2	4	
21	ESC	ESC-CORE	23ME1001	ENGINEERING MECHANICS	R	EM	3	0	0	0	3	3	
22	ESC	ESC-CORE	23ME1002	ENGINEERING GRAPHICS	R	EG	0	0	4	0	2	4	
23	ESC	ESC-CORE	23ME1103	DESIGN TOOL WORKSHOP	R	DTW	0	0	4	0	2	4	
24	ESC	ESC-CORE	23AD2001	ARTIFICIAL INTELLIGENCE & MACHINE LEARNING	O	AIML	3	0	2	0	4	5	CTSD(1) Rule:1
25	ESC	ESC-CORE	23SC1101	COMPUTATIONAL THINKING FOR STRUCTURED DESIGN	R	CTSD	3	0	2	4	5	9	
26	ESC	ESC-CORE	23ES1201	OBJECT ORIENTED PROGRAMMING	R	OOP	2	0	2	0	3	4	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
27	PCC	PCC-CORE	23CE4114	CONSTRUCTION PROJECT MANAGEMENT	R	CPM	3	0	0	0	3	3	
28	PCC	PCC-CORE	23CE2208A	GEOTECHNICAL ENGINEERING	A	GTE	4	0	4	0	6	8	
29	PCC	PCC-CORE	23CE2208E	GEOTECHNICAL ENGINEERING	E	GTE	4	0	4	0	6	8	
30	PCC	PCC-CORE	23CE2208R	GEOTECHNICAL ENGINEERING	R	GTE	3	0	2	0	4	5	
31	PCC	PCC-CORE	23CE2209A	TRANSPORTATION ENGINEERING	A	TPE	4	0	4	0	6	8	FOR(1) Rule:1
32	PCC	PCC-CORE	23CE2209E	TRANSPORTATION ENGINEERING	E	TPE	4	0	4	0	6	8	FOR(1) Rule:1
33	PCC	PCC-CORE	23CE2209R	TRANSPORTATION ENGINEERING	R	TPE	3	0	2	0	4	5	FOR(1) Rule:1
34	PCC	PCC-CORE	23CE3110A	DESIGN OF REINFORCED CONCRETE STRUCTURES	A	DRCS	4	0	4	0	6	8	STA(1) Rule:1
35	PCC	PCC-CORE	23CE3110E	DESIGN OF REINFORCED CONCRETE STRUCTURES	E	DRCS	4	0	4	0	6	8	STA(1) Rule:1
36	PCC	PCC-CORE	23CE3110R	DESIGN OF REINFORCED CONCRETE STRUCTURES	R	DRCS	3	0	2	0	4	5	STA(1) Rule:1
37	PCC	PCC-CORE	23CE3211A	QUANTITY SURVEYING & ESTIMATION	A	QSE	4	0	4	0	6	8	SVY(1) Rule:1
38	PCC	PCC-CORE	23CE3211E	QUANTITY SURVEYING & ESTIMATION	E	QSE	4	0	4	0	6	8	SVY(1) Rule:1
39	PCC	PCC-CORE	23CE3211R	QUANTITY SURVEYING & ESTIMATION	R	QSE	3	0	2	0	4	5	SVY(1) Rule:1
40	PCC	PCC-CORE	23CE2103A	SURVEYING	A	SVY	4	0	4	4	7	12	
41	PCC	PCC-CORE	23CE2103E	SURVEYING	E	SVY	4	0	4	4	7	12	
42	PCC	PCC-CORE	23CE2103R	SURVEYING	R	SVY	3	0	2	4	5	9	
43	PCC	PCC-CORE	23CE2105A	SOLID MECHANICS	A	SMN	4	0	4	0	6	8	EM(1) Rule:1
44	PCC	PCC-CORE	23CE2105E	SOLID MECHANICS	E	SMN	4	0	4	0	6	8	EM(1) Rule:1
45	PCC	PCC-CORE	23CE2105R	SOLID MECHANICS	R	SMN	3	0	2	0	4	5	EM(1) Rule:1
46	PCC	PCC-CORE	23CE2206	STRUCTURAL ANALYSIS	R	STA	3	1	0	0	4	4	SMN(1) Rule:1
47	PCC	PCC-CORE	23CE2207	CONCRETE TECHNOLOGY	R	CT	3	0	2	4	5	9	
48	PCC	PCC-CORE	23CE3212	WATER RESOURCE ENGINEERING	R	WRE	3	1	0	0	4	4	
49	FCC	FC-1	23CE2228F	ENVIRONMENTAL IMPACT ASSESSMENT AND LIFE CYCLE ANALYSES	F	EIALCA	3	0	0	0	3	3	
50	FCC	FC-1	23EC2235F	RESILIENT NETWORKS	F	RNW	2	0	2	0	3	4	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
51	FCC	FC-1	23CE2232F	BUILDING MATERIALS, PLANNING & DRAWING	F	BMPW	3	0	0	0	0	4	
52	FCC	FC-1	23EC2222F	DIGITAL VLSI DESIGN	F	DVD	2	0	2	0	3	4	
53	FCC	FC-1	23CS2205F	DESIGN AND ANALYSIS OF ALGORITHMS	F	DAA	2	0	2	0	3	4	
54	FCC	FC-1	23EE2102F	ELECTRICAL MACHINES	F	ELM	2	0	2	0	3	4	
55	FCC	FC-1	23EE2225F	POWER QUALITY	F	PQ	3	0	0	0	3	3	
56	FCC	FC-1	23EE2227F	ELECTRICAL POWER ENGINEERING	F	EPE	3	0	0	0	3	3	
57	FCC	FC-1	23ME1005F	MATERIAL SCIENCE & METALLURGY	F	MSM	2	0	2	0	3	4	
58	FCC	FC-1	23EC2223F	FUNDAMENTALS OF ROBOTICS	F	FOR	2	0	2	0	3	4	
59	FCC	FC-1	23BT2233F	GENETICS	F	GN	2	1	0	0	3	3	
60	FCC	FC-1	23BT2234F	REGULATORY AFFAIRS AND CLINICAL TRIALS	F	RACT	2	1	0	0	3	3	
61	FCC	FC-1	23BT2228F	CLINICAL DATA SCIENCE	F	CDS	2	0	2	0	3	4	
62	FCC	FC-1	23BT2239F	COMPUTATIONAL BIOLOGY	F	CB	2	0	2	0	3	4	
63	FCC	FC-1	23CS2104F	OPERATING SYSTEMS	F	OS	2	0	2	0	3	4	
64	FCC	FC-1	23AD2224F	CLOUD COMPUTING	F	CC	2	1	0	0	3	3	
65	FCC	FC-1	23BT2224F	BIOREACTOR OPERATIONS	F	BO	2	0	2	0	3	4	
66	FCC	FC-1	23IN2222F	CLOUD COMPUTING FOR IOT	F	CCIOT	2	0	2	0	3	4	
67	FCC	FC-1	23EC2224F	DEEP NETWORK ARCHITECTURES	F	DNA	2	0	2	0	3	4	
68	FCC	FC-1	23ME2107F	THERMODYNAMICS	F	TD	2	1	0	0	3	3	
69	FCC	FC-1	23EC1101F	FUNDAMENTALS OF IOT AND SENSORS	F	FITS	2	0	2	0	3	4	FITS(1) Rule:1
70	FCC	FC-1	23EC2221F	EMBEDDED SYSTEM DESIGN	F	ESD	2	0	2	0	3	4	
71	FCC	FC-1	23EC2210F	NETWORK PROTOCOLS AND SECURITY	F	NPS	2	0	2	0	3	4	
72	FCC	FC-1	23CE2223F	CONSTRUCTION PLANNING & MANAGEMENT	F	CPM	2	1	0	0	3	3	
73	FCC	FC-1	23CE2229F	ADVANCED CONSTRUCTION TECHNOLOGY	F	ACT	3	0	0	0	3	3	
74	FCC	FC-1	23CE2230F	PROJECTS & CONTRACT MANAGEMENT	F	PCT	3	0	0	0	3	3	
75	FCC	FC-1	23EC2226F	WIRELESS COMMUNICATIONS	F	WC	2	0	2	0	3	4	
76	HFC	HFC-CORE	23CE02HF	ADVANCED GEOTECHNICAL ENGINEERING	R	AGE	3	0	2	0	4	5	
77	HFC	HFC-CORE	23CE03HF	TRANSPORTATION SYSTEMS ENGINEERING	R	TSE	3	0	2	0	4	5	FOR(1) Rule:1

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78	HFC	HFC-CORE	23CE04HF	ENVIRONMENTAL ENGINEERING DESIGN	R	EED	3	0	2	0	4	5	
79	HFC	HFC-CORE	23CE01EF	FIELD SURVEYING AND MAPPING	E	FSAM	0	0	6	4	4	10	
80	HFC	HFC-CORE	23CE01HF	STRUCTURAL DYNAMICS AND EARTHQUAKE ENGINEERING	R	SDAEE	3	0	2	0	4	5	
81	HRC	HRC-CORE	23CE01RF	ADVANCED STRUCTURAL ANALYSIS AND DESIGN	R	ASAD	2	0	2	0	3	4	
82	HRC	HRC-CORE	23CE04RF	SUSTAINABLE WATER RESOURCE MANAGEMENT	R	SWRM	2	0	2	0	3	4	
83	HRC	HRC-CORE	23CE05RF	ENVIRONMENTAL SUSTAINABILITY IN CIVIL ENGINEERING	R	ESICE	2	0	2	0	3	4	
84	HRC	HRC-CORE	23IE03RF	RESEARCH SEMINAR	R	RS	0	0	4	4	3	8	
85	HRC	HRC-CORE	23IE04RF	TERM PAPER	R	TP	0	0	4	4	3	8	
86	HRC	HRC-CORE	23CE03RF	GEOTECHNICAL AND GEOENVIRONMENTAL ENGINEERING	R	GTGEE	2	0	2	0	3	4	
87	HRC	HRC-CORE	23CE02RF	TRANSPORTATION INFRASTRUCTURE PLANNING AND MANAGEMENT	R	TIPM	2	0	2	0	3	4	FOR(1) Rule:1
88	HRC	HRC-CORE	23IE01RF	INDEPENDENT STUDY & RESEARCH	R	ISR	2	0	2	0	3	4	
89	HRC	HRC-CORE	23IE02RF	RESEARCH METHODOLOGY, ETHICS & SCIENTIFIC WRITING	R	RMES	2	0	2	0	3	4	
90	HIC	HIC-CORE	23DT01IF	ENTREPRENEURIAL TECHNOLOGY DEVELOPMENT AND PROTOTYPING	E	ETDP	0	0	6	4	4	10	
91	HIC	HIC-CORE	23DT02IF	CUSTOMER DISCOVERY FOR STARTUPS	E	CDFS	0	0	6	4	4	10	
92	HIC	HIC-CORE	23DT03IF	CUSTOMER VALIDATION FOR STARTUPS	E	CVFS	0	0	6	4	4	10	
93	HIC	HIC-CORE	23DT04IF	CUSTOMER CREATION AND MARKETING FOR ENTREPRENEURS	E	CCME	0	0	6	4	4	10	
94	HEC	HEC-CORE	23CE02EF	CONSTRUCTION SITE MANAGEMENT	E	CSM	0	0	6	4	4	10	
95	HEC	HEC-CORE	23CE05EF	CONSTRUCTION MATERIALS LABORATORY	E	CML	0	0	6	4	4	10	
96	HEC	HEC-CORE	23CE04EF	ENVIRONMENTAL IMPACT ASSESSMENT WORKSHOP	E	EIAW	0	0	6	4	4	10	
97	HEC	HEC-CORE	23CE03EF	STRUCTURAL DESIGN STUDIO	E	SDS	0	0	6	4	4	10	
98	SDC	SDP-1	23SDCE01A	VISUALIZATION AND MODELLING FOR STRUCTURAL DESIGN	A	VMSD	0	0	6	4	4	10	
99	SDC	SDP-1	23SDCE01E	VISUALIZATION AND MODELLING FOR STRUCTURAL DESIGN	E	VMSD	0	0	6	4	4	10	
100	SDC	SDP-1	23SDCE01R	VISUALIZATION AND MODELLING FOR STRUCTURAL DESIGN	R	VMSD	0	0	2	4	2	6	
101	SDC	SDP-1	23SDBT01A	MEDICAL LAB TECHNOLOGY	A	MLT	0	0	6	4	4	10	

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102	SDC	SDP-1	23SDBT01E	MEDICAL LAB TECHNOLOGY	E	MLT	0	0	6	4	4	10	
103	SDC	SDP-1	23SDBT01R	MEDICAL LAB TECHNOLOGY	R	MLT	0	0	2	4	2	6	
104	SDC	SDP-1	23SDBT02A	ANALYTICAL AND OPTICAL INSTRUMENTATION	A	AOI	0	0	6	4	4	10	
105	SDC	SDP-1	23SDBT02E	ANALYTICAL AND OPTICAL INSTRUMENTATION	E	AOI	0	0	6	4	4	10	
106	SDC	SDP-1	23SDBT02R	ANALYTICAL AND OPTICAL INSTRUMENTATION	R	AOI	0	0	2	4	2	6	
107	SDC	SDP-1	23SDEE01A	VISUALIZATION AND MODELING OF CIRCUITS	A	VAMC	0	0	6	4	4	10	
108	SDC	SDP-1	23SDEE01E	VISUALIZATION AND MODELING OF CIRCUITS	E	VAMC	0	0	6	4	4	10	
109	SDC	SDP-1	23SDEE01R	VISUALIZATION AND MODELING OF CIRCUITS	R	VAMC	0	0	2	4	2	6	
110	SDC	SDP-1	23SDAD01A	DATA ANALYTICS AND VISUALIZATION	A	DAV	0	0	6	4	4	10	
111	SDC	SDP-1	23SDAD01E	DATA ANALYTICS AND VISUALIZATION	E	DAV	0	0	6	4	4	10	
112	SDC	SDP-1	23SDAD01R	DATA ANALYTICS AND VISUALIZATION	R	DAV	0	0	2	4	2	6	
113	SDC	SDP-1	23SDEC01A	ELECTRONIC SYSTEM DESIGN	A	ESD	0	0	6	4	4	10	
114	SDC	SDP-1	23SDEC01E	ELECTRONIC SYSTEM DESIGN	E	ESD	0	0	6	4	4	10	
115	SDC	SDP-1	23SDEC01R	ELECTRONIC SYSTEM DESIGN	R	ESD	0	0	2	4	2	6	
116	SDC	SDP-1	23SDIN01A	IOT HARDWARE PROGRAMMING	A	IOTHP	0	0	6	4	4	10	FITS(1) Rule:1
117	SDC	SDP-1	23SDIN01E	IOT HARDWARE PROGRAMMING	E	IOTHP	0	0	6	4	4	10	FITS(1) Rule:1
118	SDC	SDP-1	23SDIN01R	IOT HARDWARE PROGRAMMING	R	IOTHP	0	0	2	4	2	6	FITS(1) Rule:1
119	SDC	SDP-1	23SDME01A	VISUALIZATION AND MODELLING FOR ENGINEERING DESIGN	A	VMED	0	0	6	4	4	10	DBMS(1) Rule:1
120	SDC	SDP-1	23SDME01E	VISUALIZATION AND MODELLING FOR ENGINEERING DESIGN	E	VMED	0	0	6	4	4	10	DBMS(1) Rule:1
121	SDC	SDP-1	23SDME01R	VISUALIZATION AND MODELLING FOR ENGINEERING DESIGN	R	VMED	0	0	2	4	2	6	DBMS(1) Rule:1
122	SDC	SDP-1	23SDCS11A	LINUX ADMINISTRATION AND AUTOMATION	A	LAA	0	0	6	4	4	10	
123	SDC	SDP-1	23SDCS11E	LINUX ADMINISTRATION AND AUTOMATION	E	LAA	0	0	6	4	4	10	
124	SDC	SDP-1	23SDCS11R	LINUX ADMINISTRATION AND AUTOMATION	R	LAA	0	0	2	4	2	6	
125	SDC	SDP-2	23SDBT03A	BIO-INSTRUMENTATION	A	BI	0	0	6	4	4	10	

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126	SDC	SDP-2	23SDBT03E	BIO-INSTRUMENTATION	E	BI	0	0	6	4	4	10	
127	SDC	SDP-2	23SDBT03R	BIO-INSTRUMENTATION	R	BI	0	0	2	4	2	6	
128	SDC	SDP-2	23SDBT04A	PROCESS ENGINEERING TOOLS	A	PET	0	0	6	4	4	10	
129	SDC	SDP-2	23SDBT04R	PROCESS ENGINEERING TOOLS	R	PET	0	0	2	4	2	6	
130	SDC	SDP-2	23SDEE02A	EMBEDDED SYSTEM DESIGN WITH ARM	A	ESDA	0	0	6	4	4	10	
131	SDC	SDP-2	23SDEE02E	EMBEDDED SYSTEM DESIGN WITH ARM	E	ESDA	0	0	6	4	4	10	
132	SDC	SDP-2	23SDEE02R	EMBEDDED SYSTEM DESIGN WITH ARM	R	ESDA	0	0	2	4	2	6	
133	SDC	SDP-2	23SDIN03A	IOT FULL STACK DEVELOPMENT	A	IOTSDF	0	0	6	4	4	10	FITS(1) Rule:1
134	SDC	SDP-2	23SDIN03E	IOT FULL STACK DEVELOPMENT	E	IOTSDF	0	0	6	4	4	10	FITS(1) Rule:1
135	SDC	SDP-2	23SDIN03R	IOT FULL STACK DEVELOPMENT	R	IOTSDF	0	0	2	4	2	6	FITS(1) Rule:1
136	SDC	SDP-2	23SDEC02A	EMBEDDED SYSTEM AUTOMATION	A	ESDA	0	0	6	4	4	10	
137	SDC	SDP-2	23SDEC02E	EMBEDDED SYSTEM AUTOMATION	E	ESDA	0	0	6	4	4	10	
138	SDC	SDP-2	23SDEC02R	EMBEDDED SYSTEM AUTOMATION	R	ESDA	0	0	2	4	2	6	
139	SDC	SDP-2	23SDCE02A	BUILDING INFORMATION MODELLING	A	BIM	0	0	6	4	4	10	
140	SDC	SDP-2	23SDCE02E	BUILDING INFORMATION MODELLING	E	BIM	0	0	6	4	4	10	
141	SDC	SDP-2	23SDCE02R	BUILDING INFORMATION MODELLING	R	BIM	0	0	2	4	2	6	
142	SDC	SDP-2	23SDME02A	COMPUTER INTEGRATED MANUFACTURING	A	CIDM	0	0	6	4	4	10	DBMS(1) Rule:1
143	SDC	SDP-2	23SDME02E	COMPUTER INTEGRATED MANUFACTURING	E	CIDM	0	0	6	4	4	10	DBMS(1) Rule:1
144	SDC	SDP-2	23SDME02R	COMPUTER INTEGRATED MANUFACTURING	R	CIDM	0	0	2	4	2	6	DBMS(1) Rule:1
145	SDC	SDP-2	23SDCS12A	FULL STACK APPLICATION DEVELOPMENT	A	FSD	0	0	6	4	4	10	
146	SDC	SDP-2	23SDCS12E	FULL STACK APPLICATION DEVELOPMENT	E	FSD	0	0	6	4	4	10	
147	SDC	SDP-2	23SDCS12R	FULL STACK APPLICATION DEVELOPMENT	R	FSD	0	0	2	4	2	6	
148	SDC	SDP-3	23SDEC08A	PLANAR ANTENNA DESIGN	A	PAD	0	0	6	4	4	10	
149	SDC	SDP-3	23SDEC08E	PLANAR ANTENNA DESIGN	E	PAD	0	0	6	4	4	10	
150	SDC	SDP-3	23SDEC08R	PLANAR ANTENNA DESIGN	R	PAD	0	0	2	4	2	6	

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151	SDC	SDP-3	23SDEC09A	ROBOTICS AND AUTOMATION WITH WEBOTS	A	RAW	0	0	6	4	4	10	
152	SDC	SDP-3	23SDEC09E	ROBOTICS AND AUTOMATION WITH WEBOTS	E	RAW	0	0	6	4	4	10	
153	SDC	SDP-3	23SDEC09R	ROBOTICS AND AUTOMATION WITH WEBOTS	R	RAW	0	0	2	4	2	6	
154	SDC	SDP-3	23SDCE03A	ANALYSIS & DESIGN OF MULTI-STORIED STRUCTURES USING ETABS	A	ADMSS	0	0	6	4	4	10	
155	SDC	SDP-3	23SDCE03E	ANALYSIS & DESIGN OF MULTI-STORIED STRUCTURES USING ETABS	E	ADMSS	0	0	6	4	4	10	
156	SDC	SDP-3	23SDCE03R	ANALYSIS & DESIGN OF MULTI-STORIED STRUCTURES USING ETABS	R	ADMSS	0	0	2	4	2	6	
157	SDC	SDP-3	23SDEC10A	INTEGRATED SYSTEM DESIGN AUTOMATION	A	ISDA	0	0	6	4	4	10	
158	SDC	SDP-3	23SDEC10E	INTEGRATED SYSTEM DESIGN AUTOMATION	E	ISDA	0	0	6	4	4	10	
159	SDC	SDP-3	23SDEC10R	INTEGRATED SYSTEM DESIGN AUTOMATION	R	ISDA	0	0	2	4	2	6	
160	SDC	SDP-3	23SDCE04A	PLANNING AND SCHEDULING OF RESIDENTIAL BUILDING USING PRIMAVERA SOFTWARE	A	PSRBPS	0	0	6	4	4	10	
161	SDC	SDP-3	23SDCE04E	PLANNING AND SCHEDULING OF RESIDENTIAL BUILDING USING PRIMAVERA SOFTWARE	E	PSRBPS	0	0	6	4	4	10	
162	SDC	SDP-3	23SDCE04R	PLANNING AND SCHEDULING OF RESIDENTIAL BUILDING USING PRIMAVERA SOFTWARE	R	PSRBPS	0	0	2	4	2	6	
163	SDC	SDP-3	23SDEC05A	4G - LTE COMMUNICATION SYSTEMS	A	LCS	0	0	6	4	4	10	
164	SDC	SDP-3	23SDEC05E	4G - LTE COMMUNICATION SYSTEMS	E	LCS	0	0	6	4	4	10	
165	SDC	SDP-3	23SDEC05R	4G - LTE COMMUNICATION SYSTEMS	R	LCS	0	0	2	4	2	6	
166	SDC	SDP-3	23SDEC06A	EMBEDDED DESIGN	A	EBD	0	0	6	4	4	10	
167	SDC	SDP-3	23SDEC06E	EMBEDDED DESIGN	E	EBD	0	0	6	4	4	10	
168	SDC	SDP-3	23SDEC06R	EMBEDDED DESIGN	R	EBD	0	0	2	4	2	6	
169	SDC	SDP-3	23SDIN04A	CLOUD COMPUTING FOR IOT	A	IOTPD	0	0	6	4	4	10	FITS(1) Rule:1
170	SDC	SDP-3	23SDIN04E	CLOUD COMPUTING FOR IOT	E	IOTPD	0	0	6	4	4	10	FITS(1) Rule:1
171	SDC	SDP-3	23SDME03A	FINITE ELEMENT ANALYSIS	A	FEA	0	0	6	4	4	10	DBMS(1) Rule:1
172	SDC	SDP-3	23SDME03E	FINITE ELEMENT ANALYSIS	E	FEA	0	0	6	4	4	10	DBMS(1) Rule:1
173	SDC	SDP-3	23SDME03R	FINITE ELEMENT ANALYSIS	R	FEA	0	0	2	4	2	6	DBMS(1) Rule:1

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174	SDC	SDP-3	23SDAD10A	COMPUTER VISION USING OPENCV	A	CVOCV	0	0	6	4	4	10	
175	SDC	SDP-3	23SDAD10E	COMPUTER VISION USING OPENCV	E	CVOCV	0	0	6	4	4	10	
176	SDC	SDP-3	23SDAD10R	COMPUTER VISION USING OPENCV	R	CVOCV	0	0	2	4	2	6	
177	SDC	SDP-3	23SDEC07A	DEEP LEARNING WITH TENSORFLOW FRAMEWORK	A	DLTF	0	0	6	4	4	10	
178	SDC	SDP-3	23SDEC07E	DEEP LEARNING WITH TENSORFLOW FRAMEWORK	E	DLTF	0	0	6	4	4	10	
179	SDC	SDP-3	23SDEC07R	DEEP LEARNING WITH TENSORFLOW FRAMEWORK	R	DLTF	0	0	2	4	2	6	
180	SDC	SDP-3	23SDCS13A	CI/CD & CLOUD DEVOPS	A	CICD	0	0	6	4	4	10	
181	SDC	SDP-3	23SDCS13E	CI/CD & CLOUD DEVOPS	E	CICD	0	0	6	4	4	10	
182	SDC	SDP-3	23SDCS13R	CI/CD & CLOUD DEVOPS	R	CICD	0	0	2	4	2	6	
183	SDC	SDP-3	23SDEC04A	DESIGN OF NETWORKS USING NS-3	A	DNN	0	0	6	4	4	10	
184	SDC	SDP-3	23SDEC04E	DESIGN OF NETWORKS USING NS-3	E	DNN	0	0	6	4	4	10	
185	SDC	SDP-3	23SDEC04R	DESIGN OF NETWORKS USING NS-3	R	DNN	0	0	2	4	2	6	
186	SDC	SDP-3	23SDEE03A	AI TECHNIQUES FOR ELECTRICAL ENGINEERING	A	AITFEE	0	0	6	4	4	10	
187	SDC	SDP-3	23SDEE03E	AI TECHNIQUES FOR ELECTRICAL ENGINEERING	E	AITFEE	0	0	6	4	4	10	
188	SDC	SDP-3	23SDEE03R	AI TECHNIQUES FOR ELECTRICAL ENGINEERING	R	AITFEE	0	0	2	4	2	6	
189	SDC	SDP-3	23SDEC03A	BIOSENSOR SYSTEM DESIGN	A	BSD	0	0	6	4	4	10	
190	SDC	SDP-3	23SDEC03E	BIOSENSOR SYSTEM DESIGN	E	BSD	0	0	6	4	4	10	
191	SDC	SDP-3	23SDEC03R	BIOSENSOR SYSTEM DESIGN	R	BSD	0	0	2	4	2	6	
192	SDC	SDP-3	23SDBT05A	COMPUTER AIDED DRUG DESIGN	A	CADD	0	0	6	4	4	10	
193	SDC	SDP-3	23SDBT05E	COMPUTER AIDED DRUG DESIGN	E	CADD	0	0	6	4	4	10	
194	SDC	SDP-3	23SDBT05R	COMPUTER AIDED DRUG DESIGN	R	CADD	0	0	2	4	2	6	
195	SDC	SDP-3	23SDBT06A	GENOMICS DATA SCIENCE & CLUSTERING	A	CADD	0	0	6	4	4	10	
196	SDC	SDP-3	23SDBT06E	GENOMICS DATA SCIENCE & CLUSTERING	E	CADD	0	0	6	4	4	10	
197	SDC	SDP-3	23SDBT06R	GENOMICS DATA SCIENCE & CLUSTERING	R	CADD	0	0	2	4	2	6	
198	SDC	SDP-4	23SDBT08A	DRUG DESIGN: PRINCIPLES AND ENGINEERING	A	DDPE	0	0	6	4	4	10	
199	SDC	SDP-4	23SDBT08E	DRUG DESIGN: PRINCIPLES AND ENGINEERING	E	DDPE	0	0	6	4	4	10	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
200	SDC	SDP-4	23SDBT08R	DRUG DESIGN: PRINCIPLES AND ENGINEERING	R	DDPE	0	0	2	4	2	6	
201	SDC	SDP-4	23SDEC11A	BIOMEDICAL SYSTEM INTERFACING AND SIGNAL ANALYSIS	A	BSIS	0	0	6	4	4	10	AIML(1) Rule:1
202	SDC	SDP-4	23SDEC11E	BIOMEDICAL SYSTEM INTERFACING AND SIGNAL ANALYSIS	E	BSIS	0	0	6	4	4	10	AIML(1) Rule:1
203	SDC	SDP-4	23SDEC11R	BIOMEDICAL SYSTEM INTERFACING AND SIGNAL ANALYSIS	R	BSIS	0	0	2	4	2	6	AIML(1) Rule:1
204	SDC	SDP-4	23SDEC12A	NETWORK PROGRAMMABILITY AND AUTOMATION	A	NPA	0	0	6	4	4	10	
205	SDC	SDP-4	23SDEC12E	NETWORK PROGRAMMABILITY AND AUTOMATION	E	NPA	0	0	6	4	4	10	
206	SDC	SDP-4	23SDEC12R	NETWORK PROGRAMMABILITY AND AUTOMATION	R	NPA	0	0	2	4	2	6	
207	SDC	SDP-4	23SDCS04A	CLOUD BASED SOLUTIONS ARCHITECT	A	CBSA	0	0	6	4	4	10	
208	SDC	SDP-4	23SDCS04E	CLOUD BASED SOLUTIONS ARCHITECT	E	CBSA	0	0	6	4	4	10	
209	SDC	SDP-4	23SDCS04R	CLOUD BASED SOLUTIONS ARCHITECT	R	CBSA	0	0	2	4	2	6	
210	SDC	SDP-4	23SDBT07A	ASPECTS OF BIOCHEMICAL ENGINEERING	A	ABCE	0	0	6	4	4	10	
211	SDC	SDP-4	23SDBT07E	ASPECTS OF BIOCHEMICAL ENGINEERING	E	ABCE	0	0	6	4	4	10	
212	SDC	SDP-4	23SDBT07R	ASPECTS OF BIOCHEMICAL ENGINEERING	R	ABCE	0	0	2	4	2	6	
213	SDC	SDP-4	23SDBT04E	PROCESS ENGINEERING TOOLS	E	PET	0	0	6	4	4	10	
214	SDC	SDP-4	23SDCS07A	CLOUD BASED AI/ML SPECIALITY	A	CBAIMLS	0	0	6	4	4	10	
215	SDC	SDP-4	23SDCS07E	CLOUD BASED AI/ML SPECIALITY	E	CBAIMLS	0	0	6	4	4	10	
216	SDC	SDP-4	23SDCS07R	CLOUD BASED AI/ML SPECIALITY	R	CBAIMLS	0	0	2	4	2	6	
217	SDC	SDP-4	23SDEC15A	NATURAL LANGUAGE PROCESSING USING TENSOR FLOW	A	NLPTF	0	0	6	4	4	10	
218	SDC	SDP-4	23SDEC15E	NATURAL LANGUAGE PROCESSING USING TENSOR FLOW	E	NLPTF	0	0	6	4	4	10	
219	SDC	SDP-4	23SDEC15R	NATURAL LANGUAGE PROCESSING USING TENSOR FLOW	R	NLPTF	0	0	2	4	2	6	
220	SDC	SDP-4	23SDME04A	ANALYSIS OF ENERGY SYSTEMS	A	AES	0	0	6	4	4	10	DBMS(1) Rule:1
221	SDC	SDP-4	23SDME04E	ANALYSIS OF ENERGY SYSTEMS	E	AES	0	0	6	4	4	10	DBMS(1) Rule:1
222	SDC	SDP-4	23SDME04R	ANALYSIS OF ENERGY SYSTEMS	R	AES	0	0	2	4	2	6	DBMS(1) Rule:1

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223	SDC	SDP-4	23SDME05A	3D MODELLING AND DIGITAL PROTOTYPING	A	3DMDP	0	0	6	4	4	10	DBMS(1) Rule:1
224	SDC	SDP-4	23SDME05E	3D MODELLING AND DIGITAL PROTOTYPING	E	3DMDP	0	0	6	4	4	10	DBMS(1) Rule:1
225	SDC	SDP-4	23SDME05R	3D MODELLING AND DIGITAL PROTOTYPING	R	3DMDP	0	0	2	4	2	6	DBMS(1) Rule:1
226	SDC	SDP-4	23SDCI04A	ADVANCED ANDROID MOBILE APPLICATION WITH CLOUD-BASED WEB SERVICES	A	AAMA	0	0	6	4	4	10	
227	SDC	SDP-4	23SDCI04E	ADVANCED ANDROID MOBILE APPLICATION WITH CLOUD-BASED WEB SERVICES	E	AAMA	0	0	6	4	4	10	
228	SDC	SDP-4	23SDCI04R	ADVANCED ANDROID MOBILE APPLICATION WITH CLOUD-BASED WEB SERVICES	R	AAMA	0	0	2	4	2	6	
229	SDC	SDP-4	23SDCS10A	IT VENTURE MANAGEMENT	A	ITVM	0	0	6	4	4	10	
230	SDC	SDP-4	23SDCS10E	IT VENTURE MANAGEMENT	E	ITVM	0	0	6	4	4	10	
231	SDC	SDP-4	23SDCS10R	IT VENTURE MANAGEMENT	R	ITVM	0	0	2	4	2	6	
232	SDC	SDP-4	23SDIN05A	IOT ANALYTICS FOR THE CLOUD	A	IOTAC	0	0	6	4	4	10	FITS(1) Rule:1
233	SDC	SDP-4	23SDIN05E	IOT ANALYTICS FOR THE CLOUD	E	IOTAC	0	0	6	4	4	10	FITS(1) Rule:1
234	SDC	SDP-4	23SDIN05R	IOT ANALYTICS FOR THE CLOUD	R	IOTAC	0	0	2	4	2	6	FITS(1) Rule:1
235	SDC	SDP-4	23SDIN06A	EMBEDDED AND IOT ROGRAMMING	A	IOTHP	0	0	6	4	4	10	FITS(1) Rule:1
236	SDC	SDP-4	23SDIN06E	EMBEDDED AND IOT ROGRAMMING	E	IOTHP	0	0	6	4	4	10	FITS(1) Rule:1
237	SDC	SDP-4	23SDIN06R	EMBEDDED AND IOT ROGRAMMING	R	IOTHP	0	0	2	4	2	6	FITS(1) Rule:1
238	SDC	SDP-4	23SDEC14A	EMBEDDED PROTOTYPE	A	EPT	0	0	6	4	4	10	
239	SDC	SDP-4	23SDEC14E	EMBEDDED PROTOTYPE	E	EPT	0	0	6	4	4	10	
240	SDC	SDP-4	23SDEC14R	EMBEDDED PROTOTYPE	R	EPT	0	0	2	4	2	6	
241	SDC	SDP-4	23SDEC13A	5G PRIVATE AND INDUSTRIAL AUTOMATION NETWORKS	A	5PIA	0	0	6	4	4	10	
242	SDC	SDP-4	23SDEC13E	5G PRIVATE AND INDUSTRIAL AUTOMATION NETWORKS	E	5PIA	0	0	6	4	4	10	
243	SDC	SDP-4	23SDEC13R	5G PRIVATE AND INDUSTRIAL AUTOMATION NETWORKS	R	5PIA	0	0	2	4	2	6	
244	SDC	SDP-4	23SDCS05A	CLOUD BASED SECURITY SPECIALITY	A	CBSS	0	0	6	4	4	10	
245	SDC	SDP-4	23SDCS05E	CLOUD BASED SECURITY SPECIALITY	E	CBSS	0	0	6	4	4	10	

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246	SDC	SDP-4	23SDCS05R	CLOUD BASED SECURITY SPECIALITY	R	CBSS	0	0	2	4	2	6	
247	SDC	SDP-4	23SDAD06A	ANALYSIS OF DIGITAL MARKETING	A	ADM	0	0	6	4	4	10	
248	SDC	SDP-4	23SDAD06E	ANALYSIS OF DIGITAL MARKETING	E	ADM	0	0	6	4	4	10	
249	SDC	SDP-4	23SDAD06R	ANALYSIS OF DIGITAL MARKETING	R	ADM	0	0	2	4	2	6	
250	SDC	SDP-4	23SDCS08A	CLOUD BASED DATA ANALYTICS SPECIALITY	A	CBDAS	0	0	6	4	4	10	
251	SDC	SDP-4	23SDCS08E	CLOUD BASED DATA ANALYTICS SPECIALITY	E	CBDAS	0	0	6	4	4	10	
252	SDC	SDP-4	23SDCS08R	CLOUD BASED DATA ANALYTICS SPECIALITY	R	CBDAS	0	0	2	4	2	6	
253	SDC	SDP-4	23SDEC18A	VLSI SUBMICRON DESIGN AND VERIFICATION	A	VSDV	0	0	6	4	4	10	
254	SDC	SDP-4	23SDEC18E	VLSI SUBMICRON DESIGN AND VERIFICATION	E	VSDV	0	0	6	4	4	10	
255	SDC	SDP-4	23SDEC18R	VLSI SUBMICRON DESIGN AND VERIFICATION	R	VSDV	0	0	2	4	2	6	
256	SDC	SDP-4	23SDCE06A	DESIGN & ANALYSIS OF DIFFERENT STRUCTURAL COMPONENTS USING SAFE	A	SAFE	0	0	6	4	4	10	
257	SDC	SDP-4	23SDCE06E	DESIGN & ANALYSIS OF DIFFERENT STRUCTURAL COMPONENTS USING SAFE	E	SAFE	0	0	6	4	4	10	
258	SDC	SDP-4	23SDCE06R	DESIGN & ANALYSIS OF DIFFERENT STRUCTURAL COMPONENTS USING SAFE	R	SAFE	0	0	2	4	2	6	
259	SDC	SDP-4	23SDEE06A	EVT HARDWARE PROTOTYPING	A	EVTHP	0	0	6	4	4	10	
260	SDC	SDP-4	23SDEE06E	EVT HARDWARE PROTOTYPING	E	EVTHP	0	0	6	4	4	10	
261	SDC	SDP-4	23SDEE06R	EVT HARDWARE PROTOTYPING	R	EVTHP	0	0	2	4	2	6	
262	SDC	SDP-4	23SDCI05A	CLOUD DEVOPS	A	CDP	0	0	6	4	4	10	
263	SDC	SDP-4	23SDCI05E	CLOUD DEVOPS	E	CDP	0	0	6	4	4	10	
264	SDC	SDP-4	23SDCI05R	CLOUD DEVOPS	R	CDP	0	0	2	4	2	6	
265	SDC	SDP-4	23SDCE07A	ARC-GIS (PRO)	A	ARC	0	0	6	4	4	10	
266	SDC	SDP-4	23SDCE07E	ARC-GIS (PRO)	E	ARC	0	0	6	4	4	10	
267	SDC	SDP-4	23SDCE07R	ARC-GIS (PRO)	R	ARC	0	0	2	4	2	6	
268	SDC	SDP-4	23SDAD08A	EMERGING BLOCKCHAIN MODELS FOR DIGITAL CURRENCIES	A	EBCMDC	0	0	6	4	4	10	
269	SDC	SDP-4	23SDAD08E	EMERGING BLOCKCHAIN MODELS FOR DIGITAL CURRENCIES	E	EBCMDC	0	0	6	4	4	10	

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270	SDC	SDP-4	23SDAD08R	EMERGING BLOCKCHAIN MODELS FOR DIGITAL CURRENCIES	R	EBCMDC	0	0	2	4	2	6	
271	SDC	SDP-4	23SDAD09A	AUTONOMOUS VEHICLE SYSTEMS	A	AVS	0	0	6	4	4	10	
272	SDC	SDP-4	23SDAD09E	AUTONOMOUS VEHICLE SYSTEMS	E	AVS	0	0	6	4	4	10	
273	SDC	SDP-4	23SDAD09R	AUTONOMOUS VEHICLE SYSTEMS	R	AVS	0	0	2	4	2	6	
274	SDC	SDP-4	23SDCS14A	CLOUD ARCHITECTURES FOR SCIENTIFIC WORKLOADS	A	CASW	0	0	6	4	4	10	
275	SDC	SDP-4	23SDCS14E	CLOUD ARCHITECTURES FOR SCIENTIFIC WORKLOADS	E	CASW	0	0	6	4	4	10	
276	SDC	SDP-4	23SDCS14R	CLOUD ARCHITECTURES FOR SCIENTIFIC WORKLOADS	R	CASW	0	0	2	4	2	6	
277	SDC	SDP-4	23SDCS15A	SOFTWARE DESIGN WITH CLOUD NATIVE COMPUTING	A	SDCNC	0	0	6	4	4	10	
278	SDC	SDP-4	23SDCS15E	SOFTWARE DESIGN WITH CLOUD NATIVE COMPUTING	E	SDCNC	0	0	6	4	4	10	
279	SDC	SDP-4	23SDCS15R	SOFTWARE DESIGN WITH CLOUD NATIVE COMPUTING	R	SDCNC	0	0	2	4	2	6	
280	SDC	SDP-4	23SDCS16A	CLOUD INFRASTRUCTURE DESIGN	A	CISD	0	0	6	4	4	10	
281	SDC	SDP-4	23SDCS16E	CLOUD INFRASTRUCTURE DESIGN	E	CISD	0	0	6	4	4	10	
282	SDC	SDP-4	23SDCS16R	CLOUD INFRASTRUCTURE DESIGN	R	CISD	0	0	2	4	2	6	
283	SDC	SDP-4	23SDCS17A	GENERATIVE ADVERSARIAL NETWORKS FOR IMAGES	A	GANI	0	0	6	4	4	10	
284	SDC	SDP-4	23SDCS17E	GENERATIVE ADVERSARIAL NETWORKS FOR IMAGES	E	GANI	0	0	6	4	4	10	
285	SDC	SDP-4	23SDCS17R	GENERATIVE ADVERSARIAL NETWORKS FOR IMAGES	R	GANI	0	0	2	4	2	6	
286	SDC	SDP-4	23SDCS18A	TEXT ANALYTICS	A	TAT	0	0	6	4	4	10	
287	SDC	SDP-4	23SDCS18E	TEXT ANALYTICS	E	TAT	0	0	6	4	4	10	
288	SDC	SDP-4	23SDCS18R	TEXT ANALYTICS	R	TAT	0	0	2	4	2	6	
289	SDC	SDP-4	23SDCS19A	VISUAL RECOGNITION AND SCENE UNDERSTANDING	A	VRSU	0	0	6	4	4	10	
290	SDC	SDP-4	23SDCS19E	VISUAL RECOGNITION AND SCENE UNDERSTANDING	E	VRSU	0	0	6	4	4	10	
291	SDC	SDP-4	23SDCS19R	VISUAL RECOGNITION AND SCENE UNDERSTANDING	R	VRSU	0	0	2	4	2	6	
292	SDC	SDP-4	23SDCS20A	SMART IOT AND SENSOR NETWORKS	A	SISN	0	0	6	4	4	10	FITS(1) Rule:1
293	SDC	SDP-4	23SDCS20E	SMART IOT AND SENSOR NETWORKS	E	SISN	0	0	6	4	4	10	FITS(1) Rule:1
294	SDC	SDP-4	23SDCS20R	SMART IOT AND SENSOR NETWORKS	R	SISN	0	0	2	4	2	6	FITS(1) Rule:1

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295	SDC	SDP-4	23SDAD11A	AI-DRIVEN DATA ENGINEERING	A	ADDE	0	0	6	4	4	10	
296	SDC	SDP-4	23SDAD11E	AI-DRIVEN DATA ENGINEERING	E	ADDE	0	0	6	4	4	10	
297	SDC	SDP-4	23SDAD11R	AI-DRIVEN DATA ENGINEERING	R	ADDE	0	0	2	4	2	6	
298	SDC	SDP-4	23SDEC17A	ROBOT DESIGN AND ANALYSIS	A	RDA	0	0	6	4	4	10	
299	SDC	SDP-4	23SDEC17E	ROBOT DESIGN AND ANALYSIS	E	RDA	0	0	6	4	4	10	
300	SDC	SDP-4	23SDEC17R	ROBOT DESIGN AND ANALYSIS	R	RDA	0	0	2	4	2	6	
301	SDC	SDP-4	23SDEE07A	IA HARDWARE PROTOTYPING	A	IAHP	0	0	6	4	4	10	
302	SDC	SDP-4	23SDEE07E	IA HARDWARE PROTOTYPING	E	IAHP	0	0	6	4	4	10	
303	SDC	SDP-4	23SDEE07R	IA HARDWARE PROTOTYPING	R	IAHP	0	0	2	4	2	6	
304	SDC	SDP-4	23SDEC16A	ADVANCED RADIATING SYSTEM MODELING	A	ARSM	0	0	6	4	4	10	
305	SDC	SDP-4	23SDEC16E	ADVANCED RADIATING SYSTEM MODELING	E	ARSM	0	0	6	4	4	10	
306	SDC	SDP-4	23SDEC16R	ADVANCED RADIATING SYSTEM MODELING	R	ARSM	0	0	2	4	2	6	
307	SDC	SDP-4	23SDEE04A	AI & ML FOR SMART GRIDS	A	AIMLSG	0	0	6	4	4	10	
308	SDC	SDP-4	23SDEE04E	AI & ML FOR SMART GRIDS	E	AIMLSG	0	0	6	4	4	10	
309	SDC	SDP-4	23SDEE04R	AI & ML FOR SMART GRIDS	R	AIMLSG	0	0	2	4	2	6	
310	SDC	SDP-4	23SDME06A	GEOMETRIC DIMENSIONING AND TOLERANCING	A	G DAT	0	0	6	4	4	10	FOR(1) Rule:1
311	SDC	SDP-4	23SDME06E	GEOMETRIC DIMENSIONING AND TOLERANCING	E	G DAT	0	0	6	4	4	10	FOR(1) Rule:1
312	SDC	SDP-4	23SDME06R	GEOMETRIC DIMENSIONING AND TOLERANCING	R	G DAT	0	0	2	4	2	6	FOR(1) Rule:1
313	SDC	SDP-4	23SDCS06A	CERTIFIED GAME DEVELOPER	A	CGD	0	0	6	4	4	10	
314	SDC	SDP-4	23SDCS06E	CERTIFIED GAME DEVELOPER	E	CGD	0	0	6	4	4	10	
315	SDC	SDP-4	23SDCS06R	CERTIFIED GAME DEVELOPER	R	CGD	0	0	2	4	2	6	
316	SDC	SDP-4	23SDCE05A	DESIGN OF THE PAVEMENT BY USING MX ROADS	A	DPMX	0	0	6	4	4	10	
317	SDC	SDP-4	23SDCE05E	DESIGN OF THE PAVEMENT BY USING MX ROADS	E	DPMX	0	0	6	4	4	10	
318	SDC	SDP-4	23SDCE05R	DESIGN OF THE PAVEMENT BY USING MX ROADS	R	DPMX	0	0	2	4	2	6	
319	SDC	SDP-4	23SDBT09A	CELL CULTURE TECHNOLOGIES	A	CCT	0	0	6	4	4	10	
320	SDC	SDP-4	23SDBT09E	CELL CULTURE TECHNOLOGIES	E	CCT	0	0	6	4	4	10	
321	SDC	SDP-4	23SDBT09R	CELL CULTURE TECHNOLOGIES	R	CCT	0	0	2	4	2	6	

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322	SDC	SDP-4	23SDBT10A	MASS SPECTROMETRY BASED PROTEOMICS	A	MSBP	0	0	6	4	4	10	AIML(1) Rule:1
323	SDC	SDP-4	23SDBT10E	MASS SPECTROMETRY BASED PROTEOMICS	E	MSBP	0	0	6	4	4	10	AIML(1) Rule:1
324	SDC	SDP-4	23SDBT10R	MASS SPECTROMETRY BASED PROTEOMICS	R	MSBP	0	0	2	4	2	6	AIML(1) Rule:1
325	SDC	SDP-4	23SDBT11A	ANIMAL PHYSIOLOGY	A	AP	0	0	6	4	4	10	
326	SDC	SDP-4	23SDBT11E	ANIMAL PHYSIOLOGY	E	AP	0	0	6	4	4	10	
327	SDC	SDP-4	23SDBT11R	ANIMAL PHYSIOLOGY	R	AP	0	0	2	4	2	6	
328	SDC	SDP-4	23SDEE05A	MODELING AND SIMULATION OF GREEN ENERGY SYSTEMS	A	GML	0	0	6	4	4	10	
329	SDC	SDP-4	23SDEE05E	MODELING AND SIMULATION OF GREEN ENERGY SYSTEMS	E	GML	0	0	6	4	4	10	
330	SDC	SDP-4	23SDEE05R	MODELING AND SIMULATION OF GREEN ENERGY SYSTEMS	R	GML	0	0	2	4	2	6	
331	SDC	SDP-4	23SDCS21	HARDWARE SOFTWARE CODESIGN IMPLEMENTATION FOR SECURITY SPECILAITY	A	HSCISS	0	0	6	4	4	10	DNA(1) Rule:1
332	SDC	SDP-4	23SDCS21	HARDWARE SOFTWARE CODESIGN IMPLEMENTATION FOR SECURITY SPECILAITY	E	HSCISS	0	0	6	4	4	10	DNA(1) Rule:1
333	SDC	SDP-4	23SDCS21	HARDWARE SOFTWARE CODESIGN IMPLEMENTATION FOR SECURITY SPECILAITY	R	HSCISS	0	0	2	4	2	6	DNA(1) Rule:1
334	PEC	PE-1	23ASS3102A	AI AND CONTROLS FOR AUTONOMUS FUTURE VEHICLE	A	AICAFT	4	0	4	4	7	12	
335	PEC	PE-1	23ASS3102E	AI AND CONTROLS FOR AUTONOMUS FUTURE VEHICLE	E	AICAFT	4	0	4	4	7	12	
336	PEC	PE-1	23ASS3102R	AI AND CONTROLS FOR AUTONOMUS FUTURE VEHICLE	R	AICAFT	3	0	2	4	5	9	
337	PEC	PE-1	23RFM3101A	MICROWAVE ENGINEERING	A	ME	4	0	4	4	7	12	
338	PEC	PE-1	23RFM3101E	MICROWAVE ENGINEERING	E	ME	4	0	4	4	7	12	
339	PEC	PE-1	23RFM3101R	MICROWAVE ENGINEERING	R	ME	3	0	2	4	5	9	
340	PEC	PE-1	23GEG3101A	MOLECULAR GENETICS	A	MG	4	0	4	4	7	12	GN(1) Rule:1
341	PEC	PE-1	23GEG3101E	MOLECULAR GENETICS	E	MG	4	0	4	4	7	12	GN(1) Rule:1
342	PEC	PE-1	23GEG3101R	MOLECULAR GENETICS	R	MG	3	0	2	4	5	9	GN(1) Rule:1
343	PEC	PE-1	23MBT3101A	STEM CELL TECHNOLOGY	A	SCT	4	0	4	4	7	12	
344	PEC	PE-1	23MBT3101E	STEM CELL TECHNOLOGY	E	SCT	4	0	4	4	7	12	

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345	PEC	PE-1	23MBT3101R	STEM CELL TECHNOLOGY	R	SCT	3	0	2	4	5	9	
346	PEC	PE-1	23GET3101A	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	A	SPMET	4	0	4	4	7	12	
347	PEC	PE-1	23GET3101E	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	E	SPMET	4	0	4	4	7	12	
348	PEC	PE-1	23GET3101R	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	R	SPMET	3	0	2	4	5	9	
349	PEC	PE-1	23GTE3101A	ADVANCED FOUNDATION ENGINEERING	A	AFE	4	0	4	4	7	12	
350	PEC	PE-1	23GTE3101E	ADVANCED FOUNDATION ENGINEERING	E	AFE	4	0	4	4	7	12	
351	PEC	PE-1	23GTE3101R	ADVANCED FOUNDATION ENGINEERING	R	AFE	3	0	2	4	5	9	
352	PEC	PE-1	23GDU3101A	PROGRAMMING FOR GAME DEVELOPMENT	A	PGD	4	0	4	4	7	12	CTSD(1) Rule:1
353	PEC	PE-1	23GDU3101E	PROGRAMMING FOR GAME DEVELOPMENT	E	PGD	4	0	4	4	7	12	CTSD(1) Rule:1
354	PEC	PE-1	23GDU3101R	PROGRAMMING FOR GAME DEVELOPMENT	R	PGD	3	0	2	4	5	9	CTSD(1) Rule:1
355	PEC	PE-1	23SCI3101A	SPATIAL DATA VISUALIZATION	A	SDV	4	0	4	4	7	12	
356	PEC	PE-1	23SCI3101E	SPATIAL DATA VISUALIZATION	E	SDV	4	0	4	4	7	12	
357	PEC	PE-1	23SCI3101R	SPATIAL DATA VISUALIZATION	R	SDV	3	0	2	4	5	9	
358	PEC	PE-1	23SMF3101A	REVERSE ENGINEERING & RAPID PROTOTYPING	A	MMC	4	0	4	4	7	12	MSM(1) Rule:1
359	PEC	PE-1	23SMF3101E	REVERSE ENGINEERING & RAPID PROTOTYPING	E	MMC	4	0	4	4	7	12	MSM(1) Rule:1
360	PEC	PE-1	23SMF3101R	REVERSE ENGINEERING & RAPID PROTOTYPING	R	MMC	3	0	2	4	5	9	MSM(1) Rule:1
361	PEC	PE-1	23AEA3101A	AUTOMOTIVE SENSOR AND APPLICATIONS	A	ASA	4	0	4	4	7	12	
362	PEC	PE-1	23AEA3101E	AUTOMOTIVE SENSOR AND APPLICATIONS	E	ASA	4	0	4	4	7	12	
363	PEC	PE-1	23AEA3101R	AUTOMOTIVE SENSOR AND APPLICATIONS	R	ASA	3	0	2	4	5	9	
364	PEC	PE-1	23ASS3101A	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	A	ADAS	4	0	4	4	7	12	AIML(1) Rule:1
365	PEC	PE-1	23ASS3101E	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	E	ADAS	4	0	4	4	7	12	AIML(1) Rule:1
366	PEC	PE-1	23ASS3101R	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	R	ADAS	3	0	2	4	5	9	AIML(1) Rule:1
367	PEC	PE-1	23EME3101A	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	A	PTDEV	4	0	4	4	7	12	

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368	PEC	PE-1	23EME3101E	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	E	PTDEV	4	0	4	4	7	12	
369	PEC	PE-1	23EME3101R	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	R	PTDEV	3	0	2	4	5	9	
370	PEC	PE-1	23SGT3101A	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	A	DERSG	4	0	4	4	7	12	EPE(1) Rule:1
371	PEC	PE-1	23SGT3101E	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	E	DERSG	4	0	4	4	7	12	EPE(1) Rule:1
372	PEC	PE-1	23SGT3101R	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	R	DERSG	3	0	2	4	5	9	EPE(1) Rule:1
373	PEC	PE-1	23RAN3101A	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	A	RMPDC	4	0	4	4	7	12	FOR(1) Rule:1
374	PEC	PE-1	23RAN3101E	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	E	RMPDC	4	0	4	4	7	12	FOR(1) Rule:1
375	PEC	PE-1	23RAN3101R	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	R	RMPDC	3	0	2	4	5	9	FOR(1) Rule:1
376	PEC	PE-1	23RAN3102A	AUTONOMOUS MOBILE ROBOT SYSTEMS	A	AMRS	4	0	4	4	7	12	FOR(1) Rule:1
377	PEC	PE-1	23RAN3102E	AUTONOMOUS MOBILE ROBOT SYSTEMS	E	AMRS	4	0	4	4	7	12	FOR(1) Rule:1
378	PEC	PE-1	23RAN3102R	AUTONOMOUS MOBILE ROBOT SYSTEMS	R	AMRS	3	0	2	4	5	9	FOR(1) Rule:1
379	PEC	PE-1	23DEA3101A	FUNDAMENTALS OF DATA ENGINEERING	A	FDE	4	0	4	4	7	12	DBMS(1) Rule:1
380	PEC	PE-1	23DEA3101E	FUNDAMENTALS OF DATA ENGINEERING	E	FDE	4	0	4	4	7	12	DBMS(1) Rule:1
381	PEC	PE-1	23DEA3101R	FUNDAMENTALS OF DATA ENGINEERING	R	FDE	3	0	2	4	5	9	DBMS(1) Rule:1
382	PEC	PE-1	23AIP3101A	DEEP LEARNING	A	DL	4	0	4	4	7	12	
383	PEC	PE-1	23AIP3101E	DEEP LEARNING	E	DL	4	0	4	4	7	12	
384	PEC	PE-1	23AIP3101R	DEEP LEARNING	R	DL	3	0	2	4	5	9	
385	PEC	PE-1	23WRE3101A	RIVER ENGINEERING	A	RE	4	0	4	4	7	12	
386	PEC	PE-1	23WRE3101E	RIVER ENGINEERING	E	RE	4	0	4	4	7	12	
387	PEC	PE-1	23WRE3101R	RIVER ENGINEERING	R	RE	3	0	2	4	5	9	
388	PEC	PE-1	23SMD3101A	SOFTWARE VERIFICATION & VALIDATION	A	SVV	4	0	4	4	7	12	
389	PEC	PE-1	23SMD3101E	SOFTWARE VERIFICATION & VALIDATION	E	SVV	4	0	4	4	7	12	
390	PEC	PE-1	23SMD3101R	SOFTWARE VERIFICATION & VALIDATION	R	SVV	3	0	2	4	5	9	
391	PEC	PE-1	23STE3101A	ADVANCED CONCRETE TECHNOLOGY	A	ACT	4	0	4	4	7	12	

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392	PEC	PE-1	23STE3101E	ADVANCED CONCRETE TECHNOLOGY	E	ACT	4	0	4	4	7	12	
393	PEC	PE-1	23STE3101R	ADVANCED CONCRETE TECHNOLOGY	R	ACT	3	0	2	4	5	9	
394	PEC	PE-1	23VLS3101A	ANALOG VLSI DESIGN	A	AVD	4	0	4	4	7	12	
395	PEC	PE-1	23VLS3101E	ANALOG VLSI DESIGN	E	AVD	4	0	4	4	7	12	
396	PEC	PE-1	23VLS3101R	ANALOG VLSI DESIGN	R	AVD	3	0	2	4	5	9	
397	PEC	PE-1	23SDM3101A	SENTIMENT ANALYSIS	A	SA	4	0	4	4	7	12	DBMS(1) Rule:1
398	PEC	PE-1	23SDM3101E	SENTIMENT ANALYSIS	E	SA	4	0	4	4	7	12	DBMS(1) Rule:1
399	PEC	PE-1	23SDM3101R	SENTIMENT ANALYSIS	R	SA	3	0	2	4	5	9	DBMS(1) Rule:1
400	PEC	PE-1	23DSB3101A	DATA ANALYTICS AND VISUALIZATION	A	DAV	4	0	4	4	7	12	DBMS(1) Rule:1
401	PEC	PE-1	23DSB3101E	DATA ANALYTICS AND VISUALIZATION	E	DAV	4	0	4	4	7	12	DBMS(1) Rule:1
402	PEC	PE-1	23DSB3101R	DATA ANALYTICS AND VISUALIZATION	R	DAV	3	0	2	4	5	9	DBMS(1) Rule:1
403	PEC	PE-1	23DCS3101A	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	A	4GW	4	0	4	4	7	12	WC(1) Rule:1
404	PEC	PE-1	23DCS3101E	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	E	4GW	4	0	4	4	7	12	WC(1) Rule:1
405	PEC	PE-1	23DCS3101R	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	R	4GW	3	0	2	4	5	9	WC(1) Rule:1
406	PEC	PE-1	23BEW3101A	INTRODUCTION TO BLOCKCHAIN TECHNOLOGY, CRYPTOCURRENCIES AND TOKENS	A	ITBTCT	4	0	4	4	7	12	
407	PEC	PE-1	23BEW3101E	INTRODUCTION TO BLOCKCHAIN TECHNOLOGY, CRYPTOCURRENCIES AND TOKENS	E	ITBTCT	4	0	4	4	7	12	
408	PEC	PE-1	23BEW3101R	INTRODUCTION TO BLOCKCHAIN TECHNOLOGY, CRYPTOCURRENCIES AND TOKENS	R	ITBTCT	3	0	2	4	5	9	
409	PEC	PE-1	23CNS3101A	INTRODUCTION TO CLOUD NATIVE COMPUTING	A	ITCNC	4	0	4	4	7	12	OS(1) Rule:1
410	PEC	PE-1	23CNS3101E	INTRODUCTION TO CLOUD NATIVE COMPUTING	E	ITCNC	4	0	4	4	7	12	OS(1) Rule:1
411	PEC	PE-1	23CNS3101R	INTRODUCTION TO CLOUD NATIVE COMPUTING	R	ITCNC	3	0	2	4	5	9	OS(1) Rule:1
412	PEC	PE-1	23CSB3101A	CRYPT ANALYSIS & CYBER DEFENSE	A	CACD	4	0	4	4	7	12	
413	PEC	PE-1	23CSB3101E	CRYPT ANALYSIS & CYBER DEFENSE	E	CACD	4	0	4	4	7	12	
414	PEC	PE-1	23CSB3101R	CRYPT ANALYSIS & CYBER DEFENSE	R	CACD	3	0	2	4	5	9	

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415	PEC	PE-1	23DLA3101A	SYSTEM & NETWORK TRAFFIC SECURITY ANALYTICS	A	SNTSA	4	0	4	4	7	12	DBMS(1) Rule:1
416	PEC	PE-1	23DLA3101E	SYSTEM & NETWORK TRAFFIC SECURITY ANALYTICS	E	SNTSA	4	0	4	4	7	12	DBMS(1) Rule:1
417	PEC	PE-1	23DLA3101R	SYSTEM & NETWORK TRAFFIC SECURITY ANALYTICS	R	SNTSA	3	0	2	4	5	9	DBMS(1) Rule:1
418	PEC	PE-1	23IOT3101A	INDUSTRIAL INTERNET OF THINGS	A	IIOT	4	0	4	4	7	12	FITS(1) Rule:1
419	PEC	PE-1	23IOT3101E	INDUSTRIAL INTERNET OF THINGS	E	IIOT	4	0	4	4	7	12	FITS(1) Rule:1
420	PEC	PE-1	23IOT3101R	INDUSTRIAL INTERNET OF THINGS	R	IIOT	3	0	2	4	5	9	FITS(1) Rule:1
421	PEC	PE-1	23IMP3101A	NATURAL LANGUAGE PROCESSING & APPLICATIONS	A	NLPA	4	0	4	4	7	12	DNA(1) Rule:1
422	PEC	PE-1	23IMP3101E	NATURAL LANGUAGE PROCESSING & APPLICATIONS	E	NLPA	4	0	4	4	7	12	DNA(1) Rule:1
423	PEC	PE-1	23IMP3101R	NATURAL LANGUAGE PROCESSING & APPLICATIONS	R	NLPA	3	0	2	4	5	9	DNA(1) Rule:1
424	PEC	PE-1	23EDS3101A	ADVANCED EMBEDDED SYSTEMS	A	AES	4	0	4	4	7	12	
425	PEC	PE-1	23EDS3101E	ADVANCED EMBEDDED SYSTEMS	E	AES	4	0	4	4	7	12	
426	PEC	PE-1	23EDS3101R	ADVANCED EMBEDDED SYSTEMS	R	AES	3	0	2	4	5	9	
427	PEC	PE-1	23ILA3101A	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	A	IIIoT	4	0	4	4	7	12	ELM(1) Rule:1
428	PEC	PE-1	23ILA3101E	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	E	IIIoT	4	0	4	4	7	12	ELM(1) Rule:1
429	PEC	PE-1	23ILA3101R	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	R	IIIoT	3	0	2	4	5	9	ELM(1) Rule:1
430	PEC	PE-1	23CPS3101A	IOT SENSING AND ACTUATING DEVICES	A	ISAD	4	0	4	4	7	12	FITS(1) Rule:1
431	PEC	PE-1	23CPS3101E	IOT SENSING AND ACTUATING DEVICES	E	ISAD	4	0	4	4	7	12	FITS(1) Rule:1
432	PEC	PE-1	23CPS3101R	IOT SENSING AND ACTUATING DEVICES	R	ISAD	3	0	2	4	5	9	FITS(1) Rule:1
433	PEC	PE-1	23CPD3101A	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	A	FMAD	4	0	4	4	7	12	
434	PEC	PE-1	23CPD3101E	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	E	FMAD	4	0	4	4	7	12	
435	PEC	PE-1	23CPD3101R	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	R	FMAD	3	0	2	4	5	9	
436	PEC	PE-1	23EGD3101A	MODELING ANALYSIS & DESIGN OF ROBOTIC SYSTEMS	A	MADRS	4	0	4	4	7	12	EM(1) Rule:1
437	PEC	PE-1	23EGD3101E	MODELING ANALYSIS & DESIGN OF ROBOTIC SYSTEMS	E	MADRS	4	0	4	4	7	12	EM(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
438	PEC	PE-1	23EGD3101R	MODELING ANALYSIS & DESIGN OF ROBOTIC SYSTEMS	R	MADRS	3	0	2	4	5	9	EM(1) Rule:1
439	PEC	PE-1	23ECF3101A	AUTOMOBILE ENGINEERING	A	AE	4	0	4	4	7	12	
440	PEC	PE-1	23ECF3101E	AUTOMOBILE ENGINEERING	E	AE	4	0	4	4	7	12	
441	PEC	PE-1	23ECF3101R	AUTOMOBILE ENGINEERING	R	AE	3	0	2	4	5	9	
442	PEC	PE-1	23HDA3101A	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	A	ISDPDD	4	0	4	4	7	12	CDS(1) Rule:1
443	PEC	PE-1	23HDA3101E	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	E	ISDPDD	4	0	4	4	7	12	CDS(1) Rule:1
444	PEC	PE-1	23HDA3101R	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	R	ISDPDD	3	0	2	4	5	9	CDS(1) Rule:1
445	PEC	PE-1	23HSS3101A	INTRODUCTION TO HARDWARE-SOFTWARE CO-DESIGN	A	ITHSCD	4	0	4	4	7	12	
446	PEC	PE-1	23HSS3101E	INTRODUCTION TO HARDWARE-SOFTWARE CO-DESIGN	E	ITHSCD	4	0	4	4	7	12	
447	PEC	PE-1	23HSS3101R	INTRODUCTION TO HARDWARE-SOFTWARE CO-DESIGN	R	ITHSCD	3	0	2	4	5	9	
448	PEC	PE-1	23ADE3101A	EDGE COMPUTING FUNDAMENTALS	A	ECF	4	0	4	4	7	12	OS(1) Rule:1
449	PEC	PE-1	23ADE3101E	EDGE COMPUTING FUNDAMENTALS	E	ECF	4	0	4	4	7	12	OS(1) Rule:1
450	PEC	PE-1	23ADE3101R	EDGE COMPUTING FUNDAMENTALS	R	ECF	3	0	2	4	5	9	OS(1) Rule:1
451	PEC	PE-1	23ALT3101A	APPLIED MACHINE LEARNING FOR TEXT ANALYSIS	A	AMLFTA	4	0	4	4	7	12	AIML(1) Rule:1
452	PEC	PE-1	23ALT3101E	APPLIED MACHINE LEARNING FOR TEXT ANALYSIS	E	AMLFTA	4	0	4	4	7	12	AIML(1) Rule:1
453	PEC	PE-1	23ALT3101R	APPLIED MACHINE LEARNING FOR TEXT ANALYSIS	R	AMLFTA	3	0	2	4	5	9	AIML(1) Rule:1
454	PEC	PE-1	23AVI3101A	DEEP LEARNING	A	DL	4	0	4	4	7	12	AIML(1) Rule:1
455	PEC	PE-1	23AVI3101E	DEEP LEARNING	E	DL	4	0	4	4	7	12	AIML(1) Rule:1
456	PEC	PE-1	23AVI3101R	DEEP LEARNING	R	DL	3	0	2	4	5	9	AIML(1) Rule:1
457	PEC	PE-1	23ACI3101A	GENERATIVE ADVERSARIAL NETWORKS	A	GANS	4	0	4	4	7	12	AIML(1) Rule:1
458	PEC	PE-1	23ACI3101E	GENERATIVE ADVERSARIAL NETWORKS	E	GANS	4	0	4	4	7	12	AIML(1) Rule:1
459	PEC	PE-1	23ACI3101R	GENERATIVE ADVERSARIAL NETWORKS	R	GANS	3	0	2	4	5	9	AIML(1) Rule:1
460	PEC	PE-1	23ABT3101A	BIOSENSORS AND BIOELECTRONICS	A	BSBE	4	0	4	4	7	12	GN(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
461	PEC	PE-1	23ABT3101E	BIOSENSORS AND BIOELECTRONICS	E	BSBE	4	0	4	4	7	12	GN(1) Rule:1
462	PEC	PE-1	23ABT3101R	BIOSENSORS AND BIOELECTRONICS	R	BSBE	3	0	2	4	5	9	GN(1) Rule:1
463	PEC	PE-1	23IBT3101A	PHARMACEUTICAL BIOTECHNOLOGY	A	PBT	4	0	4	4	7	12	BO(1) Rule:1
464	PEC	PE-1	23IBT3101E	PHARMACEUTICAL BIOTECHNOLOGY	E	PBT	4	0	4	4	7	12	BO(1) Rule:1
465	PEC	PE-1	23IBT3101R	PHARMACEUTICAL BIOTECHNOLOGY	R	PBT	3	0	2	4	5	9	BO(1) Rule:1
466	PEC	PE-1	23CCF3101A	TCP/IP & OTHER PROTOCOL SUITE	A	TCP	4	0	4	4	7	12	
467	PEC	PE-1	23CCF3101E	TCP/IP & OTHER PROTOCOL SUITE	E	TCP	4	0	4	4	7	12	
468	PEC	PE-1	23CCF3101R	TCP/IP & OTHER PROTOCOL SUITE	R	TCP	3	0	2	4	5	9	
469	PEC	PE-1	23CTM3101A	BUILDING INFORMATION MODELLING	A	BIM	4	0	4	4	7	12	
470	PEC	PE-1	23CTM3101E	BUILDING INFORMATION MODELLING	E	BIM	4	0	4	4	7	12	
471	PEC	PE-1	23CTM3101R	BUILDING INFORMATION MODELLING	R	BIM	3	0	2	4	5	9	
472	PEC	PE-1	23CTM3202A	ADVANCED CONSTRUCTION TECHNOLOGY	A	ACT	5	0	0	0	5	5	
473	PEC	PE-1	23CTM3202E	ADVANCED CONSTRUCTION TECHNOLOGY	E	ACT	5	0	0	0	5	5	
474	PEC	PE-1	23CTM3202R	ADVANCED CONSTRUCTION TECHNOLOGY	R	ACT	3	0	0	0	3	3	
475	PEC	PE-1	23CSC3101A	FUNDAMENTALS OF CLOUD-BASED SCIENTIFIC COMPUTING	A	FCS	4	0	4	4	7	12	OS(1) Rule:1
476	PEC	PE-1	23CSC3101E	FUNDAMENTALS OF CLOUD-BASED SCIENTIFIC COMPUTING	E	FCS	4	0	4	4	7	12	OS(1) Rule:1
477	PEC	PE-1	23CSC3101R	FUNDAMENTALS OF CLOUD-BASED SCIENTIFIC COMPUTING	R	FCS	3	0	2	4	5	9	OS(1) Rule:1
478	PEC	PE-1	23CID3101A	CLOUD INFRASTRUCTURE ENGINEERING	A	CIE	4	0	4	4	7	12	OS(1) Rule:1
479	PEC	PE-1	23CID3101E	CLOUD INFRASTRUCTURE ENGINEERING	E	CIE	4	0	4	4	7	12	OS(1) Rule:1
480	PEC	PE-1	23CID3101R	CLOUD INFRASTRUCTURE ENGINEERING	R	CIE	3	0	2	4	5	9	OS(1) Rule:1
481	PEC	PE-1	23CNE3101A	FOUNDATIONS OF CLOUD NATIVE COMPUTING	A	FCNC	4	0	4	4	7	12	OS(1) Rule:1
482	PEC	PE-1	23CNE3101E	FOUNDATIONS OF CLOUD NATIVE COMPUTING	E	FCNC	4	0	4	4	7	12	OS(1) Rule:1
483	PEC	PE-1	23CNE3101R	FOUNDATIONS OF CLOUD NATIVE COMPUTING	R	FCNC	3	0	2	4	5	9	OS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
484	PEC	PE-1	23CEC3101A	CLOUD INFRASTRUCTURE AND SERVICES	A	CIS	4	0	4	4	7	12	OS(1) Rule:1
485	PEC	PE-1	23CEC3101E	CLOUD INFRASTRUCTURE AND SERVICES	E	CIS	4	0	4	4	7	12	OS(1) Rule:1
486	PEC	PE-1	23CEC3101R	CLOUD INFRASTRUCTURE AND SERVICES	R	CIS	3	0	2	4	5	9	OS(1) Rule:1
487	PEC	PE-1	23BMI3101A	BIOMEDICAL SIGNAL AND IMAGE PROCESSING	A	BSIP	4	0	4	4	7	12	
488	PEC	PE-1	23BMI3101E	BIOMEDICAL SIGNAL AND IMAGE PROCESSING	E	BSIP	4	0	4	4	7	12	
489	PEC	PE-1	23BMI3101R	BIOMEDICAL SIGNAL AND IMAGE PROCESSING	R	BSIP	3	0	2	4	5	9	
490	PEC	PE-1	23BIS3101A	MOLECULAR MODELLING AND DRUG DESIGN	A	MMDD	4	0	4	4	7	12	CB(1) Rule:1
491	PEC	PE-1	23BIS3101E	MOLECULAR MODELLING AND DRUG DESIGN	E	MMDD	4	0	4	4	7	12	CB(1) Rule:1
492	PEC	PE-1	23BIS3101R	MOLECULAR MODELLING AND DRUG DESIGN	R	MMDD	3	0	2	4	5	9	CB(1) Rule:1
493	PEC	PE-2	23BIS3202A	BIOMEDICAL INFORMATICS	A	BMI	5	0	0	0	5	5	CB(1) Rule:1
494	PEC	PE-2	23BIS3202E	BIOMEDICAL INFORMATICS	E	BMI	5	0	0	0	5	5	CB(1) Rule:1
495	PEC	PE-2	23BIS3202R	BIOMEDICAL INFORMATICS	R	BMI	3	0	0	0	3	3	CB(1) Rule:1
496	PEC	PE-2	23BIS3203A	PYTHON AND R PROGRAMMING	A	P&RP	5	0	0	0	5	5	CB(1) Rule:1
497	PEC	PE-2	23BIS3203E	PYTHON AND R PROGRAMMING	E	P&RP	5	0	0	0	5	5	CB(1) Rule:1
498	PEC	PE-2	23BIS3203R	PYTHON AND R PROGRAMMING	R	P&RP	3	0	0	0	3	3	CB(1) Rule:1
499	PEC	PE-2	23BMI3202A	ADVANCED BIOMEDICAL SIGNAL PROCESSING	A	ABSP	5	0	0	0	5	5	
500	PEC	PE-2	23BMI3202E	ADVANCED BIOMEDICAL SIGNAL PROCESSING	E	ABSP	5	0	0	0	5	5	
501	PEC	PE-2	23BMI3202R	ADVANCED BIOMEDICAL SIGNAL PROCESSING	R	ABSP	3	0	0	0	3	3	
502	PEC	PE-2	23CEC3202A	ADVANCED OPERATING SYSTEMS	A	AOS	5	0	0	0	5	5	OS(1) Rule:1
503	PEC	PE-2	23CEC3202E	ADVANCED OPERATING SYSTEMS	E	AOS	5	0	0	0	5	5	OS(1) Rule:1
504	PEC	PE-2	23CEC3202R	ADVANCED OPERATING SYSTEMS	R	AOS	3	0	0	0	3	3	OS(1) Rule:1
505	PEC	PE-2	23CEC3203A	FUNCTIONAL & CONCURRENT PROGRAMMING	A	FCP	5	0	0	0	5	5	OS(1) Rule:1
506	PEC	PE-2	23CEC3203E	FUNCTIONAL & CONCURRENT PROGRAMMING	E	FCP	5	0	0	0	5	5	OS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
507	PEC	PE-2	23CEC3203R	FUNCTIONAL & CONCURRENT PROGRAMMING	R	FCP	3	0	0	0	3	3	OS(1) Rule:1
508	PEC	PE-2	23CEC3204A	CLOUD DEVOPS	A	CD	5	0	0	0	5	5	OS(1) Rule:1
509	PEC	PE-2	23CEC3204E	CLOUD DEVOPS	E	CD	5	0	0	0	5	5	OS(1) Rule:1
510	PEC	PE-2	23CEC3204R	CLOUD DEVOPS	R	CD	3	0	0	0	3	3	OS(1) Rule:1
511	PEC	PE-2	23CEC3305A	CLOUD & SERVERLESS COMPUTING	A	CSC	4	0	4	4	7	12	OS(1) Rule:1
512	PEC	PE-2	23HDA3202A	BIO MEDICAL INFORMATICS	A	BMI	5	0	0	0	5	5	CDS(1) Rule:1
513	PEC	PE-2	23HDA3202E	BIO MEDICAL INFORMATICS	E	BMI	5	0	0	0	5	5	CDS(1) Rule:1
514	PEC	PE-2	23HDA3202R	BIO MEDICAL INFORMATICS	R	BMI	3	0	0	0	3	3	CDS(1) Rule:1
515	PEC	PE-2	23HDA3203A	GENETIC PROGRAMMING	A	GP	5	0	0	0	5	5	CDS(1) Rule:1
516	PEC	PE-2	23HDA3203E	GENETIC PROGRAMMING	E	GP	5	0	0	0	5	5	CDS(1) Rule:1
517	PEC	PE-2	23HDA3203R	GENETIC PROGRAMMING	R	GP	3	0	0	0	3	3	CDS(1) Rule:1
518	PEC	PE-2	23CNE3202A	CLOUD NATIVE APPLICATION DEVELOPMENT	A	CNAD	5	0	0	0	5	5	OS(1) Rule:1
519	PEC	PE-2	23CNE3202E	CLOUD NATIVE APPLICATION DEVELOPMENT	E	CNAD	5	0	0	0	5	5	OS(1) Rule:1
520	PEC	PE-2	23CNE3202R	CLOUD NATIVE APPLICATION DEVELOPMENT	R	CNAD	3	0	0	0	3	3	OS(1) Rule:1
521	PEC	PE-2	23CID3202A	ENTERPRISE CLOUD COMPUTING: TECHNOLOGY, ARCHITECTURE, APPLICATIONS	A	ECT	5	0	0	0	5	5	OS(1) Rule:1
522	PEC	PE-2	23CID3202E	ENTERPRISE CLOUD COMPUTING: TECHNOLOGY, ARCHITECTURE, APPLICATIONS	E	ECT	5	0	0	0	5	5	OS(1) Rule:1
523	PEC	PE-2	23CID3202R	ENTERPRISE CLOUD COMPUTING: TECHNOLOGY, ARCHITECTURE, APPLICATIONS	R	ECT	3	0	0	0	3	3	OS(1) Rule:1
524	PEC	PE-2	23CSC3202A	DEVELOPMENT OF SCIENTIFIC APPLICATIONS USING CLOUD-BASED TECHNOLOGY	A	DSA	5	0	0	0	5	5	OS(1) Rule:1
525	PEC	PE-2	23CSC3202E	DEVELOPMENT OF SCIENTIFIC APPLICATIONS USING CLOUD-BASED TECHNOLOGY	E	DSA	5	0	0	0	5	5	OS(1) Rule:1
526	PEC	PE-2	23CSC3202R	DEVELOPMENT OF SCIENTIFIC APPLICATIONS USING CLOUD-BASED TECHNOLOGY	R	DSA	3	0	0	0	3	3	OS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
527	PEC	PE-2	23CTM3203A	SUSTAINABLE CONSTRUCTION TECHNOLOGY	A	SCT	5	0	0	0	5	5	
528	PEC	PE-2	23CTM3203E	SUSTAINABLE CONSTRUCTION TECHNOLOGY	E	SCT	5	0	0	0	5	5	
529	PEC	PE-2	23CTM3203R	SUSTAINABLE CONSTRUCTION TECHNOLOGY	R	SCT	3	0	0	0	3	3	
530	PEC	PE-2	23CCF3202A	CLOUD COMPUTING AND NETWORKS SECURITY	A	CCNS	5	0	0	0	5	5	
531	PEC	PE-2	23CCF3202E	CLOUD COMPUTING AND NETWORKS SECURITY	E	CCNS	5	0	0	0	5	5	
532	PEC	PE-2	23CCF3202R	CLOUD COMPUTING AND NETWORKS SECURITY	R	CCNS	3	0	0	0	3	3	
533	PEC	PE-2	23IBT3202A	PHARMACOVIGILANCE AND SAFETY	A	PCS	5	0	0	0	5	5	BO(1) Rule:1
534	PEC	PE-2	23IBT3202E	PHARMACOVIGILANCE AND SAFETY	E	PCS	5	0	0	0	5	5	BO(1) Rule:1
535	PEC	PE-2	23IBT3202R	PHARMACOVIGILANCE AND SAFETY	R	PCS	3	0	0	0	3	3	BO(1) Rule:1
536	PEC	PE-2	23IBT3203A	BIOPROCESS ECONOMICS AND PLANT DESIGN	A	BEPD	5	0	0	0	5	5	BO(1) Rule:1
537	PEC	PE-2	23IBT3203E	BIOPROCESS ECONOMICS AND PLANT DESIGN	E	BEPD	5	0	0	0	5	5	BO(1) Rule:1
538	PEC	PE-2	23IBT3203R	BIOPROCESS ECONOMICS AND PLANT DESIGN	R	BEPD	3	0	0	0	3	3	BO(1) Rule:1
539	PEC	PE-2	23ABT3202A	IOT APPLICATIONS IN PRECISION AGRICULTURE	A	IOTAPA	5	0	0	0	5	5	FITS(1) Rule:1
540	PEC	PE-2	23ABT3202E	IOT APPLICATIONS IN PRECISION AGRICULTURE	E	IOTAPA	5	0	0	0	5	5	FITS(1) Rule:1
541	PEC	PE-2	23ABT3202R	IOT APPLICATIONS IN PRECISION AGRICULTURE	R	IOTAPA	3	0	0	0	3	3	FITS(1) Rule:1
542	PEC	PE-2	23ABT3203A	MACHINE LEARNING FOR PRECISION AGRICULTURE	A	MLPA	5	0	0	0	5	5	
543	PEC	PE-2	23ABT3203E	MACHINE LEARNING FOR PRECISION AGRICULTURE	E	MLPA	5	0	0	0	5	5	
544	PEC	PE-2	23ABT3203R	MACHINE LEARNING FOR PRECISION AGRICULTURE	R	MLPA	3	0	0	0	3	3	
545	PEC	PE-2	23ACI3202A	EXPLAINABLE AI AND COMMUNICATIONS	A	EAIC	5	0	0	0	5	5	AIML(1) Rule:1
546	PEC	PE-2	23ACI3202E	EXPLAINABLE AI AND COMMUNICATIONS	E	EAIC	5	0	0	0	5	5	AIML(1) Rule:1
547	PEC	PE-2	23ACI3202R	EXPLAINABLE AI AND COMMUNICATIONS	R	EAIC	3	0	0	0	3	3	AIML(1) Rule:1
548	PEC	PE-2	23AVI3202A	COMPUTER VISION	A	CV	5	0	0	0	5	5	AIML(1) Rule:1
549	PEC	PE-2	23AVI3202E	COMPUTER VISION	E	CV	5	0	0	0	5	5	AIML(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
550	PEC	PE-2	23AVI3202R	COMPUTER VISION	R	CV	3	0	0	0	3	3	AIML(1) Rule:1
551	PEC	PE-2	23ALT3202A	DEEP LEARNING FOR NATURAL LANGUAGE PROCESSING	A	DLFNLP	5	0	0	0	5	5	AIML(1) Rule:1
552	PEC	PE-2	23ALT3202E	DEEP LEARNING FOR NATURAL LANGUAGE PROCESSING	E	DLFNLP	5	0	0	0	5	5	AIML(1) Rule:1
553	PEC	PE-2	23ADE3202A	AI AT THE EDGE	A	AIAE	5	0	0	0	5	5	OS(1) Rule:1
554	PEC	PE-2	23ADE3202E	AI AT THE EDGE	E	AIAE	5	0	0	0	5	5	OS(1) Rule:1
555	PEC	PE-2	23ADE3202R	AI AT THE EDGE	R	AIAE	3	0	0	0	3	3	OS(1) Rule:1
556	PEC	PE-2	23AIP3202A	SOFT COMPUTING	A	SC	5	0	0	0	5	5	
557	PEC	PE-2	23AIP3202E	SOFT COMPUTING	E	SC	5	0	0	0	5	5	
558	PEC	PE-2	23AIP3202R	SOFT COMPUTING	R	SC	3	0	0	0	3	3	
559	PEC	PE-2	23AIP3203A	MULTI MODAL INFORMATION PROCESSING	A	MMIP	3	0	4	0	5	7	
560	PEC	PE-2	23AIP3203E	MULTI MODAL INFORMATION PROCESSING	E	MMIP	3	0	4	0	5	7	
561	PEC	PE-2	23AIP3203R	MULTI MODAL INFORMATION PROCESSING	R	MMIP	2	0	2	0	3	4	
562	PEC	PE-2	23AIP3204A	ARTIFICIAL NEURAL NETWORKS	A	ANN	5	0	0	0	5	5	
563	PEC	PE-2	23AIP3204E	ARTIFICIAL NEURAL NETWORKS	E	ANN	5	0	0	0	5	5	
564	PEC	PE-2	23AIP3204R	ARTIFICIAL NEURAL NETWORKS	R	ANN	3	0	0	0	3	3	
565	PEC	PE-2	23HSS3202A	FUNDAMENTALS OF COMPUTER SECURITY	A	FOCS	5	0	0	0	5	5	
566	PEC	PE-2	23HSS3202E	FUNDAMENTALS OF COMPUTER SECURITY	E	FOCS	5	0	0	0	5	5	
567	PEC	PE-2	23HSS3202R	FUNDAMENTALS OF COMPUTER SECURITY	R	FOCS	3	0	0	0	3	3	
568	PEC	PE-2	23ECF3202A	AUTOTRONICS & SAFETY	A	ATS	5	0	0	0	5	5	
569	PEC	PE-2	23ECF3202E	AUTOTRONICS & SAFETY	E	ATS	5	0	0	0	5	5	
570	PEC	PE-2	23ECF3202R	AUTOTRONICS & SAFETY	R	ATS	3	0	0	0	3	3	
571	PEC	PE-2	23ECF3203A	AUTONOMOUS VEHICLES	A	AV	5	0	0	0	5	5	
572	PEC	PE-2	23ECF3203E	AUTONOMOUS VEHICLES	E	AV	5	0	0	0	5	5	
573	PEC	PE-2	23ECF3203R	AUTONOMOUS VEHICLES	R	AV	3	0	0	0	3	3	
574	PEC	PE-2	23EGD3202A	CREEP, FATIGUE AND FRACTURE MECHANICS	A	CFFM	5	0	0	0	5	5	EM(1) Rule:1

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575	PEC	PE-2	23EGD3202E	CREEP, FATIGUE AND FRACTURE MECHANICS	E	CFFM	5	0	0	0	5	5	EM(1) Rule:1
576	PEC	PE-2	23EGD3202R	CREEP, FATIGUE AND FRACTURE MECHANICS	R	CFFM	3	0	0	0	3	3	EM(1) Rule:1
577	PEC	PE-2	23EGD3203A	THEORY OF ELASTICITY AND PLASTICITY	A	TEP	5	0	0	0	5	5	EM(1) Rule:1
578	PEC	PE-2	23EGD3203E	THEORY OF ELASTICITY AND PLASTICITY	E	TEP	5	0	0	0	5	5	EM(1) Rule:1
579	PEC	PE-2	23EGD3203R	THEORY OF ELASTICITY AND PLASTICITY	R	TEP	3	0	0	0	3	3	EM(1) Rule:1
580	PEC	PE-2	23CPD3202A	REACT NATIVE FOR ANDROID AND IOS DEVELOPMENT	A	RNA	5	0	0	0	5	5	
581	PEC	PE-2	23CPD3202E	REACT NATIVE FOR ANDROID AND IOS DEVELOPMENT	E	RNA	5	0	0	0	5	5	
582	PEC	PE-2	23CPD3202R	REACT NATIVE FOR ANDROID AND IOS DEVELOPMENT	R	RNA	3	0	0	0	3	3	
583	PEC	PE-2	23CPD3203A	FRAMEWORK BASED CROSS PLATFORM APP DEVELOPMENT	A	FBCPD	5	0	0	0	5	5	
584	PEC	PE-2	23CPD3203E	FRAMEWORK BASED CROSS PLATFORM APP DEVELOPMENT	E	FBCPD	5	0	0	0	5	5	
585	PEC	PE-2	23CPD3203R	FRAMEWORK BASED CROSS PLATFORM APP DEVELOPMENT	R	FBCPD	3	0	0	0	3	3	
586	PEC	PE-2	23CPS3202A	INTERNET OF THINGS ARCHITECTURES AND PROTOCOLS	A	IOTAP	5	0	0	0	5	5	
587	PEC	PE-2	23CPS3202E	INTERNET OF THINGS ARCHITECTURES AND PROTOCOLS	E	IOTAP	5	0	0	0	5	5	
588	PEC	PE-2	23CPS3202R	INTERNET OF THINGS ARCHITECTURES AND PROTOCOLS	R	IOTAP	3	0	0	0	3	3	
589	PEC	PE-2	23IMP3202A	DATA ENGINEERING	A	DE	5	0	0	0	5	5	DNA(1) Rule:1
590	PEC	PE-2	23IMP3202E	DATA ENGINEERING	E	DE	5	0	0	0	5	5	DNA(1) Rule:1
591	PEC	PE-2	23IMP3202R	DATA ENGINEERING	R	DE	3	0	0	0	3	3	DNA(1) Rule:1
592	PEC	PE-2	23HDA3204A	PYTHON FOR GENOMIC DATA SCIENCE	A	PFGDS	5	0	0	0	5	5	CDS(1) Rule:1
593	PEC	PE-2	23HDA3204E	PYTHON FOR GENOMIC DATA SCIENCE	E	PFGDS	5	0	0	0	5	5	CDS(1) Rule:1
594	PEC	PE-2	23HDA3204R	PYTHON FOR GENOMIC DATA SCIENCE	R	PFGDS	3	0	0	0	3	3	CDS(1) Rule:1
595	PEC	PE-2	23ILA3202A	INDUSTRIAL AUTOMATION AND ROBOTICS	A	IAR	5	0	0	0	5	5	ELM(1) Rule:1
596	PEC	PE-2	23ILA3202E	INDUSTRIAL AUTOMATION AND ROBOTICS	E	IAR	5	0	0	0	5	5	ELM(1) Rule:1
597	PEC	PE-2	23ILA3202R	INDUSTRIAL AUTOMATION AND ROBOTICS	R	IAR	3	0	0	0	3	3	ELM(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
598	PEC	PE-2	23ILA3203A	EDGE COMPUTING FOR INDUSTRY 4.0	A	ECI	5	0	0	0	5	5	ELM(1) Rule:1
599	PEC	PE-2	23ILA3203E	EDGE COMPUTING FOR INDUSTRY 4.0	E	ECI	5	0	0	0	5	5	ELM(1) Rule:1
600	PEC	PE-2	23ILA3203R	EDGE COMPUTING FOR INDUSTRY 4.0	R	ECI	3	0	0	0	3	3	ELM(1) Rule:1
601	PEC	PE-2	23EDS3202A	EMBEDDED SYSTEMS FOR IOT	A	ESIOT	5	0	0	0	5	5	FITS(1) Rule:1
602	PEC	PE-2	23EDS3202E	EMBEDDED SYSTEMS FOR IOT	E	ESIOT	5	0	0	0	5	5	FITS(1) Rule:1
603	PEC	PE-2	23EDS3202R	EMBEDDED SYSTEMS FOR IOT	R	ESIOT	3	0	0	0	3	3	FITS(1) Rule:1
604	PEC	PE-2	23IOT3202A	EDGE COMPUTING	A	EC	5	0	0	0	5	5	FITS(1) Rule:1
605	PEC	PE-2	23IOT3202E	EDGE COMPUTING	E	EC	5	0	0	0	5	5	FITS(1) Rule:1
606	PEC	PE-2	23IOT3202R	EDGE COMPUTING	R	EC	3	0	0	0	3	3	FITS(1) Rule:1
607	PEC	PE-2	23DLA3202A	AUTOMATED NETWORK ANALYSIS	A	ANA	5	0	0	0	5	5	DBMS(1) Rule:1
608	PEC	PE-2	23DLA3202E	AUTOMATED NETWORK ANALYSIS	E	ANA	5	0	0	0	5	5	DBMS(1) Rule:1
609	PEC	PE-2	23DLA3202R	AUTOMATED NETWORK ANALYSIS	R	ANA	3	0	0	0	3	3	DBMS(1) Rule:1
610	PEC	PE-2	23DLA3203A	BLOCKCHAIN TECHNOLOGY FOR DIGITAL TRANSFORMATION	A	BTDT	5	0	0	0	5	5	FOR(1) Rule:1
611	PEC	PE-2	23DLA3203E	BLOCKCHAIN TECHNOLOGY FOR DIGITAL TRANSFORMATION	E	BTDT	5	0	0	0	5	5	FOR(1) Rule:1
612	PEC	PE-2	23DLA3203R	BLOCKCHAIN TECHNOLOGY FOR DIGITAL TRANSFORMATION	R	BTDT	3	0	0	0	3	3	FOR(1) Rule:1
613	PEC	PE-2	23CSB3202A	NETWORK AND INFRASTRUCTURE SECURITY	A	NIS	5	0	0	0	5	5	
614	PEC	PE-2	23CSB3202E	NETWORK AND INFRASTRUCTURE SECURITY	E	NIS	5	0	0	0	5	5	
615	PEC	PE-2	23CSB3202R	NETWORK AND INFRASTRUCTURE SECURITY	R	NIS	3	0	0	0	3	3	
616	PEC	PE-2	23CSB3203A	INTRODUCTION TO BLOCKCHAIN AND CRYPTO CURRENCIES	A	IBCC	3	0	4	0	5	7	
617	PEC	PE-2	23CSB3203E	INTRODUCTION TO BLOCKCHAIN AND CRYPTO CURRENCIES	E	IBCC	3	0	4	0	5	7	
618	PEC	PE-2	23CSB3203R	INTRODUCTION TO BLOCKCHAIN AND CRYPTO CURRENCIES	R	IBCC	2	0	2	0	3	4	
619	PEC	PE-2	23CNS3202A	FUNDAMENTALS OF CLOUD SECURITY	A	FOCS	5	0	0	0	5	5	OS(1) Rule:1
620	PEC	PE-2	23CNS3202E	FUNDAMENTALS OF CLOUD SECURITY	E	FOCS	5	0	0	0	5	5	OS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
621	PEC	PE-2	23CNS3202R	FUNDAMENTALS OF CLOUD SECURITY	R	FOCS	3	0	0	0	3	3	OS(1) Rule:1
622	PEC	PE-2	23BEW3202A	SMART CONTRACTS	A	SCR	5	0	0	0	5	5	
623	PEC	PE-2	23BEW3202E	SMART CONTRACTS	E	SCR	5	0	0	0	5	5	
624	PEC	PE-2	23BEW3202R	SMART CONTRACTS	R	SCR	3	0	0	0	3	3	
625	PEC	PE-2	23DCS3202A	MODERN SATELLITE COMMUNICATION SYSTEMS	A	MSCS	5	0	0	0	5	5	WC(1) Rule:1
626	PEC	PE-2	23DCS3202E	MODERN SATELLITE COMMUNICATION SYSTEMS	E	MSCS	5	0	0	0	5	5	WC(1) Rule:1
627	PEC	PE-2	23DCS3202R	MODERN SATELLITE COMMUNICATION SYSTEMS	R	MSCS	3	0	0	0	3	3	WC(1) Rule:1
628	PEC	PE-2	23DSB3202A	DATA WAREHOUSING AND MINING	A	DWHM	5	0	0	0	5	5	DBMS(1) Rule:1
629	PEC	PE-2	23DSB3202E	DATA WAREHOUSING AND MINING	E	DWHM	5	0	0	0	5	5	DBMS(1) Rule:1
630	PEC	PE-2	23DSB3202R	DATA WAREHOUSING AND MINING	R	DWHM	3	0	0	0	3	3	DBMS(1) Rule:1
631	PEC	PE-2	23SDM3202A	OPINION MINING & RECOMMENDER SYSTEMS	A	OMRS	5	0	0	0	5	5	
632	PEC	PE-2	23SDM3202E	OPINION MINING & RECOMMENDER SYSTEMS	E	OMRS	5	0	0	0	5	5	
633	PEC	PE-2	23SDM3202R	OPINION MINING & RECOMMENDER SYSTEMS	R	OMRS	3	0	0	0	3	3	
634	PEC	PE-2	23SDM3203A	META SOCIAL MEDIA ANALYTICS	A	MSMA	5	0	0	0	5	5	
635	PEC	PE-2	23SDM3203E	META SOCIAL MEDIA ANALYTICS	E	MSMA	5	0	0	0	5	5	
636	PEC	PE-2	23SDM3203R	META SOCIAL MEDIA ANALYTICS	R	MSMA	3	0	0	0	3	3	
637	PEC	PE-2	23VLS3202A	TESTING AND VERIFICATION OF VLSI CIRCUITS	A	TVVC	5	0	0	0	5	5	
638	PEC	PE-2	23VLS3202E	TESTING AND VERIFICATION OF VLSI CIRCUITS	E	TVVC	5	0	0	0	5	5	
639	PEC	PE-2	23VLS3202R	TESTING AND VERIFICATION OF VLSI CIRCUITS	R	TVVC	3	0	0	0	3	3	
640	PEC	PE-2	23STE3202A	ADVANCED STRUCTURAL ANALYSIS	A	ASA	5	0	0	0	5	5	
641	PEC	PE-2	23STE3202E	ADVANCED STRUCTURAL ANALYSIS	E	ASA	5	0	0	0	5	5	
642	PEC	PE-2	23STE3202R	ADVANCED STRUCTURAL ANALYSIS	R	ASA	3	0	0	0	3	3	
643	PEC	PE-2	23STE3203A	ADVANCED DESIGN OF STEEL STRUCTURE	A	ADSS	5	0	0	0	5	5	
644	PEC	PE-2	23STE3203E	ADVANCED DESIGN OF STEEL STRUCTURE	E	ADSS	5	0	0	0	5	5	
645	PEC	PE-2	23STE3203R	ADVANCED DESIGN OF STEEL STRUCTURE	R	ADSS	3	0	0	0	3	3	

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646	PEC	PE-2	23SMD3202A	DESIGN PATTERNS & CLEAN CODING TECHNIQUES	A	DPCT	5	0	0	0	5	5	
647	PEC	PE-2	23SMD3202E	DESIGN PATTERNS & CLEAN CODING TECHNIQUES	E	DPCT	5	0	0	0	5	5	
648	PEC	PE-2	23SMD3202R	DESIGN PATTERNS & CLEAN CODING TECHNIQUES	R	DPCT	3	0	0	0	3	3	
649	PEC	PE-2	23WRE3202A	SOLID WASTE MANAGEMENT AND LANDFILLS	A	SWML	5	0	0	0	5	5	
650	PEC	PE-2	23WRE3202E	SOLID WASTE MANAGEMENT AND LANDFILLS	E	SWML	5	0	0	0	5	5	
651	PEC	PE-2	23WRE3202R	SOLID WASTE MANAGEMENT AND LANDFILLS	R	SWML	3	0	0	0	3	3	
652	PEC	PE-2	23VLS3505	MIXED SIGNAL IC DESIGN	R	MSID	3	0	0	0	3	3	
653	PEC	PE-2	23CID3203A	ARCHITECTING HIGHLY AVAILABLE AND SCALABLE CLOUD ENVIRONMENTS	A	AHASCE	5	0	0	0	5	5	OS(1) Rule:1
654	PEC	PE-2	23CID3203E	ARCHITECTING HIGHLY AVAILABLE AND SCALABLE CLOUD ENVIRONMENTS	E	AHASCE	5	0	0	0	5	5	OS(1) Rule:1
655	PEC	PE-2	23CID3203R	ARCHITECTING HIGHLY AVAILABLE AND SCALABLE CLOUD ENVIRONMENTS	R	AHASCE	3	0	0	0	3	3	OS(1) Rule:1
656	PEC	PE-2	23CNE3203A	CLOUD NATIVE DESIGN PROCESS	A	CNDP	5	0	0	0	5	5	OS(1) Rule:1
657	PEC	PE-2	23CNE3203E	CLOUD NATIVE DESIGN PROCESS	E	CNDP	5	0	0	0	5	5	OS(1) Rule:1
658	PEC	PE-2	23CNE3203R	CLOUD NATIVE DESIGN PROCESS	R	CNDP	3	0	0	0	3	3	OS(1) Rule:1
659	PEC	PE-2	23CSC3203A	DISTRIBUTED SCIENTIFIC COMPUTING IN THE CLOUD	A	DSCC	5	0	0	0	5	5	OS(1) Rule:1
660	PEC	PE-2	23CSC3203E	DISTRIBUTED SCIENTIFIC COMPUTING IN THE CLOUD	E	DSCC	5	0	0	0	5	5	OS(1) Rule:1
661	PEC	PE-2	23CSC3203R	DISTRIBUTED SCIENTIFIC COMPUTING IN THE CLOUD	R	DSCC	3	0	0	0	3	3	OS(1) Rule:1
662	PEC	PE-2	23DEA3202A	DATA EXPLORATION AND PREPARATION	A	DEP	5	0	0	0	5	5	DBMS(1) Rule:1
663	PEC	PE-2	23DEA3202E	DATA EXPLORATION AND PREPARATION	E	DEP	5	0	0	0	5	5	DBMS(1) Rule:1
664	PEC	PE-2	23DEA3202R	DATA EXPLORATION AND PREPARATION	R	DEP	3	0	0	0	3	3	DBMS(1) Rule:1
665	PEC	PE-2	23RAN3202A	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	A	AVAE	5	0	0	0	5	5	FOR(1) Rule:1
666	PEC	PE-2	23RAN3202E	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	E	AVAE	5	0	0	0	5	5	FOR(1) Rule:1
667	PEC	PE-2	23RAN3202R	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	R	AVAE	3	0	0	0	3	3	FOR(1) Rule:1

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668	PEC	PE-2	23RAN3203A	ROBOT MANIPULATION AND WHEELED MOBILE ROBOTS	A	RMWR	5	0	0	0	5	5	FOR(1) Rule:1
669	PEC	PE-2	23RAN3203E	ROBOT MANIPULATION AND WHEELED MOBILE ROBOTS	E	RMWR	5	0	0	0	5	5	FOR(1) Rule:1
670	PEC	PE-2	23RAN3203R	ROBOT MANIPULATION AND WHEELED MOBILE ROBOTS	R	RMWR	3	0	0	0	3	3	FOR(1) Rule:1
671	PEC	PE-2	23IOT3203A	PRECISION AGRICULTURE	A	PA	5	0	0	0	5	5	FITS(1) Rule:1
672	PEC	PE-2	23IOT3203E	PRECISION AGRICULTURE	E	PA	5	0	0	0	5	5	FITS(1) Rule:1
673	PEC	PE-2	23IOT3203R	PRECISION AGRICULTURE	R	PA	3	0	0	0	3	3	FITS(1) Rule:1
674	PEC	PE-2	23IOT3204A	SMART FARMING	A	SF	5	0	0	0	5	5	FITS(1) Rule:1
675	PEC	PE-2	23IOT3204E	SMART FARMING	E	SF	5	0	0	0	5	5	FITS(1) Rule:1
676	PEC	PE-2	23IOT3204R	SMART FARMING	R	SF	3	0	0	0	3	3	FITS(1) Rule:1
677	PEC	PE-2	23SGT3202A	DISTRIBUTION SYSTEM PRACTICES	A	DSP	5	0	0	0	5	5	EPE(1) Rule:1
678	PEC	PE-2	23SGT3202E	DISTRIBUTION SYSTEM PRACTICES	E	DSP	5	0	0	0	5	5	EPE(1) Rule:1
679	PEC	PE-2	23SGT3202R	DISTRIBUTION SYSTEM PRACTICES	R	DSP	3	0	0	0	3	3	EPE(1) Rule:1
680	PEC	PE-2	23SGT3203A	MICROGRID DYNAMICS AND CONTROL	A	MDC	5	0	0	0	5	5	EPE(1) Rule:1
681	PEC	PE-2	23SGT3203E	MICROGRID DYNAMICS AND CONTROL	E	MDC	5	0	0	0	5	5	EPE(1) Rule:1
682	PEC	PE-2	23SGT3203R	MICROGRID DYNAMICS AND CONTROL	R	MDC	3	0	0	0	3	3	EPE(1) Rule:1
683	PEC	PE-2	23EME3202A	COMMUNICATION PROTOCOLS & TESTING OF ELECTRIC VEHICLE	A	CPTEV	5	0	0	0	5	5	
684	PEC	PE-2	23EME3202E	COMMUNICATION PROTOCOLS & TESTING OF ELECTRIC VEHICLE	E	CPTEV	5	0	0	0	5	5	
685	PEC	PE-2	23EME3202R	COMMUNICATION PROTOCOLS & TESTING OF ELECTRIC VEHICLE	R	CPTEV	3	0	0	0	3	3	
686	PEC	PE-2	23EME3203A	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	A	AVAE	5	0	0	0	5	5	
687	PEC	PE-2	23EME3203E	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	E	AVAE	5	0	0	0	5	5	
688	PEC	PE-2	23EME3203R	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	R	AVAE	3	0	0	0	3	3	
689	PEC	PE-2	23ASS3202A	INTRODUCTION TO INTELLIGENT DRONES	A	IID	5	0	0	0	5	5	AIML(1) Rule:1
690	PEC	PE-2	23ASS3202E	INTRODUCTION TO INTELLIGENT DRONES	E	IID	5	0	0	0	5	5	AIML(1) Rule:1

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691	PEC	PE-2	23ASS3202R	INTRODUCTION TO INTELLIGENT DRONES	R	IID	3	0	0	0	3	3	AIML(1) Rule:1
692	PEC	PE-2	23ASS3203A	AI AND IOT FOR AUTONOMOUS VEHICLE	A	AIAV	5	0	0	0	5	5	AIML(1) Rule:1
693	PEC	PE-2	23ASS3203E	AI AND IOT FOR AUTONOMOUS VEHICLE	E	AIAV	5	0	0	0	5	5	AIML(1) Rule:1
694	PEC	PE-2	23ASS3203R	AI AND IOT FOR AUTONOMOUS VEHICLE	R	AIAV	3	0	0	0	3	3	AIML(1) Rule:1
695	PEC	PE-2	23AEA3202A	AUTOTRONICS	A	AT	5	0	0	0	5	5	
696	PEC	PE-2	23AEA3202E	AUTOTRONICS	E	AT	5	0	0	0	5	5	
697	PEC	PE-2	23AEA3202R	AUTOTRONICS	R	AT	3	0	0	0	3	3	
698	PEC	PE-2	23AEA3203A	AUTOMOTIVE POLLUTION AND ITS CONTROL	A	APC	5	0	0	0	5	5	
699	PEC	PE-2	23AEA3203E	AUTOMOTIVE POLLUTION AND ITS CONTROL	E	APC	5	0	0	0	5	5	
700	PEC	PE-2	23AEA3203R	AUTOMOTIVE POLLUTION AND ITS CONTROL	R	APC	3	0	0	0	3	3	
701	PEC	PE-2	23SMF3202A	ADVANCED MATERIALS MANUFACTURING & TESTING	A	AMMT	5	0	0	0	5	5	MSM(1) Rule:1
702	PEC	PE-2	23SMF3202E	ADVANCED MATERIALS MANUFACTURING & TESTING	E	AMMT	5	0	0	0	5	5	MSM(1) Rule:1
703	PEC	PE-2	23SMF3202R	ADVANCED MATERIALS MANUFACTURING & TESTING	R	AMMT	3	0	0	0	3	3	MSM(1) Rule:1
704	PEC	PE-2	23SMF3203A	MODERN MANUFACTURING PROCESSES	A	MMP	5	0	0	0	5	5	MSM(1) Rule:1
705	PEC	PE-2	23SMF3203E	MODERN MANUFACTURING PROCESSES	E	MMP	5	0	0	0	5	5	MSM(1) Rule:1
706	PEC	PE-2	23SMF3203R	MODERN MANUFACTURING PROCESSES	R	MMP	3	0	0	0	3	3	MSM(1) Rule:1
707	PEC	PE-2	23SCI3202A	SPATIAL COMPUTING FOR MULTIPLAYER GAMES	A	SCMG	5	0	0	0	5	5	
708	PEC	PE-2	23SCI3202E	SPATIAL COMPUTING FOR MULTIPLAYER GAMES	E	SCMG	5	0	0	0	5	5	
709	PEC	PE-2	23SCI3202R	SPATIAL COMPUTING FOR MULTIPLAYER GAMES	R	SCMG	3	0	0	0	3	3	
710	PEC	PE-2	23GDU3202A	UX DESIGN	A	UD	5	0	0	0	5	5	CTSD(1) Rule:1
711	PEC	PE-2	23GDU3202E	UX DESIGN	E	UD	5	0	0	0	5	5	CTSD(1) Rule:1
712	PEC	PE-2	23GDU3202R	UX DESIGN	R	UD	3	0	0	0	3	3	CTSD(1) Rule:1
713	PEC	PE-2	23GTE3202A	INTELLIGENT TRANSPORTATION SYSTEMS	A	ITS	5	0	0	0	5	5	FOR(1) Rule:1

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714	PEC	PE-2	23GTE3202E	INTELLIGENT TRANSPORTATION SYSTEMS	E	ITS	5	0	0	0	5	5	FOR(1) Rule:1
715	PEC	PE-2	23GTE3202R	INTELLIGENT TRANSPORTATION SYSTEMS	R	ITS	3	0	0	0	3	3	FOR(1) Rule:1
716	PEC	PE-2	23GET3202A	WIND AND ENERGY STORAGE TECHNOLOGIES	A	WEST	5	0	0	0	5	5	
717	PEC	PE-2	23GET3202E	WIND AND ENERGY STORAGE TECHNOLOGIES	E	WEST	5	0	0	0	5	5	
718	PEC	PE-2	23GET3202R	WIND AND ENERGY STORAGE TECHNOLOGIES	R	WEST	3	0	0	0	3	3	
719	PEC	PE-2	23GET3203A	ENERGY ECONOMICS AND POLICY	A	EEP	5	0	0	0	5	5	
720	PEC	PE-2	23GET3203E	ENERGY ECONOMICS AND POLICY	E	EEP	5	0	0	0	5	5	
721	PEC	PE-2	23GET3203R	ENERGY ECONOMICS AND POLICY	R	EEP	3	0	0	0	3	3	
722	PEC	PE-2	23MBT3202A	VIROLOGY	A	VR	5	0	0	0	5	5	
723	PEC	PE-2	23MBT3202E	VIROLOGY	E	VR	5	0	0	0	5	5	
724	PEC	PE-2	23MBT3202R	VIROLOGY	R	VR	3	0	0	0	3	3	
725	PEC	PE-2	23MBT3203A	NANOBIOTECHNOLOGY	A	NBT	5	0	0	0	5	5	FITS(1) Rule:1
726	PEC	PE-2	23MBT3203E	NANOBIOTECHNOLOGY	E	NBT	5	0	0	0	5	5	FITS(1) Rule:1
727	PEC	PE-2	23MBT3203R	NANOBIOTECHNOLOGY	R	NBT	3	0	0	0	3	3	FITS(1) Rule:1
728	PEC	PE-2	23GEG3202A	MOLECULAR EXPRESSION TECHNOLOGY	A	MET	5	0	0	0	5	5	GN(1) Rule:1
729	PEC	PE-2	23GEG3202E	MOLECULAR EXPRESSION TECHNOLOGY	E	MET	5	0	0	0	5	5	GN(1) Rule:1
730	PEC	PE-2	23GEG3202R	MOLECULAR EXPRESSION TECHNOLOGY	R	MET	3	0	0	0	3	3	GN(1) Rule:1
731	PEC	PE-2	23GEG3203A	TRANSGENIC TECHNOLOGY	A	TT	5	0	0	0	5	5	GN(1) Rule:1
732	PEC	PE-2	23GEG3203E	TRANSGENIC TECHNOLOGY	E	TT	5	0	0	0	5	5	GN(1) Rule:1
733	PEC	PE-2	23GEG3203R	TRANSGENIC TECHNOLOGY	R	TT	3	0	0	0	3	3	GN(1) Rule:1
734	PEC	PE-2	23RFM3202A	ADVANCED ANTENNA DESIGN FOR WIRELESS AND 5G APPLICATIONS	A	AADWA	5	0	0	0	5	5	
735	PEC	PE-2	23RFM3202E	ADVANCED ANTENNA DESIGN FOR WIRELESS AND 5G APPLICATIONS	E	AADWA	5	0	0	0	5	5	
736	PEC	PE-2	23RFM3202R	ADVANCED ANTENNA DESIGN FOR WIRELESS AND 5G APPLICATIONS	R	AADWA	3	0	0	0	3	3	
737	PEC	PE-2	23ASS3205A	AUTONOMOUS VEHICLE ECU DESIGN WITH AUTOSAR	A	AVECUD	3	0	4	0	5	7	

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738	PEC	PE-2	23ASS3205E	AUTONOMOUS VEHICLE ECU DESIGN WITH AUTOSAR	E	AVECUD	3	0	4	0	5	7	
739	PEC	PE-2	23ASS3205R	AUTONOMOUS VEHICLE ECU DESIGN WITH AUTOSAR	R	AVECUD	2	0	2	0	3	4	
740	PEC	PE-3	23ASS3309A	AUTONOMOUS ELECTRIC MOBILITY - SYSTEMS AND APPLICATIONS	A	AAAV	4	0	4	4	7	12	
741	PEC	PE-3	23ASS3309E	AUTONOMOUS ELECTRIC MOBILITY - SYSTEMS AND APPLICATIONS	E	AAAV	4	0	4	4	7	12	
742	PEC	PE-3	23ASS3309R	AUTONOMOUS ELECTRIC MOBILITY - SYSTEMS AND APPLICATIONS	R	AAAV	3	0	2	4	5	9	
743	PEC	PE-3	23RFM3303A	MODERN RADAR SYSTEMS & NAVIGATIONAL AIDS	A	MRSNA	4	0	4	4	7	12	AIML(1) Rule:1
744	PEC	PE-3	23RFM3303E	MODERN RADAR SYSTEMS & NAVIGATIONAL AIDS	E	MRSNA	4	0	4	4	7	12	AIML(1) Rule:1
745	PEC	PE-3	23RFM3303R	MODERN RADAR SYSTEMS & NAVIGATIONAL AIDS	R	MRSNA	3	0	2	4	5	9	AIML(1) Rule:1
746	PEC	PE-3	23GEG3304A	MOLECULAR MARKERS AND DIAGNOSTICS	A	MMD	4	0	4	4	7	12	GN(1) Rule:1
747	PEC	PE-3	23GEG3304E	MOLECULAR MARKERS AND DIAGNOSTICS	E	MMD	4	0	4	4	7	12	GN(1) Rule:1
748	PEC	PE-3	23GEG3304R	MOLECULAR MARKERS AND DIAGNOSTICS	R	MMD	3	0	2	4	5	9	GN(1) Rule:1
749	PEC	PE-3	23MBT3304A	HEALTHCARE BIOTECHNOLOGY	A	HBT	4	0	4	4	7	12	AIML(1) Rule:1
750	PEC	PE-3	23MBT3304E	HEALTHCARE BIOTECHNOLOGY	E	HBT	4	0	4	4	7	12	AIML(1) Rule:1
751	PEC	PE-3	23MBT3304R	HEALTHCARE BIOTECHNOLOGY	R	HBT	3	0	2	4	5	9	AIML(1) Rule:1
752	PEC	PE-3	23GET3304A	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	A	GIRES	4	0	4	4	7	12	
753	PEC	PE-3	23GET3304E	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	E	GIRES	4	0	4	4	7	12	
754	PEC	PE-3	23GET3304R	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	R	GIRES	3	0	2	4	5	9	
755	PEC	PE-3	23GTE3203A	GROUND IMPROVEMENT TECHNIQUES	A	GIT	5	0	0	0	5	5	DNA(1) Rule:1
756	PEC	PE-3	23GTE3203E	GROUND IMPROVEMENT TECHNIQUES	E	GIT	5	0	0	0	5	5	DNA(1) Rule:1
757	PEC	PE-3	23GTE3203R	GROUND IMPROVEMENT TECHNIQUES	R	GIT	3	0	0	0	3	3	DNA(1) Rule:1
758	PEC	PE-3	23GTE3304A	PAVEMENT MATERIALS & DESIGN	A	PMD	4	0	4	4	7	12	
759	PEC	PE-3	23GTE3304E	PAVEMENT MATERIALS & DESIGN	E	PMD	4	0	4	4	7	12	
760	PEC	PE-3	23GTE3304R	PAVEMENT MATERIALS & DESIGN	R	PMD	3	0	2	4	5	9	

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761	PEC	PE-3	23GDU3303A	AR & VR APPLICATION DEVELOPMENT	A	AR&VR	4	0	4	4	7	12	CTSD(1) Rule:1
762	PEC	PE-3	23GDU3303E	AR & VR APPLICATION DEVELOPMENT	E	AR&VR	4	0	4	4	7	12	CTSD(1) Rule:1
763	PEC	PE-3	23GDU3303R	AR & VR APPLICATION DEVELOPMENT	R	AR&VR	3	0	2	4	5	9	CTSD(1) Rule:1
764	PEC	PE-3	23SCI3303A	SPATIAL COMPUTING PLATFORMS AND DEVELOPMENT	A	SCPD	4	0	4	4	7	12	
765	PEC	PE-3	23SCI3303E	SPATIAL COMPUTING PLATFORMS AND DEVELOPMENT	E	SCPD	4	0	4	4	7	12	
766	PEC	PE-3	23SCI3303R	SPATIAL COMPUTING PLATFORMS AND DEVELOPMENT	R	SCPD	3	0	2	4	5	9	
767	PEC	PE-3	23SMF3304A	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN SMART MANUFACTURING	A	SDSISM	4	0	4	4	7	12	MSM(1) Rule:1
768	PEC	PE-3	23SMF3304E	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN SMART MANUFACTURING	E	SDSISM	4	0	4	4	7	12	MSM(1) Rule:1
769	PEC	PE-3	23SMF3304R	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN SMART MANUFACTURING	R	SDSISM	3	0	2	4	5	9	MSM(1) Rule:1
770	PEC	PE-3	23AEA3304A	ALTERNATE DRIVES, TRACTION AND CONTROLS	A	ADTC	4	0	4	4	7	12	AIML(1) Rule:1
771	PEC	PE-3	23AEA3304E	ALTERNATE DRIVES, TRACTION AND CONTROLS	E	ADTC	4	0	4	4	7	12	AIML(1) Rule:1
772	PEC	PE-3	23AEA3304R	ALTERNATE DRIVES, TRACTION AND CONTROLS	R	ADTC	3	0	2	4	5	9	AIML(1) Rule:1
773	PEC	PE-3	23ASS3304A	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	A	ADLAS	4	0	4	4	7	12	AIML(1) Rule:1
774	PEC	PE-3	23ASS3304E	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	E	ADLAS	4	0	4	4	7	12	AIML(1) Rule:1
775	PEC	PE-3	23ASS3304R	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	R	ADLAS	3	0	2	4	5	9	AIML(1) Rule:1
776	PEC	PE-3	23EME3304A	CHARGING STATIONS FOR ELECTRIC VEHICLES	A	CSEV	4	0	4	4	7	12	
777	PEC	PE-3	23EME3304E	CHARGING STATIONS FOR ELECTRIC VEHICLES	E	CSEV	4	0	4	4	7	12	
778	PEC	PE-3	23EME3304R	CHARGING STATIONS FOR ELECTRIC VEHICLES	R	CSEV	3	0	2	4	5	9	
779	PEC	PE-3	23SGT3304A	ENERGY MANAGEMENT SYSTEMS AND SCADA	A	EMS&SCADA	4	0	4	4	7	12	EPE(1) Rule:1
780	PEC	PE-3	23SGT3304E	ENERGY MANAGEMENT SYSTEMS AND SCADA	E	EMS&SCADA	4	0	4	4	7	12	EPE(1) Rule:1
781	PEC	PE-3	23SGT3304R	ENERGY MANAGEMENT SYSTEMS AND SCADA	R	EMS&SCADA	3	0	2	4	5	9	EPE(1) Rule:1

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782	PEC	PE-3	23RAN3304A	ADVANCED ROBOTICS	A	AR	4	0	4	4	7	12	FOR(1) Rule:1
783	PEC	PE-3	23RAN3304E	ADVANCED ROBOTICS	E	AR	4	0	4	4	7	12	FOR(1) Rule:1
784	PEC	PE-3	23RAN3304R	ADVANCED ROBOTICS	R	AR	3	0	2	4	5	9	FOR(1) Rule:1
785	PEC	PE-3	23DEA3303A	BIG DATA TECHNOLOGIES	A	BDT	4	0	4	4	7	12	DBMS(1) Rule:1
786	PEC	PE-3	23DEA3303E	BIG DATA TECHNOLOGIES	E	BDT	4	0	4	4	7	12	DBMS(1) Rule:1
787	PEC	PE-3	23DEA3303R	BIG DATA TECHNOLOGIES	R	BDT	3	0	2	4	5	9	DBMS(1) Rule:1
788	PEC	PE-3	23WRE3203A	DESIGN OF HYDRAULIC STRUCTURES	A	DHS	5	0	0	0	5	5	
789	PEC	PE-3	23WRE3203E	DESIGN OF HYDRAULIC STRUCTURES	E	DHS	5	0	0	0	5	5	
790	PEC	PE-3	23WRE3203R	DESIGN OF HYDRAULIC STRUCTURES	R	DHS	3	0	0	0	3	3	
791	PEC	PE-3	23WRE3304A	WATER RESOURCES FIELD METHODS	A	WRFM	4	0	4	4	7	12	
792	PEC	PE-3	23WRE3304E	WATER RESOURCES FIELD METHODS	E	WRFM	4	0	4	4	7	12	
793	PEC	PE-3	23WRE3304R	WATER RESOURCES FIELD METHODS	R	WRFM	3	0	2	4	5	9	
794	PEC	PE-3	23SMD3303A	CONTINUOUS DELIVERY & DEVOPS	A	CDD	4	0	4	4	7	12	
795	PEC	PE-3	23SMD3303E	CONTINUOUS DELIVERY & DEVOPS	E	CDD	4	0	4	4	7	12	
796	PEC	PE-3	23SMD3303R	CONTINUOUS DELIVERY & DEVOPS	R	CDD	3	0	2	4	5	9	
797	PEC	PE-3	23ILA3304A	INDUSTRIAL DRIVES AND CONTROL	A	ID&C	4	0	4	4	7	12	ELM(1) Rule:1
798	PEC	PE-3	23ILA3304E	INDUSTRIAL DRIVES AND CONTROL	E	ID&C	4	0	4	4	7	12	ELM(1) Rule:1
799	PEC	PE-3	23ILA3304R	INDUSTRIAL DRIVES AND CONTROL	R	ID&C	3	0	2	4	5	9	ELM(1) Rule:1
800	PEC	PE-3	23STE3304A	BRIDGE ENGINEERING	A	BE	4	0	4	4	7	12	
801	PEC	PE-3	23STE3304E	BRIDGE ENGINEERING	E	BE	4	0	4	4	7	12	
802	PEC	PE-3	23STE3304R	BRIDGE ENGINEERING	R	BE	3	0	2	4	5	9	
803	PEC	PE-3	23VLS3303A	VLSI PHYSICAL DESIGN AUTOMATION	A	VPDA	4	0	4	4	7	12	
804	PEC	PE-3	23VLS3303E	VLSI PHYSICAL DESIGN AUTOMATION	E	VPDA	4	0	4	4	7	12	
805	PEC	PE-3	23VLS3303R	VLSI PHYSICAL DESIGN AUTOMATION	R	VPDA	3	0	2	4	5	9	
806	PEC	PE-3	23SDM3304A	SOCIAL MEDIA MARKETING ANALYTICS	A	SMMA	4	0	4	4	7	12	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
807	PEC	PE-3	23SDM3304E	SOCIAL MEDIA MARKETING ANALYTICS	E	SMMA	4	0	4	4	7	12	
808	PEC	PE-3	23SDM3304R	SOCIAL MEDIA MARKETING ANALYTICS	R	SMMA	3	0	2	4	5	9	
809	PEC	PE-3	23DSB3303A	BIG DATA ANALYTICS	A	BDA	4	0	4	4	7	12	DBMS(1) Rule:1
810	PEC	PE-3	23DSB3303E	BIG DATA ANALYTICS	E	BDA	4	0	4	4	7	12	DBMS(1) Rule:1
811	PEC	PE-3	23DSB3303R	BIG DATA ANALYTICS	R	BDA	3	0	2	4	5	9	DBMS(1) Rule:1
812	PEC	PE-3	23DCS3303A	5G WIRELESS TECHNOLOGIES	A	5GWT	4	0	4	4	7	12	WC(1) Rule:1
813	PEC	PE-3	23DCS3303E	5G WIRELESS TECHNOLOGIES	E	5GWT	4	0	4	4	7	12	WC(1) Rule:1
814	PEC	PE-3	23DCS3303R	5G WIRELESS TECHNOLOGIES	R	5GWT	3	0	2	4	5	9	WC(1) Rule:1
815	PEC	PE-3	23BEW3303A	DECENTRALIZED APPLICATIONS AND DECENTRALIZED WEB	A	DADW	4	0	4	4	7	12	
816	PEC	PE-3	23BEW3303E	DECENTRALIZED APPLICATIONS AND DECENTRALIZED WEB	E	DADW	4	0	4	4	7	12	
817	PEC	PE-3	23BEW3303R	DECENTRALIZED APPLICATIONS AND DECENTRALIZED WEB	R	DADW	3	0	2	4	5	9	
818	PEC	PE-3	23CNS3303A	CONTAINER SECURITY	A	CTSY	4	0	4	4	7	12	OS(1) Rule:1
819	PEC	PE-3	23CNS3303E	CONTAINER SECURITY	E	CTSY	4	0	4	4	7	12	OS(1) Rule:1
820	PEC	PE-3	23CNS3303R	CONTAINER SECURITY	R	CTSY	3	0	2	4	5	9	OS(1) Rule:1
821	PEC	PE-3	23CSB3304A	DIGITAL FORENSICS	A	DF	4	0	4	4	7	12	
822	PEC	PE-3	23CSB3304E	DIGITAL FORENSICS	E	DF	4	0	4	4	7	12	
823	PEC	PE-3	23CSB3304R	DIGITAL FORENSICS	R	DF	3	0	2	4	5	9	
824	PEC	PE-3	23DLA3304A	MULTI AGENT SYSTEMS	A	MAS	4	0	4	4	7	12	DBMS(1) Rule:1
825	PEC	PE-3	23DLA3304E	MULTI AGENT SYSTEMS	E	MAS	4	0	4	4	7	12	DBMS(1) Rule:1
826	PEC	PE-3	23DLA3304R	MULTI AGENT SYSTEMS	R	MAS	3	0	2	4	5	9	DBMS(1) Rule:1
827	PEC	PE-3	23IOT3305A	DEEP LEARNING	A	DL	4	0	4	4	7	12	FITS(1) Rule:1
828	PEC	PE-3	23IOT3305E	DEEP LEARNING	E	DL	4	0	4	4	7	12	FITS(1) Rule:1
829	PEC	PE-3	23IOT3305R	DEEP LEARNING	R	DL	3	0	2	4	5	9	FITS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
830	PEC	PE-3	23IMP3303A	BIO MEDICAL SIGNAL AND IMAGE ANALYSIS	A	AMSIA	4	0	4	4	7	12	DNA(1) Rule:1
831	PEC	PE-3	23IMP3303E	BIO MEDICAL SIGNAL AND IMAGE ANALYSIS	E	AMSIA	4	0	4	4	7	12	DNA(1) Rule:1
832	PEC	PE-3	23IMP3303R	BIO MEDICAL SIGNAL AND IMAGE ANALYSIS	R	AMSIA	3	0	2	4	5	9	DNA(1) Rule:1
833	PEC	PE-3	23EDS3303A	EMBEDDED AND REAL-TIME SYSTEMS	A	ERTS	4	0	4	4	7	12	
834	PEC	PE-3	23EDS3303E	EMBEDDED AND REAL-TIME SYSTEMS	E	ERTS	4	0	4	4	7	12	
835	PEC	PE-3	23EDS3303R	EMBEDDED AND REAL-TIME SYSTEMS	R	ERTS	3	0	2	4	5	9	
836	PEC	PE-3	23CPS3303A	CYBER PHYSICAL SYSTEMS	A	CPS	4	0	4	4	7	12	
837	PEC	PE-3	23CPS3303E	CYBER PHYSICAL SYSTEMS	E	CPS	4	0	4	4	7	12	
838	PEC	PE-3	23CPS3303R	CYBER PHYSICAL SYSTEMS	R	CPS	3	0	2	4	5	9	
839	PEC	PE-3	23CPD3304A	SECURE MOBILE APPLICATION DEVELOPMENT	A	SMAD	4	0	4	4	7	12	
840	PEC	PE-3	23CPD3304E	SECURE MOBILE APPLICATION DEVELOPMENT	E	SMAD	4	0	4	4	7	12	
841	PEC	PE-3	23CPD3304R	SECURE MOBILE APPLICATION DEVELOPMENT	R	SMAD	3	0	2	4	5	9	
842	PEC	PE-3	23EGD3304A	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN ENGINEERING DESIGN	A	SDSIED	4	0	4	4	7	12	EM(1) Rule:1
843	PEC	PE-3	23EGD3304E	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN ENGINEERING DESIGN	E	SDSIED	4	0	4	4	7	12	EM(1) Rule:1
844	PEC	PE-3	23EGD3304R	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN ENGINEERING DESIGN	R	SDSIED	3	0	2	4	5	9	EM(1) Rule:1
845	PEC	PE-3	23ECF3304A	HYBRID AND ELECTRIC VEHICLE DESIGN	A	HEVD	4	0	4	4	7	12	
846	PEC	PE-3	23ECF3304E	HYBRID AND ELECTRIC VEHICLE DESIGN	E	HEVD	4	0	4	4	7	12	
847	PEC	PE-3	23ECF3304R	HYBRID AND ELECTRIC VEHICLE DESIGN	R	HEVD	3	0	2	4	5	9	
848	PEC	PE-3	23HSS3303A	HARDWARE SECURITY MECHANISMS	A	HSM	4	0	4	4	7	12	
849	PEC	PE-3	23HSS3303E	HARDWARE SECURITY MECHANISMS	E	HSM	4	0	4	4	7	12	
850	PEC	PE-3	23HSS3303R	HARDWARE SECURITY MECHANISMS	R	HSM	3	0	2	4	5	9	
851	PEC	PE-3	23HDA3305A	COMPUTATIONAL NEUROSCIENCE	A	CNSE	4	0	4	4	7	12	CDS(1) Rule:1
852	PEC	PE-3	23HDA3305E	COMPUTATIONAL NEUROSCIENCE	E	CNSE	4	0	4	4	7	12	CDS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
853	PEC	PE-3	23HDA3305R	COMPUTATIONAL NEUROSCIENCE	R	CNSE	3	0	2	4	5	9	CDS(1) Rule:1
854	PEC	PE-3	23AIP3509	COMPUTATIONAL EPIDEMIOLOGY	R	CE	3	0	0	0	3	3	
855	PEC	PE-3	23AIP3305A	GENERATIVE DEEP LEARNING	A	GDL	4	0	4	4	7	12	
856	PEC	PE-3	23AIP3305E	GENERATIVE DEEP LEARNING	E	GDL	4	0	4	4	7	12	
857	PEC	PE-3	23AIP3305R	GENERATIVE DEEP LEARNING	R	GDL	3	0	2	4	5	9	
858	PEC	PE-3	23ADE3303A	EDGE AI ARCHITECTURES AND APPLICATIONS	A	EAIAA	4	0	4	4	7	12	OS(1) Rule:1
859	PEC	PE-3	23ADE3303E	EDGE AI ARCHITECTURES AND APPLICATIONS	E	EAIAA	4	0	4	4	7	12	OS(1) Rule:1
860	PEC	PE-3	23ADE3303R	EDGE AI ARCHITECTURES AND APPLICATIONS	R	EAIAA	3	0	2	4	5	9	OS(1) Rule:1
861	PEC	PE-3	23ALT3202R	DEEP LEARNING FOR NATURAL LANGUAGE PROCESSING	R	DLFNL	3	0	0	0	3	3	AIML(1) Rule:1
862	PEC	PE-3	23ALT3303A	CONVERSATIONAL AI AND CHATBOT DEVELOPMENT	A	CAICBD	4	0	4	4	7	12	AIML(1) Rule:1
863	PEC	PE-3	23ALT3303E	CONVERSATIONAL AI AND CHATBOT DEVELOPMENT	E	CAICBD	4	0	4	4	7	12	AIML(1) Rule:1
864	PEC	PE-3	23ALT3303R	CONVERSATIONAL AI AND CHATBOT DEVELOPMENT	R	CAICBD	3	0	2	4	5	9	AIML(1) Rule:1
865	PEC	PE-3	23AVI3303A	OBJECT DETECTION	A	OD	4	0	4	4	7	12	AIML(1) Rule:1
866	PEC	PE-3	23AVI3303E	OBJECT DETECTION	E	OD	4	0	4	4	7	12	AIML(1) Rule:1
867	PEC	PE-3	23AVI3303R	OBJECT DETECTION	R	OD	3	0	2	4	5	9	AIML(1) Rule:1
868	PEC	PE-3	23ACI3303A	FUZZY LOGIC WITH SET THEORY	A	FLST	4	0	4	4	7	12	AIML(1) Rule:1
869	PEC	PE-3	23ACI3303E	FUZZY LOGIC WITH SET THEORY	E	FLST	4	0	4	4	7	12	AIML(1) Rule:1
870	PEC	PE-3	23ACI3303R	FUZZY LOGIC WITH SET THEORY	R	FLST	3	0	2	4	5	9	AIML(1) Rule:1
871	PEC	PE-3	23ABT3304A	IMAGE PROCESSING FOR AGRICULTURAL APPLICATIONS	A	IPAA	4	0	4	4	7	12	
872	PEC	PE-3	23ABT3304E	IMAGE PROCESSING FOR AGRICULTURAL APPLICATIONS	E	IPAA	4	0	4	4	7	12	
873	PEC	PE-3	23ABT3304R	IMAGE PROCESSING FOR AGRICULTURAL APPLICATIONS	R	IPAA	3	0	2	4	5	9	
874	PEC	PE-3	23IBT3304A	ENZYME ENGINEERING	A	EE	4	0	4	4	7	12	BO(1) Rule:1
875	PEC	PE-3	23IBT3304E	ENZYME ENGINEERING	E	EE	4	0	4	4	7	12	BO(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
876	PEC	PE-3	23IBT3304R	ENZYME ENGINEERING	R	EE	3	0	2	4	5	9	BO(1) Rule:1
877	PEC	PE-3	23CCF3303A	VOIP AND BROADBAND NETWORKS	A	VBN	4	0	4	4	7	12	
878	PEC	PE-3	23CCF3303E	VOIP AND BROADBAND NETWORKS	E	VBN	4	0	4	4	7	12	
879	PEC	PE-3	23CCF3303R	VOIP AND BROADBAND NETWORKS	R	VBN	3	0	2	4	5	9	
880	PEC	PE-3	23CTM3304A	CONSTRUCTION PLANNING & SCHEDULING	A	CPS	4	0	4	4	7	12	
881	PEC	PE-3	23CTM3304E	CONSTRUCTION PLANNING & SCHEDULING	E	CPS	4	0	4	4	7	12	
882	PEC	PE-3	23CTM3304R	CONSTRUCTION PLANNING & SCHEDULING	R	CPS	3	0	2	4	5	9	
883	PEC	PE-3	23CSC3304A	CLOUD BASED HIGH PERFORMANCE COMPUTING	A	CHC	4	0	4	4	7	12	OS(1) Rule:1
884	PEC	PE-3	23CSC3304E	CLOUD BASED HIGH PERFORMANCE COMPUTING	E	CHC	4	0	4	4	7	12	OS(1) Rule:1
885	PEC	PE-3	23CSC3304R	CLOUD BASED HIGH PERFORMANCE COMPUTING	R	CHC	3	0	2	4	5	9	OS(1) Rule:1
886	PEC	PE-3	23CID3304A	CLOUD INFRASTRUCTURE ARCHITECTURE AND ENGINEERING	A	CIA	4	0	4	4	7	12	OS(1) Rule:1
887	PEC	PE-3	23CID3304E	CLOUD INFRASTRUCTURE ARCHITECTURE AND ENGINEERING	E	CIA	4	0	4	4	7	12	OS(1) Rule:1
888	PEC	PE-3	23CID3304R	CLOUD INFRASTRUCTURE ARCHITECTURE AND ENGINEERING	R	CIA	3	0	2	4	5	9	OS(1) Rule:1
889	PEC	PE-3	23CNE3304A	SOFTWARE ENGINEERING FOR CLOUD COMPUTING	A	SEC	4	0	4	4	7	12	OS(1) Rule:1
890	PEC	PE-3	23CNE3304E	SOFTWARE ENGINEERING FOR CLOUD COMPUTING	E	SEC	4	0	4	4	7	12	OS(1) Rule:1
891	PEC	PE-3	23CNE3304R	SOFTWARE ENGINEERING FOR CLOUD COMPUTING	R	SEC	3	0	2	4	5	9	OS(1) Rule:1
892	PEC	PE-3	23CEC3305E	CLOUD & SERVERLESS COMPUTING	E	CSC	4	0	4	4	7	12	OS(1) Rule:1
893	PEC	PE-3	23CEC3305R	CLOUD & SERVERLESS COMPUTING	R	CSC	3	0	2	4	5	9	OS(1) Rule:1
894	PEC	PE-3	23BMI3303A	MATERIALS FOR BIO-MEDICAL APPLICATIONS	A	MBMA	4	0	4	4	7	12	
895	PEC	PE-3	23BMI3303E	MATERIALS FOR BIO-MEDICAL APPLICATIONS	E	MBMA	4	0	4	4	7	12	
896	PEC	PE-3	23BMI3303R	MATERIALS FOR BIO-MEDICAL APPLICATIONS	R	MBMA	3	0	2	4	5	9	
897	PEC	PE-3	23BIS3304A	STRUCTURAL BIOLOGY	A	SB	4	0	4	4	7	12	CB(1) Rule:1
898	PEC	PE-3	23BIS3304E	STRUCTURAL BIOLOGY	E	SB	4	0	4	4	7	12	CB(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
899	PEC	PE-3	23BIS3304R	STRUCTURAL BIOLOGY	R	SB	3	0	2	4	5	9	CB(1) Rule:1
900	PEC	PE-4	23BIS3405M	APPLIED BIOINFORMATICS	M	ABI	3	0	0	0	3	3	CB(1) Rule:1
901	PEC	PE-4	23BIS3406M	NGS SEQUENCING AND DATA ANALYSIS	M	NGSDA	3	0	0	0	3	3	CB(1) Rule:1
902	PEC	PE-4	23BMI3404M	NANOTECHNOLOGY AND NANOSENSORS	M	NTNS	3	0	0	0	3	3	
903	PEC	PE-4	23CEC3406M	ADVANCED COMPUTER ARCHITECTURE	M	ACA	3	0	0	0	3	3	OS(1) Rule:1
904	PEC	PE-4	23CEC3407M	PARALLEL ALGORITHMS	M	PA	3	0	0	0	3	3	OS(1) Rule:1
905	PEC	PE-4	23CEC3408M	CLOUD SECURITY	M	CS	3	0	0	0	3	3	OS(1) Rule:1
906	PEC	PE-4	23CEC3409M	ARCHITECTING CLOUD SOLUTIONS*	M	ACS	3	0	0	0	3	3	OS(1) Rule:1
907	PEC	PE-4	23HDA3406M	NGS SEQUENCING AND DATA ANALYSIS	M	NGSDA	3	0	0	0	3	3	CDS(1) Rule:1
908	PEC	PE-4	23CNE3405M	SERVERLESS COMPUTING AND EVENT-DRIVEN ARCHITECTURES	M	SCEDA	3	0	0	0	3	3	OS(1) Rule:1
909	PEC	PE-4	23CID3405M	RELIABLE CLOUD INFRASTRUCTURE: DESIGN & PROCESS	M	RID	3	0	0	0	3	3	OS(1) Rule:1
910	PEC	PE-4	23CSC3405M	CLOUD-BASED GRID COMPUTING	M	CGC	3	0	0	0	3	3	OS(1) Rule:1
911	PEC	PE-4	23CTM3405M	CONSTRUCTION CONTRACTS	M	CC	3	0	0	0	3	3	
912	PEC	PE-4	23CTM3406M	CONSTRUCTION FORMULATION APPRAISAL	M	CFA	3	0	0	0	3	3	
913	PEC	PE-4	23CCF3404M	5G MOBILE AND IEEE STANDARDS	M	5GMI	3	0	0	0	3	3	
914	PEC	PE-4	23IBT3405M	BIOPROCESS VALIDATION AND CGMP	M	BVcGMP	3	0	0	0	3	3	BO(1) Rule:1
915	PEC	PE-4	23IBT3406M	FOOD TECHNOLOGY	M	FT	3	0	0	0	3	3	BO(1) Rule:1
916	PEC	PE-4	23ABT3405M	BIOINSTRUMENTATION	M	BIM	4	0	0	0	4	4	
917	PEC	PE-4	23ABT3406M	DATA ACQUISITION AND COMMUNICATION SYSTEMS FOR AGRICULTURE	M	DACSA	3	0	0	0	3	3	
918	PEC	PE-4	23ACI3404M	HEURISTIC ALGORITHMS	M	HAG	3	0	0	0	3	3	AIML(1) Rule:1
919	PEC	PE-4	23ACI3405M	SWARM INTELLIGENCE APPROACHES	M	SIA	3	0	0	0	3	3	AIML(1) Rule:1
920	PEC	PE-4	23AVI3404M	VISUAL RECOGNITION AND SCENE UNDERSTANDING	M	VRASU	3	0	0	0	3	3	AIML(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
921	PEC	PE-4	23AVI3405M	DEEP REINFORCEMENT LEARNING FOR VISION	M	DRLV	3	0	0	0	3	3	AIML(1) Rule:1
922	PEC	PE-4	23ALT3404M	TEXT UNDERSTANDING	M	TUS	3	0	0	0	3	3	AIML(1) Rule:1
923	PEC	PE-4	23ALT3405M	NATURAL LANGUAGE PROCESSING	M	NLP	3	0	0	0	3	3	AIML(1) Rule:1
924	PEC	PE-4	23ADE3404M	EDGE AI AND 5G	M	EAI5G	3	0	0	0	3	3	OS(1) Rule:1
925	PEC	PE-4	23ADE3405M	EDGE AI SECURITY AND PROTECTION	M	EAI5P	3	0	0	0	3	3	OS(1) Rule:1
926	PEC	PE-4	23AIP3406M	COGNITIVE COMPUTING	M	CC	3	0	0	0	3	3	
927	PEC	PE-4	23AIP3407M	PERCEPTION AND COMPUTER VISION	M	PCV	3	0	0	0	3	3	
928	PEC	PE-4	23AIP3408M	MACHINE LEARNING ON CLOUD	M	MLC	3	0	0	0	3	3	
929	PEC	PE-4	23HDA3407M	INTRODUCTION TO GENOMIC TECHNOLOGIES	M	IGT	3	0	0	0	3	3	CDS(1) Rule:1
930	PEC	PE-4	23HSS3404M	SOFTWARE SECURITY PRINCIPLES	M	SSP	3	0	0	0	3	3	
931	PEC	PE-4	23HSS3405M	SECURE CO-DESIGN METHODOLOGIES	M	SCDM	3	0	0	0	3	3	
932	PEC	PE-4	23HSS3406M	HARDWARE TROJAN DETECTION AND PREVENTION	M	HTDAP	3	0	0	0	3	3	
933	PEC	PE-4	23ECF3405M	SPECIAL PURPOSE VEHICLES	M	SPV	3	0	0	0	3	3	
934	PEC	PE-4	23ECF3406M	VEHICLE DYNAMICS	M	VD	3	0	0	0	3	3	
935	PEC	PE-4	23EGD3405M	ADVANCED VIBRATIONS	M	AV	3	0	0	0	3	3	EM(1) Rule:1
936	PEC	PE-4	23EGD3406M	MECHANICS OF COMPOSITE MATERIALS	M	MOCM	3	0	0	0	3	3	EM(1) Rule:1
937	PEC	PE-4	23CPD3406M	META REACT NATIVE SPECIALIZATION	M	MRNS	3	0	0	0	3	3	
938	PEC	PE-4	23CPS3404M	FOUNDATIONS OF HYBRID AND EMBEDDED SYSTEMS	M	DVP	3	0	0	0	3	3	
939	PEC	PE-4	23EDS3404M	CLOUD ARCHITECTURE IN IOT	M	CAIOT	3	0	0	0	3	3	FITS(1) Rule:1
940	PEC	PE-4	23IMP3404M	DATA VISUALIZATION	M	DV	3	0	0	0	3	3	DNA(1) Rule:1
941	PEC	PE-4	23DSB3406M	DIGITAL VIDEO PROCESSING	M	DVP	3	0	0	0	3	3	DBMS(1) Rule:1
942	PEC	PE-4	23IOT3406M	DATA VISUALIZATION TECHNIQUES	M	DVT	3	0	0	0	3	3	FITS(1) Rule:1
943	PEC	PE-4	23DLA3405M	BLOCKCHAIN ANALYTICS	M	BCA	3	0	0	0	3	3	DBMS(1) Rule:1
944	PEC	PE-4	23DLA3406M	CRYPTOCURRENCY AND BLOCKCHAIN TECHNOLOGY	M	CBT	3	0	0	0	3	3	DBMS(1) Rule:1

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945	PEC	PE-4	23CSB3405M	DATABASE SYSTEM AND SECURITY	M	DSS	3	0	0	0	3	3	
946	PEC	PE-4	23CSB3406M	PROGRAMMING FOR SMART CONTRACTS	M	PSC	3	0	0	0	3	3	
947	PEC	PE-4	23CSB3407M	CLOUD SECURITY	M	CS	3	0	0	0	3	3	
948	PEC	PE-4	23CNS3404M	MICROSERVICES SECURITY	M	MSS	3	0	0	0	3	3	OS(1) Rule:1
949	PEC	PE-4	23CNS3405M	INFRASTRUCTURE AS CODE SECURITY	M	ISACS	3	0	0	0	3	3	OS(1) Rule:1
950	PEC	PE-4	23CNS3406M	IDENTITY AND ACCESS MANAGEMENT IN CLOUD NATIVE ENVIRONMENTS	M	IAMCNE	3	0	0	0	3	3	OS(1) Rule:1
951	PEC	PE-4	23CNS3407M	NETWORK SECURITY IN CLOUD NATIVE ARCHITECTURES	M	NSCNA	3	0	0	0	3	3	OS(1) Rule:1
952	PEC	PE-4	23BEW3404M	BLOCKCHAIN PLATFORMS AND PROTOCOLS	M	BCPAP	3	0	0	0	3	3	
953	PEC	PE-4	23BEW3405M	BLOCKCHAIN SECURITY	M	BCS	3	0	0	0	3	3	
954	PEC	PE-4	23BEW3406M	ORACLES AND DATA FEEDS	M	ODF	3	0	0	0	3	3	
955	PEC	PE-4	23DCS3404M	OPTICAL WIRELESS COMMUNICATIONS	M	PWC	3	0	0	0	3	3	WC(1) Rule:1
956	PEC	PE-4	23DSB3404M	BIG DATA OPTIMIZATION	M	BDO	3	0	0	0	3	3	DBMS(1) Rule:1
957	PEC	PE-4	23DSB3407M	DATA ANALYTICS ON CLOUD	M	DAC	3	0	0	0	3	3	DBMS(1) Rule:1
958	PEC	PE-4	23DSB3408M	DIGITAL MEDIA ANALYTICS	M	DMA	3	0	0	0	3	3	DBMS(1)
959	PEC	PE-4	23SDM3405M	DIGITAL MEDIA ANALYTICS	M	DMA	3	0	0	0	3	3	
960	PEC	PE-4	23SDM3406M	ETHICAL SOCIAL MEDIA	M	ESM	3	0	0	0	3	3	
961	PEC	PE-4	23VLS3404M	SYSTEM-ON-CHIP	M	SOC	3	0	0	0	3	3	
962	PEC	PE-4	23STE3405M	PRESTRESSED CONCRETE	M	PC	3	0	0	0	3	3	
963	PEC	PE-4	23STE3406M	PRECAST AND PREFABRICATED STRUCTURES	M	PPS	3	0	0	0	3	3	
964	PEC	PE-4	23ILA3406M	DIGITAL MANUFACTURING AND DESIGN	M	DMD	3	0	0	0	3	3	ELM(1) Rule:1
965	PEC	PE-4	23SMD3404M	SOFTWARE PROJECT MANAGEMENT	M	SPM	3	0	0	0	3	3	
966	PEC	PE-4	23SMD3405M	SOFTWARE ARCHITECTURE & DESIGN	M	SAD	3	0	0	0	3	3	
967	PEC	PE-4	23WRE3405M	URBAN WATER HYDROLOGY AND HYDRAULICS	M	UWHH	3	0	0	0	3	3	
968	PEC	PE-4	23WRE3406M	ENVIRONMENTAL IMPACT ASSESSMENT AND LIFE CYCLE ANALYSES	M	EIALCA	3	0	0	0	3	3	

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969	PEC	PE-4	23DEA3404M	DATA WAREHOUSING AND BUSINESS INTELLIGENCE	M	DWBI	3	0	0	0	3	3	DBMS(1) Rule:1
970	PEC	PE-4	23CSC3406M	CLOUD COMPUTING FOR SCIENTIFIC DISCOVERY	M	CCFSD	3	0	0	0	3	3	OS(1) Rule:1
971	PEC	PE-4	23CNE3406M	CLOUD NATIVE SOFTWARE ARCHITECTURES	M	CNSA	3	0	0	0	3	3	OS(1) Rule:1
972	PEC	PE-4	23CID3406M	HYBRID CLOUD INTEGRATION AND MANAGEMENT	M	HCIM	3	0	0	0	3	3	OS(1) Rule:1
973	PEC	PE-4	23RAN3405M	ARTIFICIAL INTELLIGENCE FOR ROBOTICS	M	AIR	3	0	0	0	3	3	FOR(1)
974	PEC	PE-4	23RAN3406M	HUMAN MACHINE INTERFACE & BRAIN MACHINE INTERFACE	M	HMIBMI	3	0	0	0	3	3	FOR(1)
975	PEC	PE-4	23IOT3407M	APPLIED MACHINE LEARNING FOR AGRICULTURE	M	AMLA	3	0	0	0	3	3	FITS(1) Rule:1
976	PEC	PE-4	23SGT3405M	SMART GRID COMMUNICATION AND CYBERSECURITY	M	SGCCS	3	0	0	0	3	3	EPE(1) Rule:1
977	PEC	PE-4	23SGT3406M	SMART METERS AND SMART CITIES	M	SMSC	3	0	0	0	3	3	EPE(1) Rule:1
978	PEC	PE-4	23ILA3405M	INDUSTRIAL COMMUNICATION PROTOCOLS AND CYBER SECURITY	M	ICPCS	3	0	0	0	3	3	ELM(1) Rule:1
979	PEC	PE-4	23EME3405M	INTRODUCTION TO BATTERY-MANAGEMENT SYSTEMS	M	IBMS	3	0	0	0	3	3	
980	PEC	PE-4	23EME3406M	BATTERY STATE ESTIMATION ALGORITHMS FOR ELECTRIC VEHICLE	M	BSAEV	3	0	0	0	3	3	
981	PEC	PE-4	23ASS3405M	EXPERT SYSTEMS	M	ES	3	0	0	0	3	3	AIML(1) Rule:1
982	PEC	PE-4	23ASS3406M	SELF-DRIVING CARS	M	SDC	3	0	0	0	3	3	AIML(1) Rule:1
983	PEC	PE-4	23AEA3405M	VEHICLE CONTROL SYSTEMS	M	VCS	3	0	0	0	3	3	
984	PEC	PE-4	23AEA3406M	AUTOMOTIVE ELECTRICAL AND ELECTRONIC SYSTEMS	M	AEES	3	0	0	0	3	3	
985	PEC	PE-4	23SMF3405M	ROBOTICS & INDUSTRIAL AUTOMATION	M	RIA	3	0	0	0	3	3	MSM(1) Rule:1
986	PEC	PE-4	23SMF3406M	MECHANICAL MEASUREMENTS AND METROLOGY	M	MMM	3	0	0	0	3	3	MSM(1) Rule:1
987	PEC	PE-4	23SCI3404M	SPATIAL AND SOCIAL IMPLICATIONS OF IMMERSIVE TECHNOLOGIES	M	SSIIT	3	0	0	0	3	3	DNA(1) Rule:1
988	PEC	PE-4	23SCI3405M	SPATIAL AUDIO DESIGN FOR GAMES	M	SADG	3	0	0	0	3	3	
989	PEC	PE-4	23GDU3404M	COMPUTER GRAPHICS	M	CG	3	0	0	0	3	3	CTSD(1) Rule:1
990	PEC	PE-4	23GDU3405M	3D MODELLING & ANIMATION	M	3DMA	3	0	0	0	3	3	CTSD(1) Rule:1
991	PEC	PE-4	23GTE3405M	URBAN TRANSPORTATION SYSTEMS PLANNING	M	UTSP	3	0	0	0	3	3	FOR(1)

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992	PEC	PE-4	23GTE3406M	GEOTECHNICAL EARTHQUAKE ENGINEERING	M	BIE	3	0	0	0	3	3	
993	PEC	PE-4	23GET3405M	ENERGY MANAGEMENT AND GREEN BUILDING	M	EMGB	3	0	0	0	3	3	
994	PEC	PE-4	23GET3406M	HYDROGEN FUEL CELL TECHNOLOGY	M	HFCT	3	0	0	0	3	3	
995	PEC	PE-4	23CPD3405M	UX DESIGN	M	UXD	3	0	0	0	3	3	
996	PEC	PE-4	23MBT3405M	CANCER BIOLOGY	M	CB	3	0	0	0	3	3	
997	PEC	PE-4	23MBT3406M	NEUROBIOLOGY	M	NB	3	0	0	0	3	3	
998	PEC	PE-4	23GEG3405M	GENOMICS AND PROTEOMICS	M	GP	3	0	0	0	3	3	GN(1) Rule:1
999	PEC	PE-4	23GEG3406M	DNA FORENSICS	M	DNF	3	0	0	0	3	3	GN(1) Rule:1
1000	PEC	PE-4	23RFM3404M	RF AND MILLIMETER-WAVE CIRCUIT DESIGN	M	RFMECD	3	0	0	0	3	3	
1001	PEC	PE-4	23ASS3410M	CYBERSECURITY IN AUTONOMUS VEHICLE	M	CAV	3	0	0	0	3	3	
1002	PEC	PE-5	23ASS3511	AI DRIVEN ECU DESIGN FOR AUTONOMOUS VEHICLES	R	AEDATT	2	0	2	0	3	4	
1003	PEC	PE-5	23RFM3505	SATELLITE DESIGN	R	SD	3	0	0	0	3	3	
1004	PEC	PE-5	23GEG3507	MICROBIAL GENETICS	R	MBG	3	0	0	0	3	3	GN(1) Rule:1
1005	PEC	PE-5	23GEG3508	GENE AND ENVIRONMENT	R	BI	3	0	0	0	3	3	GN(1) Rule:1
1006	PEC	PE-5	23MBT3507	BIOELECTRONICS & BIOSENSORS	R	BB	3	0	0	0	3	3	
1007	PEC	PE-5	23MBT3508	TISSUE ENGINEERING	R	NBT	3	0	0	0	3	3	
1008	PEC	PE-5	23GET3507	AI AND IOT FOR GREEN ENERGY INTEGRATION	R	AIGEI	3	0	0	0	3	3	FITS(1) Rule:1
1009	PEC	PE-5	23GET3508	POWER ELECTRONICS FOR RENEWABLE ENERGY SYSTEMS	R	PERES	3	0	0	0	3	3	
1010	PEC	PE-5	23GTE3507	TRAFFIC ENGINEERING AND MANAGEMENT	R	TEM	3	0	0	0	3	3	
1011	PEC	PE-5	23GTE3508	DESIGN OF EARTH RETAINING STRUCTURES	R	DERS	3	0	0	0	3	3	
1012	PEC	PE-5	23GDU3506	PRINCIPLES OF GAME DESIGN	R	PRGD	3	0	0	0	3	3	CTSD(1) Rule:1
1013	PEC	PE-5	23GDU3507	BUSINESS OF GAMES & ENTREPRENEURSHIP	R	BGE	3	0	0	0	3	3	CTSD(1) Rule:1
1014	PEC	PE-5	23SCI3506	SPATIAL USER INTERFACE DESIGN	R	SUID	3	0	0	0	3	3	
1015	PEC	PE-5	23SCI3507	INTRODUCTION TO SPATIAL COMPUTING	R	ITSC	3	0	0	0	3	3	

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1016	PEC	PE-5	23SMF3507	MACHINE TO MACHINE COMMUNICATION	R	MMC	3	0	0	0	3	3	MSM(1) Rule:1
1017	PEC	PE-5	23SMF3508	FLEXIBLE MANUFACTURING SYSTEMS	R	FMS	3	0	0	0	3	3	MSM(1) Rule:1
1018	PEC	PE-5	23AEA3507	SOFT COMPUTING TECHNIQUES FOR AUTOMOTIVE APPLICATIONS	R	SCTAA	3	0	0	0	3	3	
1019	PEC	PE-5	23AEA3508	AUTOMOTIVE NETWORKING AND PROTOCOLS	R	ANP	3	0	0	0	3	3	
1020	PEC	PE-5	23ASS3507	LOCALIZATION & PROGRAMMING REAL-TIME AUTONOMOUS SYSTEMS	R	LPRAS	3	0	0	0	3	3	AIML(1) Rule:1
1021	PEC	PE-5	23ASS3508	REINFORCEMENT LEARNING FOR AUTONOMOUS SYSTEM	R	RLA	3	0	0	0	3	3	AIML(1) Rule:1
1022	PEC	PE-5	23EME3507	AI AND IOT FOR ELECTRIC VEHICLE	R	AIEV	3	0	0	0	3	3	FITS(1) Rule:1
1023	PEC	PE-5	23EME3508	EV SYSTEM AND WIRING DESIGN	R	ESWS	3	0	0	0	3	3	
1024	PEC	PE-5	23ILA3507	SMART SENSORS AND SENSOR NETWORKING	R	SSSN	3	0	0	0	3	3	ELM(1) Rule:1
1025	PEC	PE-5	23SGT3507	INTERNET OF THINGS AND SMART GRID ANALYTICS	R	IOT&SGA	3	0	0	0	3	3	EPE(1) Rule:1
1026	PEC	PE-5	23SGT3508	SMART GRID PROTECTION	R	SGP	3	0	0	0	3	3	EPE(1) Rule:1
1027	PEC	PE-5	23RAN3507	COMPUTER VISION & APPLICATIONS	R	CVA	3	0	0	0	3	3	FOR(1) Rule:1
1028	PEC	PE-5	23CID3508	CLOUD DATA MANAGEMENT AND STORAGE SOLUTIONS	R	CDMSS	3	0	0	0	3	3	OS(1) Rule:1
1029	PEC	PE-5	23CNE3508	CLOUD INFRASTRUCTURE AND VIRTUALIZATION	R	CIIV	3	0	0	0	3	3	OS(1) Rule:1
1030	PEC	PE-5	23CSC3508	PARALLEL COMPUTING FOR SCIENTISTS USING CLOUD PLATFORMS	R	PCSCP	3	0	0	0	3	3	OS(1) Rule:1
1031	PEC	PE-5	23CSC3507	CLOUD-BASED SCALABLE COMPUTING AND BIG DATA ANALYTICS	R	CSCBD	3	0	0	0	3	3	OS(1) Rule:1
1032	PEC	PE-5	23DEA3505	MACHINE LEARNING ENGINEERING FOR BIG DATA	R	MLEBD	3	0	0	0	3	3	DBMS(1) Rule:1
1033	PEC	PE-5	23WRE3507	PHYSICO-CHEMICAL PROCESSES FOR WATER AND WASTEWATER TREATMENT	R	PCPWWT	3	0	0	0	3	3	
1034	PEC	PE-5	23SMD3506	SOFTWARE RELIABILITY	R	SR	3	0	0	0	3	3	
1035	PEC	PE-5	23SMD3507	CROSS-PLATFORM USER INTERFACE DESIGN	R	CPUIF	3	0	0	0	3	3	
1036	PEC	PE-5	23STE3507	PRE ENGINEERING STRUCTURES	R	PES	3	0	0	0	3	3	
1037	PEC	PE-5	23STE3508	ADVANCED DESIGN OF REINFORCED CONCRETE STRUCTURES	R	ADRCS	3	0	0	0	3	3	

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1038	PEC	PE-5	23SDM3507	INTELLIGENT SOCIAL MEDIA MONITORING SYSTEMS	R	ISMMS	3	0	0	0	3	3	
1039	PEC	PE-5	23DSB3509	ADVANCED DATABASES	R	AD	3	0	0	0	3	3	DBMS(1) Rule:1
1040	PEC	PE-5	23DSB3510	BUSINESS ANALYTICS	R	BA	3	0	0	0	3	3	DBMS(1) Rule:1
1041	PEC	PE-5	23DSB3511	GRAPH & WEB ANALYTICS	R	GWA	3	0	0	0	3	3	DBMS(1) Rule:1
1042	PEC	PE-5	23DSB3512	DATA GOVERNANCE ON CLOUD	R	DGC	3	0	0	0	3	3	DBMS(1) Rule:1
1043	PEC	PE-5	23DCS3505	MACHINE LEARNING FOR WIRELESS COMMUNICATION	R	MLWC	3	0	0	0	3	3	WC(1) Rule:1
1044	PEC	PE-5	23BEW3507	BLOCKCHAIN SCALABILITY AND LAYER 2 SOLUTIONS	R	BCSALS	3	0	0	0	3	3	
1045	PEC	PE-5	23BEW3508	REGULATORY LANDSCAPE AND COMPLIANCE	R	RLAC	3	0	0	0	3	3	
1046	PEC	PE-5	23BEW3509	FUTURE TRENDS IN BLOCKCHAIN AND WEB3	R	FTBCAW	3	0	0	0	3	3	
1047	PEC	PE-5	23CNS3508	MONITORING AND LOGGING FOR CLOUD NATIVE SECURITY	R	MLCNS	3	0	0	0	3	3	OS(1) Rule:1
1048	PEC	PE-5	23CNS3509	COMPLIANCE AND GOVERNANCE IN CLOUD NATIVE ENVIRONMENTS	R	CGCNE	3	0	0	0	3	3	OS(1) Rule:1
1049	PEC	PE-5	23CNS3510	SERVERLESS SECURITY	R	SLSY	3	0	0	0	3	3	OS(1) Rule:1
1050	PEC	PE-5	23CNS3511	CLOUD NATIVE SECURITY TOOLS AND SOLUTIONS	R	CNSTAS	3	0	0	0	3	3	OS(1) Rule:1
1051	PEC	PE-5	23CNS3512	FUTURE TRENDS IN CLOUD NATIVE SECURITY	R	FTCNS	3	0	0	0	3	3	OS(1) Rule:1
1052	PEC	PE-5	23CSB3508	SECURE SOFTWARE ENGINEERING	R	SSE	3	0	0	0	3	3	
1053	PEC	PE-5	23CSB3509	WEB SECURITY	R	WS	3	0	0	0	3	3	
1054	PEC	PE-5	23CSB3510	SECURITY GOVERNANCE & MANAGEMENT	R	SGM	3	0	0	0	3	3	
1055	PEC	PE-5	23DLA3507	DISTRIBUTED LEDGER ARCHITECTURE FOR AUTOMATION	R	DLAA	3	0	0	0	3	3	DBMS(1) Rule:1
1056	PEC	PE-5	23DLA3508	PERMISSIONED DISTRIBUTED LEDGER	R	PDL	3	0	0	0	3	3	DBMS(1) Rule:1
1057	PEC	PE-5	23IOT3508	BIG DATA ANALYTICS	R	BDA	3	0	0	0	3	3	FITS(1) Rule:1
1058	PEC	PE-5	23IMP3505	MULTI MEDIA PROCESSING	R	MMP	3	0	0	0	3	3	DNA(1) Rule:1
1059	PEC	PE-5	23IMP3506	INTRODUCTION TO QUANTUM COMPUTING	R	MMP	3	0	0	0	3	3	DNA(1) Rule:1
1060	PEC	PE-5	23EDS3505	EDGE COMPUTING & DATA ANALYTICS IN IOT	R	ECDAI	3	0	0	0	3	3	FITS(1)

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1061	PEC	PE-5	23ILA3508	PLC PROGRAMMING & CONTROL	R	PLCPC	3	0	0	0	3	3	ELM(1) Rule:1
1062	PEC	PE-5	23CPS3505	CLOUD COMPUTING FOR IOT ENGINEERS	R	CCIOTE	3	0	0	0	3	3	FITS(1) Rule:1
1063	PEC	PE-5	23CPS3506	WIRELESS SENSOR NETWORKS	R	WSN	3	0	0	0	3	3	
1064	PEC	PE-5	23CPS3507	EDGE COMPUTING	R	EC	3	0	0	0	3	3	
1065	PEC	PE-5	23HDA3510	GENOMIC DATA SCIENCE & CLUSTERING	R	GDSC	3	0	0	0	3	3	CDS(1) Rule:1
1066	PEC	PE-5	23CPD3507	ADVANCED MOBILE APPLICATION DEVELOPMENT	R	AMAD	3	0	0	0	3	3	
1067	PEC	PE-5	23CPD3508	CROSS PLATFORM USER INTERFACE DESIGN	R	CPED	3	0	0	0	3	3	
1068	PEC	PE-5	23EGD3507	ADVANCED STRENGTH OF MATERIALS	R	ASM	3	0	0	0	3	3	EM(1) Rule:1
1069	PEC	PE-5	23EGD3508	HYBRID AND ELECTRIC VEHICLE DESIGN	R	HEVD	3	0	0	0	3	3	EM(1) Rule:1
1070	PEC	PE-5	23ECF3507	THERMAL MANAGEMENT OF ELECTRIC AND ELECTRONIC SYSTEMS	R	TMEES	3	0	0	0	3	3	
1071	PEC	PE-5	23ECF3508	ALTERNATE ENERGY SOURCES FOR AUTOMOBILES	R	AESFA	3	0	0	0	3	3	
1072	PEC	PE-5	23HSS3507	SIDE-CHANNEL ATTACKS AND COUNTERMEASURES	R	SCACM	3	0	0	0	3	3	
1073	PEC	PE-5	23HSS3508	FORMAL METHODS FOR HARDWARE-SOFTWARE SECURITY	R	FMHSS	3	0	0	0	3	3	
1074	PEC	PE-5	23HSS3509	TRUSTED PLATFORM MODULES AND SECURE ELEMENTS	R	TPMASE	3	0	0	0	3	3	
1075	PEC	PE-5	23HSS3510	SECURE COMMUNICATION PROTOCOLS AND APIS	R	SCPA	3	0	0	0	3	3	
1076	PEC	PE-5	23HSS3511	HARDWARE-SOFTWARE CO-DESIGN	R	HSCCS	3	0	0	0	3	3	
1077	PEC	PE-5	23HSS3512	FUTURE TRENDS IN HARDWARE-SOFTWARE CO-DESIGN FOR SECURITY	R	FTHSCS	3	0	0	0	3	3	
1078	PEC	PE-5	23HDA3511	EPI GENETIC CONTROL OF GENE EXPRESSION	R	ECBI	3	0	0	0	3	3	CDS(1) Rule:1
1079	PEC	PE-5	23AIP3510	NATURAL LANGUAGE PROCESSING	R	NLP	3	0	0	0	3	3	
1080	PEC	PE-5	23AIP3511	SPEECH PROCESSING	R	SP	2	0	2	0	3	4	
1081	PEC	PE-5	23AIP3512	DESIGN & MANAGEMENT OF DISTRIBUTED APPLICATIONS FOR AI ON CLOUD	R	DMDAAC	3	0	0	0	3	3	
1082	PEC	PE-5	23AIP3513	ARCHITECTING DEEP LEARNING WORKLOADS ON CLOUD	R	ADLWC	3	0	0	0	3	3	

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1083	PEC	PE-5	23ADE3506	EDGE AI DEVELOPMENT FRAMEWORKS AND TOOLS	R	EADFT	3	0	0	0	3	3	OS(1) Rule:23CS2104
1084	PEC	PE-5	23ADE3507	EDGE AI ANALYTICS AND DATA MANAGEMENT	R	EAIADM	3	0	0	0	3	3	OS(1) Rule:1
1085	PEC	PE-5	23ADE3508	EDGE AI AND SUSTAINABILITY	R	EAIAS	3	0	0	0	3	3	OS(1) Rule:1
1086	PEC	PE-5	23ALT3506	LANGUAGE UNDERSTANDING WITH PRE-TRAINED MODELS	R	LUWPTM	3	0	0	0	3	3	AIML(1) Rule:1
1087	PEC	PE-5	23ALT3507	LARGE LANGUAGE MODEL FOR SPEECH PROCESSING	R	LLMFSP	3	0	0	0	3	3	AIML(1) Rule:1
1088	PEC	PE-5	23AVI3506	HUMAN COMPUTER INTERACTION	R	HCI	3	0	0	0	3	3	AIML(1) Rule:1
1089	PEC	PE-5	23AVI3507	OBJECT LOCALIZATION	R	OL	3	0	0	0	3	3	AIML(1) Rule:1
1090	PEC	PE-5	23AVI3508	ADVANCED IMAGE PROCESSING AND ANALYSIS	R	AIPA	3	0	0	0	3	3	AIML(1) Rule:1
1091	PEC	PE-5	23ACI3506	DATA MANIPULATION	R	DMP	3	0	0	0	3	3	AIML(1) Rule:1
1092	PEC	PE-5	23ACI3507	REINFORCEMENT LEARNING	R	RLG	3	0	0	0	3	3	AIML(1) Rule:1
1093	PEC	PE-5	23ACI3508	EVOLUTIONARY COMPUTATION	R	ECP	3	0	0	0	3	3	AIML(1) Rule:1
1094	PEC	PE-5	23ABT3507	MICROFLUIDICS FOR AGRICULTURAL APPLICATIONS	R	MAP	3	0	0	0	3	3	
1095	PEC	PE-5	23ABT3508	BIOINFORMATICS FOR AGRICULTURE	R	BIA	3	0	0	0	3	3	
1096	PEC	PE-5	23IBT3507	MICROBIAL TECHNOLOGY	R	MBT	3	0	0	0	3	3	BO(1) Rule:1
1097	PEC	PE-5	23IBT3508	METABOLIC ENGINEERING	R	MBE	3	0	0	0	3	3	BO(1) Rule:1
1098	PEC	PE-5	23CCF3505	IP MULTIMEDIA SUB-SYSTEM & EMERGING TECHNOLOGIES	R	IMSET	3	0	0	0	3	3	
1099	PEC	PE-5	23CCF3506	IT SECURITY: DEFENCE AGAINST THE DIGITAL DARK ARTS	R	IMSET	3	0	0	0	3	3	
1100	PEC	PE-5	23CTM3507	QUALITY AND SAFETY IN CONSTRUCTION	R	QSC	3	0	0	0	3	3	
1101	PEC	PE-5	23CTM3508	GREEN BUILDING	R	GB	3	0	0	0	3	3	
1102	PEC	PE-5	23CID3507	CLOUD ENGINEERING	R	CE	3	0	0	0	3	3	OS(1) Rule:1
1103	PEC	PE-5	23CNE3507	CLOUD NATIVE NETWORKING AND STORAGE SYSTEMS	R	CNNSS	3	0	0	0	3	3	OS(1) Rule:1
1104	PEC	PE-5	23HDA3509	MOLECULAR MODELING AND DRUG DESIGN	R	MMDD	3	0	0	0	3	3	CDS(1) Rule:1
1105	PEC	PE-5	23SDM3508	SEARCH ENGINE OPTIMIZATION	R	SEO	3	0	0	0	3	3	

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1106	PEC	PE-5	23CEC3510	EDGE COMPUTING	R	EC	3	0	0	0	3	3	OS(1) Rule:1
1107	PEC	PE-5	23CEC3511	HIGH PERFORMANCE COMPUTING	R	HPC	3	0	0	0	3	3	OS(1) Rule:1
1108	PEC	PE-5	23CEC3512	DESIGN OF DISTRIBUTED APPLICATIONS ON CLOUD (DDA)	R	DDAC	3	0	0	0	3	3	OS(1) Rule:1
1109	PEC	PE-5	23CEC3513	CLOUD NETWORKING	R	CN	3	0	0	0	3	3	OS(1) Rule:1
1110	PEC	PE-5	23BMI3505	BIOSENSING AND BIOELECTRONICS	R	BSBE	3	0	0	0	3	3	
1111	PEC	PE-5	23BIS3507	SYSTEMS BIOLOGY	R	SSB	3	0	0	0	3	3	CB(1) Rule:1
1112	PEC	PE-5	23BIS3508	DATABASE MANAGEMENT SYSTEM FOR BIOLOGIST	R	DBMS	3	0	0	0	3	3	CB(1) Rule:1
1113	PEC	PE-6	23WRE3508	SUSTAINABLE ENGINEERING AND TECHNOLOGY	R	SET	3	0	0	0	3	3	
1114	PRI	PRI-CORE	23IE2040	SOCIAL INTERNSHIP	R	SIP	0	0	0	4	0	4	
1115	PRI	PRI-CORE	23IE3041	TECHNICAL INTERNSHIP	R	TIP	0	0	0	4	0	4	
1116	PRI	PRI-CORE	23IE4053R	CAPSTONE PROJECT - 1	R	CP-1	0	0	8	16	8	24	
1117	PRI	PRI-CORE	23IE4054R	CAPSTONE PROJECT - 2	R	CP-2	0	0	8	16	8	24	
1118	OEC	OE-1	23ACCABT	BUSINESS TECHNOLOGY	R	BT	4	0	0	0	4	4	
1119	OEC	OE-1	22FT2212R	PROCESSING OF AQUATIC FOODS	R	PAF	3	0	2	0	4	5	
1120	OEC	OE-1	23OECE08	GEOGRAPHIC INFORMATION SYSTEMS	M	GIS	4	0	0	0	4	4	
1121	OEC	OE-1	23OECE02	ENVIRONMENTAL POLLUTION CONTROL METHODS	R	EPCM	4	0	0	0	4	4	
1122	OEC	OE-1	23OEEC12	NANO ELECTRONICS	R	NEN	4	0	0	0	4	4	
1123	OEC	OE-1	23ME2208	MANUFACTURING PROCESSES	R	MP	3	0	2	0	4	5	
1124	OEC	OE-1	23OECE02	ENERGY ESTIMATION & AUDIT	R	EEA	4	0	0	0	4	4	
1125	OEC	OE-1	23OECE03	ELECTRICAL POWER ENGINEERING	R	EPE	4	0	0	0	4	4	
1126	OEC	OE-1	23OEBT01	IPR AND PATENT LAWS	R	IPR	4	0	0	0	4	4	
1127	OEC	OE-1	23BT2209R	BIOCHEMICAL REACTION ENGINEERING	R	BCRE	3	0	2	0	4	5	
1128	OEC	OE-1	23IN2101R	IOT SYSTEM DESIGN	R	IOTPA	3	0	2	0	4	5	
1129	OEC	OE-1	23EC2105R	SIGNALS & COMMUNICATION SYSTEMS	R	SCS	3	0	2	0	4	5	
1130	OEC	OE-1	23AD2102R	DATABASE MANAGEMENT SYSTEMS	R	DBMS	3	0	2	0	4	5	
1131	OEC	OE-1	23AD2204R	DATA MANAGEMENT AND WAREHOUSING	R	DMW	3	0	2	0	4	5	

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1132	OEC	OE-2	23AD3106R	BIG DATA ENGINEERING	R	BDE	3	0	2	0	4	5	
1133	OEC	OE-2	23EC2208R	DIGITAL COMMUNICATION	R	DC	3	0	2	0	4	5	
1134	OEC	OE-2	23IN2102	ELECTRONIC DEVICES AND INTEGRATED CIRCUITS	R	EDAIC	3	0	2	0	4	5	
1135	OEC	OE-2	23OEEC11	IMAGE PROCESSING	R	IMP	4	0	0	0	4	4	
1136	OEC	OE-2	23ME3110	HEAT TRANSFER	R	HT	3	0	2	0	4	5	
1137	OEC	OE-2	23BT3212	PLANT AND ANIMAL BIOTECHNOLOGY	R	PABT	3	0	2	0	4	5	
1138	OEC	OE-2	23OEME02	MECHATRONICS	R	MCT	4	0	0	0	4	4	
1139	OEC	OE-2	23EE2207R	CONTROL SYSTEMS	R	CS	3	0	2	0	4	5	
1140	OEC	OE-2	23CI2001	ADAPTIVE SOFTWARE ENGINEERING	R	ASE	3	1	0	0	4	4	
1141	OEC	OE-2	23OECE03	SOLID AND HAZARDOUS WASTE MANAGEMENT	R	SHWM	4	0	0	0	4	4	
1142	OEC	OE-2	23ACCAFA	FINANCIAL ACCOUNTING	R	FA	3	2	0	0	5	5	
1143	OEC	OE-2	22FT22C1R	FOOD ANALYSIS AND QUALITY ASSURANCE	R	FAQA	3	0	2	0	4	5	
1144	OEC	OE-3	23ACCAMA	MANAGEMENT ACCOUNTING	R	MA	3	2	0	0	5	5	
1145	OEC	OE-3	22FT3215R	TECHNOLOGY OF MEAT AND POULTRY	R	TMP	3	0	2	0	4	5	
1146	OEC	OE-3	23OECE04	REMOTE SENSING & GIS	R	RSGIS	4	0	0	0	4	4	
1147	OEC	OE-3	23OECE05	DISASTER MANAGEMENT	R	RSGIS	4	0	0	0	4	4	
1148	OEC	OE-3	OEME0001M	ROBOTICS	M	RBT	4	0	0	0	4	4	
1149	OEC	OE-3	OEME0001	ROBOTICS	R	RBT	4	0	0	0	4	4	
1150	OEC	OE-3	23EE2205R	POWER ELECTRONICS	R	PES	3	0	2	0	4	5	
1151	OEC	OE-3	23OEEE01	RENEWABLE ENERGY RESOURCES	R	RER	4	0	0	0	4	4	
1152	OEC	OE-3	23ME3214R	MACHINE DESIGN	R	MD	3	0	2	0	4	5	
1153	OEC	OE-3	23EC3112R	DISCRETE TIME SIGNAL PROCESSING	R	DTSP	3	0	2	0	4	5	
1154	OEC	OE-3	23IN2203	WIRELESS TECHNOLOGIES FOR IOT	R	WTIOT	3	0	2	0	4	5	
1155	OEC	OE-3	23BT3213R	DOWNSTREAM PROCESSING	R	DSP	2	0	4	0	4	6	
1156	OEC	OE-3	23AD3207R	NATURAL LANGUAGE PROCESSING	R	NLP	3	0	2	0	4	5	
1157	OEC	OE-3	23CS2104R	OPERATING SYSTEMS	R	OS	3	0	2	0	4	5	
1158	VAC	VAC-	23CC3008	AUTOCAD	R	ACAD	0	0	0	8	0	8	
1159	VAC	VAC-	23SP2101	ATHLETICS	R	ATH	0	0	0	2	0	2	

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1160	VAC	VAC-	23SP2103	BADMINTON	R	BMT	0	0	0	2	0	2	
1161	VAC	VAC-	23SP2109	KHO-KHO	R	KHO	0	0	0	2	0	2	
1162	VAC	VAC-	23SP2111	TABLE TENNIS	R	TTS	0	0	0	2	0	2	
1163	VAC	VAC-	23SP2110	TENNIS	R	TNS	0	0	0	2	0	2	
1164	VAC	VAC-	23SP2105	CHESS	R	CHS	0	0	0	2	0	2	
1165	VAC	VAC-	23SP2104	CRICKET	R	CRKT	0	0	0	2	0	2	
1166	VAC	VAC-	23SP2114	VOLLEYBALL	R	VOB	0	0	0	2	0	2	
1167	VAC	VAC-	23SP2116	YOGA	R	YOG	0	0	0	2	0	2	
1168	VAC	VAC-CERT	23SP2108	KABADDI	R	KBD	0	0	0	2	0	2	
1169	VAC	VAC-CERT	23SP2113	THROW BALL	R	THB	0	0	0	2	0	2	
1170	VAC	VAC-CERT	23SP2102	BASKETBALL	R	BKB	0	0	0	2	0	2	
1171	VAC	VAC-CERT	23CC3009	AUTODESK FUSION 360	R	ADF	0	0	0	8	0	8	
1172	VAC	VAC-CERT	23CC3032	EXPLORATION OF STRUCTURAL ELEMENTS	R	EOSE	0	0	0	8	0	8	
1173	VAC	VAC-CERT	23CC3070	PRACTICAL APPROACHES IN BUILDING PLANNING AND CONSTRUCTION	R	PABPC	0	0	0	8	0	8	
1174	VAC	VAC-CERT	23CC3078	ROAD SAFETY AUDIT	R	RSA	0	0	0	8	0	8	
1175	AUC	AUC-CORE	23UC0008	INDIAN CONSTITUTION	R	IC	2	0	0	0	0	2	
1176	AUC	AUC-CORE	23UC0017	INDIAN KNOWLEDGE SYSTEMS: VEDIC MATHEMATICS	R	IKSVM	0	0	0	2	0	2	
1177	AUC	AUC-CORE	22UC0009	ECOLOGY AND ENVIRONMENT	R	E&E	2	0	0	0	0	2	
1178	AUC	AUC-CORE	23UC0013	GLOBAL LOGIC BUILDING CONTEST PRACTICUM	R	GLBCP	0	0	0	2	0	2	
1179	AUC	AUC-CORE	23UC0014	GLOBAL LOGIC BUILDING CONTEST PRACTICUM	R	GLBCP	0	0	0	2	0	2	
1180	AUC	AUC-CAREER	CRTCODL2V2	CAMPUS RECRUITMENT: CODING SKILLS TRAINING - DATA STRUCTURES	R	CRT: CST-DS	0	0	0	8	0	8	
1181	AUC	AUC-CAREER	CRTCODL3V3	CAMPUS RECRUITMENT: CODING SKILLS TRAINING - ALGORITHMS	R	CRT: CST-	0	0	0	8	0	8	
1182	AUC	AUC-CAREER	CRTVQRL1V1	CAMPUS RECRUITMENT: VERBAL APTITUDE TRAINING	R	CRT: VAT	0	0	0	8	0	8	
1183	AUC	AUC-CAREER	CRTVQRL2V2	CAMPUS RECRUITMENT: QUANTITATIVE APTITUDE TRAINING	R	CRT: QAT	0	0	0	8	0	8	
1184	AUC	AUC-CAREER	CRTVQRL3V3	CAMPUS RECRUITMENT: REASONING APTITUDE TRAINING	R	CRT: RAT	0	0	0	8	0	8	

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1185	AUC	AUC-CAREER	CRTCSSL1V1	CAMPUS RECRUITMENT: COMMUNICATION SKILLS TRAINING	R	CRT: CST	0	0	0	8	0	8	
1186	AUC	AUC-CAREER	CRTCSSL2V2	CAMPUS RECRUITMENT: SOFT SKILLS TRAINING	R	CRT: SST	0	0	0	8	0	8	
1187	AUC	AUC-CAREER	CRTTOLL1V1	CAMPUS RECRUITMENT: TOOL BASED TRAINING	R	CRT: TBT	0	0	0	8	0	8	
1188	AUC	AUC-CAREER	CRTTOLL2V2	CAMPUS RECRUITMENT: TOOL BASED TRAINING	R	CRT: TBT	0	0	0	8	0	8	
1189	AUC	AUC-CAREER	CRTINDL1V1	CAMPUS RECRUITMENT: INDUSTRY-SPECIFIC TRAINING	R	CRT: IST	0	0	0	8	0	8	
1190	AUC	AUC-CAREER	CRTINDL2V2	CAMPUS RECRUITMENT: INDUSTRY-SPECIFIC TRAINING	R	CRT: IST	0	0	0	8	0	8	
1191	AUC	AUC-CAREER	CADCORL1V1	CAREER ADVANCEMENT: TRAINING IN CORE DOMAIN	R	CAD: TICD	0	0	0	8	0	8	
1192	AUC	AUC-CAREER	CADCORL2V2	CAREER ADVANCEMENT: TRAINING IN CORE DOMAIN	R	CAD: TICD	0	0	0	8	0	8	
1193	AUC	AUC-CAREER	CADUPSL1V1	CAREER ADVANCEMENT: UPSC-CIVIL SERVICES EXAM TRAINING	R	CAD: UPSC	0	0	0	8	0	8	
1194	AUC	AUC-CAREER	CADUPSL2V2	CAREER ADVANCEMENT: UPSC-CIVIL SERVICES EXAM TRAINING	R	CAD: UPSC	0	0	0	8	0	8	
1195	AUC	AUC-CAREER	CADGATL1V1	CAREER ADVANCEMENT: GATE TRAINING	R	CAD: GATE	0	0	0	8	0	8	
1196	AUC	AUC-CAREER	CADGREL1V1	CAREER ADVANCEMENT: GRE, TOEFL & IELTS TRAINING	R	CAD: GRE-	0	0	0	8	0	8	
1197	AUC	AUC-CAREER	CADCATL1V1	CAREER ADVANCEMENT: CAT, GMAT TRAINING	R	CAD: CAT-	0	0	0	8	0	8	
1198	AUC	AUC-CAREER	CADENTL1V1	CAREER ADVANCEMENT: ENTREPRENEURIAL CAREER PATHWAY TRAINING	R	CAD: ECPT	0	0	0	8	0	8	
1199	AUC	AUC-CAREER	CRTCODL1V1	CAMPUS RECRUITMENT: LOGIC BUILDING SKILLS TRAINING	R	CRT: LBST	0	0	0	8	0	8	
1200	SIL	SIL-CORE	22UC0021	SOCIAL IMMERSIVE LEARNING	R	SIL-1	0	0	0	4	1	4	
1201	SIL	SIL-CORE	22UC0022	SOCIAL IMMERSIVE LEARNING	R	SIL-2	0	0	0	4	1	4	
1202	SIL	SIL-CORE	22UC0023	SOCIAL IMMERSIVE LEARNING	R	SIL-3	0	0	0	4	1	4	
1203	MIN	MIN-CORE	23MRWS02	SOIL AND WATER CONSERVATION ENGINEERING	R	SWCE	3	0	2	0	4	5	
1204	MIN	MIN-CORE	23MRWS03	IRRIGATION WATER MANAGEMENT	R	IWM	3	0	2	0	4	5	
1205	MIN	MIN-CORE	23MRWS04	RAINFED AGRICULTURE AND WATERSHED MANAGEMENT	R	RAWM	3	0	2	0	4	5	
1206	MIN	MIN-CORE	23MRID01	INTRODUCTION TO INTERIOR DESIGN	R	IID	3	0	2	0	4	5	
1207	MIN	MIN-CORE	23MRID02	SPACE PLANNING AND LAYOUT	R	SPL	3	0	2	0	4	5	
1208	MIN	MIN-CORE	23MRID03	INTERIOR MATERIAL AND FINISHES	R	IMF	3	0	2	0	4	5	

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1209	MIN	MIN-CORE	23MRID04	FURNITURE AND ACCESSORIES DESIGN	R	FAD	3	0	2	0	4	5	
1210	MIN	MIN-CORE	23MRPA01	FUNDAMENTALS OF AGRONOMY	R	FOA	3	0	2	0	4	5	
1211	MIN	MIN-CORE	23MRPA02	INTRODUCTORY AGROMETEOROLOGY AND CLIMATE CHANGE	R	IACC	3	0	2	0	4	5	
1212	MIN	MIN-CORE	23MRPA03	GEOINFORMATICS AND NANOTECHNOLOGY FOR PRECISION FARMING	R	GNPF	3	0	2	0	4	5	
1213	MIN	MIN-CORE	23MRPA04	PROTECTED CULTIVATION AND POST-HARVEST TECHNOLOGIES	R	PCPHT	3	0	2	0	4	5	
1214	MIN	MIN-CORE	23MRAP01M	INTRODUCTION TO ANTHROPOLOGY	M	ITA	4	0	0	0	4	4	
1215	MIN	MIN-CORE	23MRAP02M	CULTURAL EVOLUTION	M	CET	4	0	0	0	4	4	
1216	MIN	MIN-CORE	23MRAP03M	HUMAN ECOLOGY AND ECOLOGICAL ANTHROPOLOGY	M	HEEA	4	0	0	0	4	4	
1217	MIN	MIN-CORE	23MRAP04M	FUNDAMENTALS IN ARCHEOLOGICAL ANTHROPOLOGY CHRONOLOGY	M	FAAC	4	0	0	0	4	4	
1218	MIN	MIN-CORE	23MRAR01	FUNDAMENTALS OF MACRO-ECONOMICS	R	FME	4	0	0	0	4	4	
1219	MIN	MIN-CORE	23MRAR02	BASICS OF ECONOMETRICS	R	BOE	4	0	0	0	4	4	
1220	MIN	MIN-CORE	23MRAR03	INTERNATIONAL RELATIONS: THEORIES AND CONCEPTS	R	IRTC	4	0	0	0	4	4	
1221	MIN	MIN-CORE	23MRAR04	BEHAVIOURAL ECONOMICS AND POLICY	R	BEP	4	0	0	0	4	4	AIML(1) Rule:1
1222	MIN	MIN-CORE	23MRFT01	INTRODUCTION TO FOOD SCIENCE AND TECHNOLOGY	R	IFST	3	0	2	0	4	5	
1223	MIN	MIN-CORE	23MRFT02	FOOD ANALYSIS AND QUALITY ASSURANCE	R	FAQA	3	0	2	0	4	5	AIML(1) Rule:1
1224	MIN	MIN-CORE	23MRFT03	FOOD SAFETY AND REGULATIONS	R	FSR	3	1	0	0	4	4	
1225	MIN	MIN-CORE	23MRFT04	FOOD ENGINEERING	R	FEG	3	0	2	0	4	5	
1226	MIN	MIN-CORE	23MRBA01M	ORGANIZATIONAL BEHAVIOUR	M	OBR	4	0	0	0	4	4	
1227	MIN	MIN-CORE	23MRBA02M	MARKETING MANAGEMENT	M	MMG	4	0	0	0	4	4	
1228	MIN	MIN-CORE	23MRBA03M	FINANCIAL MANAGEMENT	M	FMG	4	0	0	0	4	4	
1229	MIN	MIN-CORE	23MRBA04M	HUMAN RESOURCE MANAGEMENT	M	HRM	4	0	0	0	4	4	
1230	MIN	MIN-CORE	23MRAC01M	AI FOR BUSINESS STRATEGY	M	ABS	4	0	0	0	4	4	
1231	MIN	MIN-CORE	23MRAC02M	AI STRATEGY AND GOVERNANCE	M	ASG	4	0	0	0	4	4	
1232	MIN	MIN-CORE	23MRAC03M	SUCCESSFUL AI STRATEGIES : A CEO'S PERSPECTIVES	M	SAI	4	0	0	0	4	4	

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1233	MIN	MIN-CORE	23MRAC04M	CRAFTING A COMPETITIVE ADVANTAGE	M	CCA	4	0	0	0	4	4	
1234	MIN	MIN-CORE	23MRDM01M	FUNDAMENTALS OF DIGITAL MARKETING	M	FDM	4	0	0	0	4	4	
1235	MIN	MIN-CORE	23MRDM02M	SOCIAL MEDIA MARKETING	M	SMM	4	0	0	0	4	4	
1236	MIN	MIN-CORE	23MRDM03M	SERACH ENGINE OPTIMIZATION	M	SEO	4	0	0	0	4	4	
1237	MIN	MIN-CORE	23MRDM04M	ARTIFICIAL INTELLIGENCE IN MARKETING	M	AIM	4	0	0	0	4	4	
1238	MIN	MIN-CORE	23MRFA01M	FOUNDATIONS AND APPLICATIONS OF FINANCIAL TECHNOLOGY	M	AFT	4	0	0	0	4	4	
1239	MIN	MIN-CORE	23MRFA02M	DECENTRALISED FINANCE: THE FUTURE OF FINANCE	M	DFFF	4	0	0	0	4	4	
1240	MIN	MIN-CORE	23MRFA03M	FINTECH INNOVATIONS	M	FIV	4	0	0	0	4	4	
1241	MIN	MIN-CORE	23MRFA04M	USING MACHINE LEARNING IN TRADING AND FINANCE	M	ML	4	0	0	0	4	4	
1242	MIN	MIN-CORE	23MRIB01M	INTERNATIONAL BUSINESS ESSENTIALS	M	IBET	4	0	0	0	4	4	
1243	MIN	MIN-CORE	23MRIB02M	INTERNATIONAL BUSINESS ENVIRONMENT	M	IBEV	4	0	0	0	4	4	
1244	MIN	MIN-CORE	23MRIB03M	INTERNATIONAL BUSINESS OPERATIONS	M	IBO	4	0	0	0	4	4	
1245	MIN	MIN-CORE	23MRIB04M	INTERNATIONAL BUSINESS MODELS	M	IBM	4	0	0	0	4	4	
1246	MIN	MIN-CORE	23MROB01M	ORGANIZATIONAL BEHAVIOUR	M	POM	4	0	0	0	4	4	AIML(1) Rule:1
1247	MIN	MIN-CORE	23MROB02M	ORGANIZATIONAL BEHAVIOUR MODELS	M	OBM	4	0	0	0	4	4	AIML(1) Rule:1
1248	MIN	MIN-CORE	23MROB03M	ORGANIZATIONAL CHANGE AND DEVELOPMENT	M	OCD	4	0	0	0	4	4	
1249	MIN	MIN-CORE	23MROB04M	LEADERSHIP IN ORGANIZATION	M	LIO	4	0	0	0	4	4	OS(1) Rule:1
1250	MIN	MIN-CORE	23MRIM01	APPLIED DESIGN THINKING	R	ADT	3	0	2	0	4	5	
1251	MIN	MIN-CORE	23MRIM02	BUSINESS MODEL INNOVATION	R	BMI	3	0	2	0	4	5	
1252	MIN	MIN-CORE	23MRIM03	VENTURE MANAGEMENT	R	VMT	3	0	2	0	4	5	
1253	MIN	MIN-CORE	23MRIM04	BUSINESS AND LEADERSHIP	R	BL	3	0	2	0	4	5	OS(1) Rule:1
1254	MIN	MIN-CORE	23MRTP01	INTRODUCTION TO TECHNOLOGICAL ENTREPRENEURSHIP	R	ITEP	3	0	2	0	4	5	
1255	MIN	MIN-CORE	23MRTP02	LEAN STARTUP LAUNCHPAD	R	LSLP	3	0	2	0	4	5	
1256	MIN	MIN-CORE	23MRTP03	ENTREPRENEURSHIP AND VENTURE CAPITAL	R	EVC	3	0	2	0	4	5	

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1257	MIN	MIN-CORE	23MRTP04	BUILDING AND SUSTAINING A SUCCESSFUL ENTERPRISE	R	BSSE	3	0	2	0	4	5	
1258	MIN	MIN-CORE	23MRAG01	INTRODUCTION TO GAME MATH	R	IGM	0	0	6	4	4	10	
1259	MIN	MIN-CORE	23MRAG02	DRAWING BASICS	R	DBS	0	0	6	4	4	10	
1260	MIN	MIN-CORE	23MRAG03	GRAPHIC DESIGN	R	GDS	0	0	6	4	4	10	
1261	MIN	MIN-CORE	23MRAG04	CONCEPTS OF 3D	R	C3D	0	0	6	4	4	10	
1262	MIN	MIN-CORE	23MRCL01	PRINCIPLES OF COMPANIES ACT AND CORPORATE GOVERNANCE	R	PCACG	3	0	2	0	4	5	
1263	MIN	MIN-CORE	23MRCL02	MERGERS, ACQUISITIONS AND PRIVATE EQUITY	R	MAPE	3	0	2	0	4	5	
1264	MIN	MIN-CORE	23MRCL03	INSOLVENCY AND BANKRUPTCY LAW	R	IBL	3	0	2	0	4	5	
1265	MIN	MIN-CORE	23MRCL04	COMPETITION LAW AND PRACTICE	R	CLP	3	0	2	0	4	5	
1266	MIN	MIN-CORE	23MRIP01	EMERGENCE AND DEVELOPMENT OF IPR	R	EDIPR	3	0	2	0	4	5	
1267	MIN	MIN-CORE	23MRIP02	LAW OF COPYRIGHT	R	LOCR	3	0	2	0	4	5	
1268	MIN	MIN-CORE	23MRIP03	LAW OF PATENTS	R	LOPS	3	0	2	0	4	5	
1269	MIN	MIN-CORE	23MRIP04	LAW OF TRADEMARK	R	LOTM	3	0	2	0	4	5	OS(1) Rule:1
1270	MIN	MIN-CORE	23MRCM01	LINEAR ALGEBRA	R	LAG	2	2	0	0	4	4	
1271	MIN	MIN-CORE	23MRCM02	ADVANCED NUMERICAL ANALYSIS	R	ANA	2	2	0	0	4	4	
1272	MIN	MIN-CORE	23MRCM03	MATHEMATICAL MODELLING	R	MML	3	0	2	0	4	5	
1273	MIN	MIN-CORE	23MRCM04	STOCHASTIC PROCESSES & OPTIMIZATION	R	SPO	2	2	0	0	4	4	
1274	MIN	MIN-CORE	23MRCM05	FUZZY MATHEMATICS AND ITS APPLICATIONS	R	FMAA	2	2	0	0	4	4	
1275	MIN	MIN-CORE	23MRPY01	BASICS OF PHARMACOLOGY	R	BOP	3	0	2	0	4	5	
1276	MIN	MIN-CORE	23MRPY02	ADVANCED PHARMACOLOGY - I	R	AP-I	3	0	2	0	4	5	
1277	MIN	MIN-CORE	23MRPY03	EXPERIMENTAL PHARMACOLOGY	R	EPC	3	0	2	0	4	5	
1278	MIN	MIN-CORE	23MRPY04	ADVANCED PHARMACOLOGY - II	R	AP-II	3	0	2	0	4	5	
1279	MIN	MIN-CORE	23MRCA01	INTRODUCTION TO CREATIVE ARTS	R	ICA	0	0	6	4	4	10	
1280	MIN	MIN-CORE	23MRCA02	DRAWING AND SKETCHING	R	DAS	0	0	6	4	4	10	
1281	MIN	MIN-CORE	23MRCA03	PAINTING	R	PNT	0	0	6	4	4	10	
1282	MIN	MIN-CORE	23MRCA04	CREATIVE WRITING	R	CWT	0	0	6	4	4	10	
1283	MIN	MIN-CORE	23MRFM01	FILM AESTHETICS	R	FAS	0	0	6	4	4	10	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1284	MIN	MIN-CORE	23MRFM02	SCREEN WRITING	R	SWT	0	0	6	4	4	10	
1285	MIN	MIN-CORE	23MRFM04	SOUND DESIGN	R	SDS	0	0	6	4	4	10	
1286	MIN	MIN-CORE	23MRGD01	INTRODUCTION TO GRAPHIC DESIGN	R	IGD	0	0	6	4	4	10	
1287	MIN	MIN-CORE	23MRGD02	TYPOGRAPHY	R	TPY	0	0	6	4	4	10	
1288	MIN	MIN-CORE	23MRGD03	VISUAL IDENTITY AND BRANDING	R	VIB	0	0	6	4	4	10	FOR(1) Rule:1
1289	MIN	MIN-CORE	23MRGD04	PRINT DESIGN	R	PRDG	0	0	6	4	4	10	
1290	MSDC	MIN-SDP	23MRGD05	PUBLICATION DESIGN	R	PUDG	0	0	6	4	4	10	
1291	MSDC	MIN-SDP	23MRFM05	DIGITAL PHOTOGRAPHY	R	DPG	0	0	6	4	4	10	
1292	MSDC	MIN-SDP	23MRCA05	SCULPTURE	R	SCP	0	0	6	4	4	10	
1293	MSDC	MIN-SDP	23MRPY05	PRACTICAL PHARMACOLOGY	R	PRI	0	0	6	4	4	10	
1294	MSDC	MIN-SDP	23MRCM06	TRANSFORM TECHNIQUES FOR ENGINEERING	R	TTE	2	0	2	4	4	8	FOR(1) Rule:1
1295	MSDC	MIN-SDP	23MRCM07	STATISTICS WITH R PROGRAMMING	R	SWRP	2	0	2	4	4	8	
1296	MSDC	MIN-SDP	23MRCM08	MATRIX COMPUTATION	R	MCT	2	0	2	4	4	8	
1297	MSDC	MIN-SDP	23MRIP05	LAW OF DESIGNS, GEOGRAPHICAL INDICATIONS AND PLANT VARIETIES	R	LODGP	0	0	6	4	4	10	
1298	MSDC	MIN-SDP	23MRCL05	COMMERCIAL CONTRACT DRAFTING	R	CCD	0	0	6	4	4	10	
1299	MSDC	MIN-SDP	23MRAG05	DIGITAL ART	R	DTA	0	0	6	4	4	10	
1300	MSDC	MIN-SDP	23MRBA05M	LOGISTICS AND SUPPLY CHAIN MANAGEMENT	M	LSCM	0	0	6	4	4	10	
1301	MSDC	MIN-SDP	23MRTP05	TECH INNOVATION PROJECT FOR ENTREPRENEURS	R	TIPFE	0	0	6	4	4	10	
1302	MSDC	MIN-SDP	23MRIM05	PROJECT INNOVATE: STRATEGIES FOR ENTREPRENEURIAL GROWTH	R	PISEG	0	0	6	4	4	10	
1303	MSDC	MIN-SDP	23MROB05	TEAM BUILDING AND COLLABORATION SKILLS FOR MANAGERS	M	TBCM	0	0	6	4	4	10	
1304	MSDC	MIN-SDP	23MRIB05	PROFESSIONAL SKILLS FOR INTERNATIONAL BUSINESS	M	PIB	0	0	6	4	4	10	
1305	MSDC	MIN-SDP	23MRFA05	TRADING ALGORITHMNS	M	TA	0	0	6	4	4	10	
1306	MSDC	MIN-SDP	23MRDM05	CONTENT MARKETING	M	CM	0	0	6	4	4	10	
1307	MSDC	MIN-SDP	23MRAC05	AI APPLICATIONS FOR BUSINESS SUCCESS	M	AIA	0	0	6	4	4	10	
1308	MSDC	MIN-SDP	23MRFT05	FOOD PACKAGING TECHNOLOGY	R	FPT	2	0	2	4	4	8	
1309	MSDC	MIN-SDP	23MRAR05	SOCIAL GEOGRAPHY AND CARTOGRAPHY	R	SGC	0	0	6	4	4	10	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1310	MSDC	MIN-SDP	23MRAP05	SOCIAL CULTURE ANTHROPOLOGY	M	SCA	0	0	6	4	4	10	
1311	MSDC	MIN-SDP	23MRPA05	MODERN FARMING TECHNIQUES AND INNOVATIONS	R	AELP	0	0	6	4	4	10	
1312	MSDC	MIN-SDP	23MRID05	DESIGN PRESENTATION AND COMMUNICATION	R	DPC	0	0	6	4	4	10	
1313	SMFC	SMFC-	23CS06EF	MERN STACK WEB DEVELOPMENT	E	MSWD	0	0	6	4	4	10	
1314	SMFC	SMFC-	23ACCAPM	PERFORMANCE MANAGEMENT	R	PM	3	2	0	0	5	5	
1315	SMFC	SMFC-	22CM1206	ADVANCED COST ACCOUNTING	R	ACA	3	2	0	0	5	5	
1316	SMFC	SMFC-CORE	22CM31B5	ACCOUNTING & REPORTING STANDARDS	R	ARS	3	2	0	0	5	5	
1317	SMFC	SMFC-	23ACCATX	TAXATION	R	TXT	3	2	0	0	5	5	
1318	SMFC	SMFC-	22CM21B2	INCOME TAX LAW & PRACTICE	R	ITLP	3	2	0	0	5	5	
1319	SMFC	SMFC-CORE	22FT12C1	PRINCIPLES OF FOOD PRESERVATION	R	PFP	1	0	0	4	2	5	
1320	SMFC	SMFC-	22FT32C2R	FOOD PACKAGING TECHNOLOGY	R	FPT	1	0	0	4	2	5	
1321	SMFC	SMFC-	22FT1207R	FOOD MICROBIOLOGY	R	FMB	3	0	2	0	4	5	
1322	SMFC	SMFC-CORE	22FT2213R	BAKERY, CONFECTIONERY AND SNACKS TECHNOLOGY	R	BCST	2	0	4	0	4	6	
1323	SMFC	SMFC-CORE	22FT1104	INTRODUCTION TO FOOD SCIENCE AND TECHNOLOGY	R	IFST	3	0	2	0	4	5	
1324	SMFC	SMFC-	22FT1102	FOOD CHEMISTRY	R	FC	3	0	2	0	4	5	
1325	SMFC	SMFC-	22FT1105	FOOD BIOCHEMISTRY	R	FBC	3	0	2	0	4	5	
1326	SMFC	SMFC-CORE	22FT2109R	PROCESSING OF HORTICULTURAL PRODUCE	R	PHP	3	0	2	0	4	5	
1327	SMFC	SMFC-CORE	23CI2203	MANAGEMENT INFORMATION SYSTEM - ERP	R	MIS	2	0	0	0	2	2	
1328	SMFC	SMFC-CORE	23EC1202	DIGITAL DESIGN & COMPUTER ARCHITECTURE	R	DDCA	3	0	2	0	4	5	
1329	SMFC	SMFC-CORE	23EC1203	BASIC ELECTRICAL AND ELECTRONIC CIRCUITS	R	BEEC	2	0	0	0	2	2	
1330	SMFC	SMFC-CORE	23EC2104R	ANALOG ELECTRONIC CIRCUIT DESIGN	R	AECD	3	0	2	2	4.5	7	
1331	SMFC	SMFC-	23EC2211R	VLSI DESIGN	R	VLSID	3	0	2	2	4.5	7	
1332	SMFC	SMFC-	23EE2102R	ELECTRICAL MACHINES	R	ELM	3	0	2	0	4	5	
1333	SMFC	SMFC-CORE	23EE2204R	ELECTRICAL POWER GENERATION, TRANSMISSION & DISTRIBUTION	R	EPGTD	2	1	0	0	3	3	
1334	SMFC	SMFC-	23BT1101	CELL BIOLOGY	R	CB	3	0	0	0	3	3	
1335	SMFC	SMFC-	23BT2103R	BIOCHEMISTRY	R	BCM	3	0	2	0	4	5	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1336	SMFC	SMFC-	23BT2105R	IMMUNOLOGY	R	IMM	3	0	2	0	4	5	
1337	SMFC	SMFC-	23BT2206	MOLECULAR BIOLOGY	R	MBY	3	0	0	0	3	3	
1338	SMFC	SMFC-CORE	23EE3106R	POWER SYSTEM ANALYSIS & STABILITY	R	PSAS	2	1	0	0	3	3	
1339	SMFC	SMFC-CORE	23EE3208R	POWER SYSTEM PROTECTION & CONTROL	R	PSPC	2	0	2	2	3.5	6	
1340	SMFC	SMFC-CORE	23EC2209R	ELECTROMAGNETIC WAVES & TRANSMISSION LINES	R	EMWTL	3	0	0	0	3	3	
1341	SMFC	SMFC-	23ME3113R	MANUFACTURING TECHNOLOGY	R	MT	2	0	2	0	3	4	
1342	SMFC	SMFC-CORE	23ME3215	DIGITAL MANUFACTURING & ROBOTICS	R	DMR	3	0	0	0	3	3	
1343	SMFC	SMFC-CORE	23ME02RF	ADVANCED MATERIALS FOR ENGINEERING APPLICATIONS	R	AMEA	2	0	2	0	3	4	
1344	SMFC	SMFC-	23EE2101	ELECTRICAL CIRCUITS	R	ELC	2	0	2	0	3	4	
1345	SMFC	SMFC-	23BT3214	BIOINFORMATICS	R	BI	2	0	2	0	3	4	
1346	SMFC	SMFC-CORE	23CS03HF	ADVANCED ALGORITHMS & DATA STRUCTURES	R	AADS	3	0	2	0	4	5	
1347	SMFC	SMFC-CORE	23CS2103R	ADVANCED OBJECT ORIENTED PROGRAMMING	R	AOOP	3	0	2	4	5	9	
1348	SMFC	SMFC-CORE	23AD2103R	SYSTEM DESIGN & INTRODUCTION TO CLOUD	R	SDC	3	0	2	0	4	5	
1349	SMFC	SMFC-CORE	23AD4108	ETHICS FOR ARTIFICIAL INTELLIGENCE	R	EAI	1	0	0	0	1	1	
1350	SMFC	SMFC-	23AD2205R	DEEP LEARNING	R	DL	3	0	2	4	5	9	
1351	SMFC	SMFC-	23BT2215	PROCESS ENGINEERING PRINCIPLES	R	PEP	2	0	2	0	3	4	
1352	SMFC	SMFC-CORE	23AD01HF	MACHINE LEARNING FOR HEALTHCARE	R	MLH	3	0	2	0	4	5	
1353	SMFC	SMFC-	23AD03HF	REINFORCEMENT LEARNING	R	RIL	3	0	2	0	4	5	
1354	SMFC	SMFC-	23AD04HF	EXPLAINABLE AI	R	EAI	3	0	2	0	4	5	
1355	SMFC	SMFC-	23BT2104	MICROBIOLOGY	R	MBG	3	0	2	0	4	5	
1356	SMFC	SMFC-CORE	23EC2210R	NETWORK PROTOCOLS AND SECURITY	R	NPS	3	0	2	0	4	5	
1357	SMFC	SMFC-	23ME3112	THERMAL SYSTEMS ENGINEERING	R	TSE	2	1	0	4	4	7	
1358	SMFC	SMFC-	23IN3104R	REAL TIME OPERATING SYSTEMS	R	RTOS	3	0	2	0	4	5	
1359	SMFC	SMFC-	23IN3105R	EMBEDDED SYSTEMS DESIGN	R	ESD	2	0	2	0	3	4	
1360	SMFC	SMFC-CORE	23ME2209R	KINEMATICS & DYNAMICS OF MACHINES	R	KDOM	3	1	2	0	5	6	
1361	SMFC	SMFC-	23ME3111R	MECHANICAL ENGINEERING DESIGN	R	MED	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1362	SMFC	SMFC-CORE	23CS05EF	PYTHON FULL STACK DEVELOPMENT WITH DJANGO	E	PFSD	0	0	6	4	4	10	
1363	SMFC	SMFC-CORE	23EC1101R	FUNDAMENTALS OF IOT AND SENSORS	R	FITS	3	0	4	0	5	7	FITS(1) Rule:1
1364	SMFC	SMFC-	23EC2106R	PROCESSORS AND CONTROLLERS	R	PRC	3	0	2	0	4	5	
1365	SMFC	SMFC-	22CM1203	DATA ANALYSIS WITH EXCEL	R	DAWE	0	0	0	4	1	4	

Category & Grouping

S#	Category	Group Name
1	MINOR	AI AND COMPETITIVE ADVANTAGE
2	MINOR	ANIMATION AND GAMING
3	MINOR	ANTHROPOLOGY
4	MINOR	ARTS
5	MINOR	BUSINESS ADMINISTRATION
6	MINOR	COMPUTATIONAL MATHEMATICS
7	MINOR	CORPORATE LAW
8	MINOR	CREATIVE ARTS
9	MINOR	DIGITAL MARKETING AND AUTOMATION
10	MINOR	FILM MAKING
11	MINOR	FINTECH AND ALGORITHMIC TRADING
12	MINOR	FOOD TECHNOLOGY
13	MINOR	GRAPHIC DESIGN
14	MINOR	INNOVATION MANAGEMENT AND ENTREPRENEURSHIP
15	MINOR	INTELLECTUAL PROPERTY LAW
16	MINOR	INTERIOR DESIGN
17	MINOR	INTERNATIONAL BUSINESS
18	MINOR	ORGANIZATIONAL BEHAVIOUR
19	MINOR	PHARMACOLOGY
20	MINOR	PRECISION AGRICULTURE
21	MINOR	TECHNOPRENEURSHIP
22	MINOR	WATER SCIENCE AND MANAGEMENT
23	DOUBLE MAJOR	SECOND MAJOR CSE FOR FIRST MAJOR EEE / ME / CIVIL / BT
24	DOUBLE MAJOR	SECOND MAJOR CSIT FOR FIRST MAJOR EEE / ME / CIVIL / BT
25	DOUBLE MAJOR	SECOND MAJOR EEE FOR FIRST MAJOR AIDS / CIVIL / BT
26	DOUBLE MAJOR	SECOND MAJOR ECE FOR FIRST MAJOR CIVIL / BBA / B.COM / BSC / BCA / BA
27	DOUBLE MAJOR	SECOND MAJOR IOT FOR FIRST MAJOR BT / ME / CIVIL
28	DOUBLE MAJOR	SECOND MAJOR AIDS FOR FIRST MAJOR BT / ME / CIVIL / EEE
29	DOUBLE MAJOR	SECOND MAJOR ME FOR FIRST MAJOR CIVIL

S#	Category	Group Name
30	DOUBLE MAJOR	SECOND MAJOR BT FOR FIRST MAJOR B.TECH / BBA / B.COM / BSC / BCA / BA
31	DOUBLE MAJOR	SECOND MAJOR ANIMATION AND GAMING FOR FIRST MAJOR B.TECH / BBA / B.COM /
32	DOUBLE MAJOR	SECOND MAJOR BUSINESS ADMINISTRATION FOR FIRST MAJOR B.TECH / B.COM / BSC
33	DOUBLE MAJOR	SECOND MAJOR ECONOMICS AND PUBLIC POLICY FOR FIRST MAJOR B.TECH / B.COM /
34	DOUBLE MAJOR	SECOND MAJOR FOOD TECHNOLOGY FOR FIRST MAJOR B.TECH / B.COM / BBA / BSC
35	DOUBLE MAJOR	SECOND MAJOR COMMERCE FOR FIRST MAJOR B.TECH / BBA / BSC / BCA / BA
36	SPECIALIZATION	AGRI-BIOTECHNOLOGY
37	SPECIALIZATION	AI AND AUTONOMOUS SYSTEMS
38	SPECIALIZATION	AI FOR COMPUTATIONAL INTELLIGENCE
39	SPECIALIZATION	AI SYSTEMS FOR VISUAL INTELLIGENCE
40	SPECIALIZATION	AI-DRIVEN EDGE ARCHITECTURES AND APPLICATIONS
41	SPECIALIZATION	AI-DRIVEN LANGUAGE TECHNOLOGIES
42	SPECIALIZATION	AUTOMOTIVE ELECTRONICS AND AUTOSAR
43	SPECIALIZATION	AUTOMOTIVE ENERGY ENGINEERING
44	SPECIALIZATION	BIOINFORMATICS
45	SPECIALIZATION	BLOCKCHAIN ENGINEERING FOR WEB3
46	SPECIALIZATION	CLOUD AND EDGE COMPUTING
47	SPECIALIZATION	CLOUD INFRASTRUCTURE DESIGN AND ENGINEERING?
48	SPECIALIZATION	CLOUD NATIVE SECURITY
49	SPECIALIZATION	CLOUD NATIVE SOFTWARE ENGINEERING
50	SPECIALIZATION	CLOUD-BASED SCIENTIFIC COMPUTING
51	SPECIALIZATION	COMPUTER COMMUNICATION AND 5G TECHNOLOGY
52	SPECIALIZATION	CONSTRUCTION TECHNOLOGY AND MANAGEMENT
53	SPECIALIZATION	CROSS PLATFORM DEVELOPMENT FRAMEWORKS
54	SPECIALIZATION	CYBER PHYSICAL SYSTEMS AND IOT
55	SPECIALIZATION	CYBER SECURITY AND BLOCKCHAIN TECHNOLOGY
56	SPECIALIZATION	DATA COMMUNICATIONS
57	SPECIALIZATION	DATA ENGINEERING FOR AI
58	SPECIALIZATION	DATA SCIENCE AND BIG DATA ANALYTICS
59	SPECIALIZATION	DISTRIBUTED LEDGER ANALYTICS

S#	Category	Group Name
60	SPECIALIZATION	EMBEDDED SYSTEMS
61	SPECIALIZATION	E-MOBILITY ENGINEERING
62	SPECIALIZATION	ENGINEERING DESIGN
63	SPECIALIZATION	GAME DEVELOPMENT AND UX DESIGN
64	SPECIALIZATION	GEOTECHNICAL AND TRANSPORTATION ENGINEERING
65	SPECIALIZATION	GREEN ENERGY TECHNOLOGIES
66	SPECIALIZATION	HARDWARE-SOFTWARE CO-DESIGN FOR SECURITY
67	SPECIALIZATION	HEALTHCARE DATA ANALYTICS
68	SPECIALIZATION	INDUSTRIAL AUTOMATION
69	SPECIALIZATION	INDUSTRIAL BIOTECHNOLOGY
70	SPECIALIZATION	INTELLIGENT MULTIMEDIA PROCESSING
71	SPECIALIZATION	IOT ANALYTICS
72	SPECIALIZATION	MEDICAL BIOTECHNOLOGY
73	SPECIALIZATION	ROBOTICS AND AUTOMATION
74	SPECIALIZATION	SMART GRID TECHNOLOGIES
75	SPECIALIZATION	SMART MANUFACTURING
76	SPECIALIZATION	SOCIAL AND DIGITAL MEDIA ANALYTICS
77	SPECIALIZATION	SOFTWARE MODELLING AND DEVOPS
78	SPECIALIZATION	SPATIAL COMPUTING AND IMMERSIVE TECHNOLOGIES
79	SPECIALIZATION	STRUCTURAL ENGINEERING
80	SPECIALIZATION	VERY LARGE-SCALE INTEGRATION
81	SPECIALIZATION	WATER RESOURCE AND ENVIRONMENTAL ENGINEERING
82	PROJECT	RESEARCH PROJECT
83	PROJECT	INNOVATION PROJECT
84	PROJECT	CAPSTONE PROJECT

Category & Grouping Courses

1. MINOR: AI AND COMPETITIVE ADVANTAGE

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRAC01M	AI FOR BUSINESS STRATEGY	M	ABS	4	0	0	0	4	4	
2	MIN	MIN-CORE	23MRAC02M	AI STRATEGY AND GOVERNANCE	M	ASG	4	0	0	0	4	4	
3	MIN	MIN-CORE	23MRAC03M	SUCCESSFUL AI STRATEGIES : A CEO'S PERSPECTIVES	M	SAI	4	0	0	0	4	4	
4	MIN	MIN-CORE	23MRAC04M	CRAFTING A COMPETITIVE ADVANTAGE	M	CCA	4	0	0	0	4	4	
5	MSDC	MIN-SDP	23MRAC05	AI APPLICATIONS FOR BUSINESS SUCCESS	M	AIA	0	0	6	4	4	10	

2. MINOR: ANIMATION AND GAMING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRAG01	INTRODUCTION TO GAME MATH	R	IGM	0	0	6	4	4	10	
2	MIN	MIN-CORE	23MRAG02	DRAWING BASICS	R	DBS	0	0	6	4	4	10	
3	MIN	MIN-CORE	23MRAG03	GRAPHIC DESIGN	R	GDS	0	0	6	4	4	10	
4	MIN	MIN-CORE	23MRAG04	CONCEPTS OF 3D	R	C3D	0	0	6	4	4	10	
5	MSDC	MIN-SDP	23MRAG05	DIGITAL ART	R	DTA	0	0	6	4	4	10	

3. MINOR: ANTHROPOLOGY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRAP01M	INTRODUCTION TO ANTHROPOLOGY	M	ITA	4	0	0	0	4	4	
2	MIN	MIN-CORE	23MRAP02M	CULTURAL EVOLUTION	M	CET	4	0	0	0	4	4	
3	MIN	MIN-CORE	23MRAP03M	HUMAN ECOLOGY AND ECOLOGICAL ANTHROPOLOGY	M	HEEA	4	0	0	0	4	4	
4	MIN	MIN-CORE	23MRAP04M	FUNDAMENTALS IN ARCHEOLOGICAL ANTHROPOLOGY CHRONOLOGY	M	FAAC	4	0	0	0	4	4	
5	MSDC	MIN-SDP	23MRAP05	SOCIAL CULTURE ANTHROPOLOGY	M	SCA	0	0	6	4	4	10	

4. MINOR: ARTS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRAR01	FUNDAMENTALS OF MACRO-ECONOMICS	R	FME	4	0	0	0	4	4	
2	MIN	MIN-CORE	23MRAR02	BASICS OF ECONOMETRICS	R	BOE	4	0	0	0	4	4	
3	MIN	MIN-CORE	23MRAR03	INTERNATIONAL RELATIONS: THEORIES AND CONCEPTS	R	IRTC	4	0	0	0	4	4	
4	MIN	MIN-CORE	23MRAR04	BEHAVIOURAL ECONOMICS AND POLICY	R	BEP	4	0	0	0	4	4	AIML(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
5	MSDC	MIN-SDP	23MRAR05	SOCIAL GEOGRAPHY AND CARTOGRAPHY	R	SGC	0	0	6	4	4	10	

5. MINOR: BUSINESS ADMINISTRATION

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRBA01M	ORGANIZATIONAL BEHAVIOUR	M	OBR	4	0	0	0	4	4	
2	MIN	MIN-CORE	23MRBA02M	MARKETING MANAGEMENT	M	MMG	4	0	0	0	4	4	
3	MIN	MIN-CORE	23MRBA03M	FINANCIAL MANAGEMENT	M	FMG	4	0	0	0	4	4	
4	MIN	MIN-CORE	23MRBA04M	HUMAN RESOURCE MANAGEMENT	M	HRM	4	0	0	0	4	4	
5	MSDC	MIN-SDP	23MRBA05M	LOGISTICS AND SUPPLY CHAIN MANAGEMENT	M	LSCM	0	0	6	4	4	10	

6. MINOR: COMPUTATIONAL MATHEMATICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRCM01	LINEAR ALGEBRA	R	LAG	2	2	0	0	4	4	
2	MIN	MIN-CORE	23MRCM02	ADVANCED NUMERICAL ANALYSIS	R	ANA	2	2	0	0	4	4	
3	MIN	MIN-CORE	23MRCM03	MATHEMATICAL MODELLING	R	MML	3	0	2	0	4	5	
4	MIN	MIN-CORE	23MRCM04	STOCHASTIC PROCESSES & OPTIMIZATION	R	SPO	2	2	0	0	4	4	
5	MIN	MIN-CORE	23MRCM05	FUZZY MATHEMATICS AND ITS APPLICATIONS	R	FMAA	2	2	0	0	4	4	
6	MSDC	MIN-SDP	23MRCM06	TRANSFORM TECHNIQUES FOR ENGINEERING	R	TTE	2	0	2	4	4	8	FOR(1) Rule:1
7	MSDC	MIN-SDP	23MRCM07	STATISTICS WITH R PROGRAMMING	R	SWRP	2	0	2	4	4	8	
8	MSDC	MIN-SDP	23MRCM08	MATRIX COMPUTATION	R	MCT	2	0	2	4	4	8	

7. MINOR: CORPORATE LAW

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRCL01	PRINCIPLES OF COMPANIES ACT AND CORPORATE GOVERNANCE	R	PCACG	3	0	2	0	4	5	
2	MIN	MIN-CORE	23MRCL02	MERGERS, ACQUISITIONS AND PRIVATE EQUITY	R	MAPE	3	0	2	0	4	5	
3	MIN	MIN-CORE	23MRCL03	INSOLVENCY AND BANKRUPTCY LAW	R	IBL	3	0	2	0	4	5	
4	MIN	MIN-CORE	23MRCL04	COMPETITION LAW AND PRACTICE	R	CLP	3	0	2	0	4	5	
5	MSDC	MIN-SDP	23MRCL05	COMMERCIAL CONTRACT DRAFTING	R	CCD	0	0	6	4	4	10	

8. MINOR: CREATIVE ARTS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRCA01	INTRODUCTION TO CREATIVE ARTS	R	ICA	0	0	6	4	4	10	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
2	MIN	MIN-CORE	23MRCA02	DRAWING AND SKETCHING	R	DAS	0	0	6	4	4	10	
3	MIN	MIN-CORE	23MRCA03	PAINTING	R	PNT	0	0	6	4	4	10	
4	MIN	MIN-CORE	23MRCA04	CREATIVE WRITING	R	CWT	0	0	6	4	4	10	
5	MSDC	MIN-SDP	23MRCA05	SCULPTURE	R	SCP	0	0	6	4	4	10	

9. MINOR: DIGITAL MARKETING AND AUTOMATION

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRDM01M	FUNDAMENTALS OF DIGITAL MARKETING	M	FDM	4	0	0	0	4	4	
2	MIN	MIN-CORE	23MRDM02M	SOCIAL MEDIA MARKETING	M	SMM	4	0	0	0	4	4	
3	MIN	MIN-CORE	23MRDM03M	SEARCH ENGINE OPTIMIZATION	M	SEO	4	0	0	0	4	4	
4	MIN	MIN-CORE	23MRDM04M	ARTIFICIAL INTELLIGENCE IN MARKETING	M	AIM	4	0	0	0	4	4	
5	MSDC	MIN-SDP	23MRDM05	CONTENT MARKETING	M	CM	0	0	6	4	4	10	

10. MINOR: FILM MAKING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRFM01	FILM AESTHETICS	R	FAS	0	0	6	4	4	10	
2	MIN	MIN-CORE	23MRFM02	SCREEN WRITING	R	SWT	0	0	6	4	4	10	
3	MIN	MIN-CORE	23MRFM04	SOUND DESIGN	R	SDS	0	0	6	4	4	10	
4	MSDC	MIN-SDP	23MRFM05	DIGITAL PHOTOGRAPHY	R	DPG	0	0	6	4	4	10	

11. MINOR: FINTECH AND ALGORITHMIC TRADING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRFA01M	FOUNDATIONS AND APPLICATIONS OF FINANCIAL TECHNOLOGY	M	AFT	4	0	0	0	4	4	
2	MIN	MIN-CORE	23MRFA02M	DECENTRALISED FINANCE: THE FUTURE OF FINANCE	M	DFFF	4	0	0	0	4	4	
3	MIN	MIN-CORE	23MRFA03M	FINTECH INNOVATIONS	M	FIV	4	0	0	0	4	4	
4	MIN	MIN-CORE	23MRFA04M	USING MACHINE LEARNING IN TRADING AND FINANCE	M	ML	4	0	0	0	4	4	
5	MSDC	MIN-SDP	23MRFA05	TRADING ALGORITHMS	M	TA	0	0	6	4	4	10	

12. MINOR: FOOD TECHNOLOGY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRFT01	INTRODUCTION TO FOOD SCIENCE AND TECHNOLOGY	R	IFST	3	0	2	0	4	5	
2	MIN	MIN-CORE	23MRFT02	FOOD ANALYSIS AND QUALITY ASSURANCE	R	FAQA	3	0	2	0	4	5	AIML(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
3	MIN	MIN-CORE	23MRFT03	FOOD SAFETY AND REGULATIONS	R	FSR	3	1	0	0	4	4	
4	MIN	MIN-CORE	23MRFT04	FOOD ENGINEERING	R	FEG	3	0	2	0	4	5	
5	MSDC	MIN-SDP	23MRFT05	FOOD PACKAGING TECHNOLOGY	R	FPT	2	0	2	4	4	8	

13. MINOR: GRAPHIC DESIGN

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRGD01	INTRODUCTION TO GRAPHIC DESIGN	R	IGD	0	0	6	4	4	10	
2	MIN	MIN-CORE	23MRGD02	TYPOGRAPHY	R	TPY	0	0	6	4	4	10	
3	MIN	MIN-CORE	23MRGD03	VISUAL IDENTITY AND BRANDING	R	VIB	0	0	6	4	4	10	FOR(1) Rule:1
4	MIN	MIN-CORE	23MRGD04	PRINT DESIGN	R	PRDG	0	0	6	4	4	10	
5	MSDC	MIN-SDP	23MRGD05	PUBLICATION DESIGN	R	PUDG	0	0	6	4	4	10	

14. MINOR: INNOVATION MANAGEMENT AND ENTREPRENEURSHIP

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRIM01	APPLIED DESIGN THINKING	R	ADT	3	0	2	0	4	5	
2	MIN	MIN-CORE	23MRIM02	BUSINESS MODEL INNOVATION	R	BMI	3	0	2	0	4	5	
3	MIN	MIN-CORE	23MRIM03	VENTURE MANAGEMENT	R	VMT	3	0	2	0	4	5	
4	MIN	MIN-CORE	23MRIM04	BUSINESS AND LEADERSHIP	R	BL	3	0	2	0	4	5	OS(1) Rule:1
5	MSDC	MIN-SDP	23MRIM05	PROJECT INNOVATE: STRATEGIES FOR ENTREPRENEURIAL GROWTH	R	PISEG	0	0	6	4	4	10	

15. MINOR: INTELLECTUAL PROPERTY LAW

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRIP01	EMERGENCE AND DEVELOPMENT OF IPR	R	EDIPR	3	0	2	0	4	5	
2	MIN	MIN-CORE	23MRIP02	LAW OF COPYRIGHT	R	LOCR	3	0	2	0	4	5	
3	MIN	MIN-CORE	23MRIP03	LAW OF PATENTS	R	LOPS	3	0	2	0	4	5	
4	MIN	MIN-CORE	23MRIP04	LAW OF TRADEMARK	R	LOTM	3	0	2	0	4	5	OS(1) Rule:1
5	MSDC	MIN-SDP	23MRIP05	LAW OF DESIGNS, GEOGRAPHICAL INDICATIONS AND PLANT VARIETIES	R	LODGP	0	0	6	4	4	10	

16. MINOR: INTERIOR DESIGN

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRID01	INTRODUCTION TO INTERIOR DESIGN	R	IID	3	0	2	0	4	5	
2	MIN	MIN-CORE	23MRID02	SPACE PLANNING AND LAYOUT	R	SPL	3	0	2	0	4	5	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
3	MIN	MIN-CORE	23MRID03	INTERIOR MATERIAL AND FINISHES	R	IMF	3	0	2	0	4	5	
4	MIN	MIN-CORE	23MRID04	FURNITURE AND ACCESSORIES DESIGN	R	FAD	3	0	2	0	4	5	
5	MSDC	MIN-SDP	23MRID05	DESIGN PRESENTATION AND COMMUNICATION	R	DPC	0	0	6	4	4	10	

17. MINOR: INTERNATIONAL BUSINESS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRIB01M	INTERNATIONAL BUSINESS ESSENTIALS	M	IBET	4	0	0	0	4	4	
2	MIN	MIN-CORE	23MRIB02M	INTERNATIONAL BUSINESS ENVIRONMENT	M	IBEV	4	0	0	0	4	4	
3	MIN	MIN-CORE	23MRIB03M	INTERNATIONAL BUSINESS OPERATIONS	M	IBO	4	0	0	0	4	4	
4	MIN	MIN-CORE	23MRIB04M	INTERNATIONAL BUSINESS MODELS	M	IBM	4	0	0	0	4	4	
5	MSDC	MIN-SDP	23MRIB05	PROFESSIONAL SKILLS FOR INTERNATIONAL BUSINESS	M	PIB	0	0	6	4	4	10	

18. MINOR: ORGANIZATIONAL BEHAVIOUR

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MROB01M	ORGANIZATIONAL BEHAVIOUR	M	POM	4	0	0	0	4	4	AIML(1) Rule:1
2	MIN	MIN-CORE	23MROB02M	ORGANIZATIONAL BEHAVIOUR MODELS	M	OBM	4	0	0	0	4	4	AIML(1) Rule:1
3	MIN	MIN-CORE	23MROB03M	ORGANIZATIONAL CHANGE AND DEVELOPMENT	M	OCD	4	0	0	0	4	4	
4	MIN	MIN-CORE	23MROB04M	LEADERSHIP IN ORGANIZATION	M	LIO	4	0	0	0	4	4	OS(1) Rule:1
5	MSDC	MIN-SDP	23MROB05	TEAM BUILDING AND COLLABORATION SKILLS FOR MANAGERS	M	TBCM	0	0	6	4	4	10	

19. MINOR: PHARMACOLOGY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRPY01	BASICS OF PHARMACOLOGY	R	BOP	3	0	2	0	4	5	
2	MIN	MIN-CORE	23MRPY02	ADVANCED PHARMACOLOGY - I	R	AP-I	3	0	2	0	4	5	
3	MIN	MIN-CORE	23MRPY03	EXPERIMENTAL PHARMACOLOGY	R	EPC	3	0	2	0	4	5	
4	MIN	MIN-CORE	23MRPY04	ADVANCED PHARMACOLOGY - II	R	AP-II	3	0	2	0	4	5	
5	MSDC	MIN-SDP	23MRPY05	PRACTICAL PHARMACOLOGY	R	PRI	0	0	6	4	4	10	

20. MINOR: PRECISION AGRICULTURE

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRPA01	FUNDAMENTALS OF AGRONOMY	R	FOA	3	0	2	0	4	5	
2	MIN	MIN-CORE	23MRPA02	INTRODUCTORY AGROMETEOROLOGY AND CLIMATE CHANGE	R	IACC	3	0	2	0	4	5	
3	MIN	MIN-CORE	23MRPA03	GEOINFORMATICS AND NANOTECHNOLOGY FOR PRECISION FARMING	R	GNPF	3	0	2	0	4	5	
4	MIN	MIN-CORE	23MRPA04	PROTECTED CULTIVATION AND POST-HARVEST TECHNOLOGIES	R	PCPHT	3	0	2	0	4	5	
5	MSDC	MIN-SDP	23MRPA05	MODERN FARMING TECHNIQUES AND INNOVATIONS	R	AELP	0	0	6	4	4	10	

21. MINOR: TECHNOPRENEURSHIP

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRTP01	INTRODUCTION TO TECHNOLOGICAL ENTREPRENEURSHIP	R	ITEP	3	0	2	0	4	5	
2	MIN	MIN-CORE	23MRTP02	LEAN STARTUP LAUNCHPAD	R	LSP	3	0	2	0	4	5	
3	MIN	MIN-CORE	23MRTP03	ENTREPRENEURSHIP AND VENTURE CAPITAL	R	EVC	3	0	2	0	4	5	
4	MIN	MIN-CORE	23MRTP04	BUILDING AND SUSTAINING A SUCCESSFUL ENTERPRISE	R	BSSE	3	0	2	0	4	5	
5	MSDC	MIN-SDP	23MRTP05	TECH INNOVATION PROJECT FOR ENTREPRENEURS	R	TIPFE	0	0	6	4	4	10	

22. MINOR: WATER SCIENCE AND MANAGEMENT

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	23MRPA01	FUNDAMENTALS OF AGRONOMY	R	FOA	3	0	2	0	4	5	
2	MIN	MIN-CORE	23MRPA02	INTRODUCTORY AGROMETEOROLOGY AND CLIMATE CHANGE	R	IACC	3	0	2	0	4	5	
3	MIN	MIN-CORE	23MRPA03	GEOINFORMATICS AND NANOTECHNOLOGY FOR PRECISION FARMING	R	GNPF	3	0	2	0	4	5	
4	MIN	MIN-CORE	23MRPA04	PROTECTED CULTIVATION AND POST-HARVEST TECHNOLOGIES	R	PCPHT	3	0	2	0	4	5	
5	MSDC	MIN-SDP	23MRPA05	MODERN FARMING TECHNIQUES AND INNOVATIONS	R	AELP	0	0	6	4	4	10	

23. DOUBLE MAJOR: SECOND MAJOR CSE FOR FIRST MAJOR EEE / ME / CIVIL / BT

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	FCC	FC-1	23CS2104F	OPERATING SYSTEMS	F	OS	2	0	2	0	3	4	
2	FCC	FC-1	23CS2205F	DESIGN AND ANALYSIS OF ALGORITHMS	F	DAA	2	0	2	0	3	4	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
3	FCC	FC-1	23EC2210F	NETWORK PROTOCOLS AND SECURITY	F	NPS	2	0	2	0	3	4	
4	OEC	OE-1	23AD2102R	DATABASE MANAGEMENT SYSTEMS	R	DBMS	3	0	2	0	4	5	
5	OEC	OE-2	23CI2001	ADAPTIVE SOFTWARE ENGINEERING	R	ASE	3	1	0	0	4	4	
6	OEC	OE-3	23CS2104R	OPERATING SYSTEMS	R	OS	3	0	2	0	4	5	
7	SMFC	SMFC-CORE	23CS03HF	ADVANCED ALGORITHMS & DATA STRUCTURES	R	AADS	3	0	2	0	4	5	
8	SMFC	SMFC-CORE	23CS2103R	ADVANCED OBJECT ORIENTED PROGRAMMING	R	AOOP	3	0	2	4	5	9	
9	SMFC	SMFC-CORE	23EC2210R	NETWORK PROTOCOLS AND SECURITY	R	NPS	3	0	2	0	4	5	
10	SMFC	SMFC-	23EC2106R	PROCESSORS AND CONTROLLERS	R	PRC	3	0	2	0	4	5	
11	SMFC	SMFC-CORE	23CS05EF	PYTHON FULL STACK DEVELOPMENT WITH DJANGO	E	PFSD	0	0	6	4	4	10	
12	SMFC	SMFC-	23CS06EF	MERN STACK WEB DEVELOPMENT	E	MSWD	0	0	6	4	4	10	

24. DOUBLE MAJOR: SECOND MAJOR CSIT FOR FIRST MAJOR EEE / ME / CIVIL / BT

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	FCC	FC-1	23CS2104F	OPERATING SYSTEMS	F	OS	2	0	2	0	3	4	
2	FCC	FC-1	23CS2205F	DESIGN AND ANALYSIS OF ALGORITHMS	F	DAA	2	0	2	0	3	4	
3	FCC	FC-1	23EC2210F	NETWORK PROTOCOLS AND SECURITY	F	NPS	2	0	2	0	3	4	
4	OEC	OE-1	23AD2102R	DATABASE MANAGEMENT SYSTEMS	R	DBMS	3	0	2	0	4	5	
5	OEC	OE-3	23CS2104R	OPERATING SYSTEMS	R	OS	3	0	2	0	4	5	
6	SMFC	SMFC-CORE	23CS03HF	ADVANCED ALGORITHMS & DATA STRUCTURES	R	AADS	3	0	2	0	4	5	
7	SMFC	SMFC-CORE	23CS2103R	ADVANCED OBJECT ORIENTED PROGRAMMING	R	AOOP	3	0	2	4	5	9	
8	SMFC	SMFC-CORE	23EC2210R	NETWORK PROTOCOLS AND SECURITY	R	NPS	3	0	2	0	4	5	
9	SMFC	SMFC-CORE	23CS05EF	PYTHON FULL STACK DEVELOPMENT WITH DJANGO	E	PFSD	0	0	6	4	4	10	
10	SMFC	SMFC-CORE	23CI2203	MANAGEMENT INFORMATION SYSTEM - ERP	R	MIS	2	0	0	0	2	2	
11	SMFC	SMFC-	23CS06EF	MERN STACK WEB DEVELOPMENT	E	MSWD	0	0	6	4	4	10	

25. DOUBLE MAJOR: SECOND MAJOR EEE FOR FIRST MAJOR AID / CIVIL / BT

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	FCC	FC-1	23EE2102F	ELECTRICAL MACHINES	F	ELM	2	0	2	0	3	4	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
2	FCC	FC-1	23EE2225F	POWER QUALITY	F	PQ	3	0	0	0	3	3	
3	OEC	OE-1	23OEEE03	ELECTRICAL POWER ENGINEERING	R	EPE	4	0	0	0	4	4	
4	OEC	OE-2	23EE2207R	CONTROL SYSTEMS	R	CS	3	0	2	0	4	5	
5	OEC	OE-3	23EE2205R	POWER ELECTRONICS	R	PES	3	0	2	0	4	5	
6	SMFC	SMFC-	23EC2106R	PROCESSORS AND CONTROLLERS	R	PRC	3	0	2	0	4	5	
7	SMFC	SMFC-	23EE2102R	ELECTRICAL MACHINES	R	ELM	3	0	2	0	4	5	
8	SMFC	SMFC-CORE	23EE2204R	ELECTRICAL POWER GENERATION, TRANSMISSION & DISTRIBUTION	R	EPGTD	2	1	0	0	3	3	
9	SMFC	SMFC-CORE	23EE3106R	POWER SYSTEM ANALYSIS & STABILITY	R	PSAS	2	1	0	0	3	3	
10	SMFC	SMFC-CORE	23EE3208R	POWER SYSTEM PROTECTION & CONTROL	R	PSPC	2	0	2	2	3.5	6	
11	SMFC	SMFC-	23EE2101	ELECTRICAL CIRCUITS	R	ELC	2	0	2	0	3	4	

26. DOUBLE MAJOR: SECOND MAJOR ECE FOR FIRST MAJOR CIVIL / BBA / B.COM / BSC / BCA / BA

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	FCC	FC-1	23EC2210F	NETWORK PROTOCOLS AND SECURITY	F	NPS	2	0	2	0	3	4	
2	FCC	FC-1	23EC2226F	WIRELESS COMMUNICATIONS	F	WC	2	0	2	0	3	4	
3	FCC	FC-1	23EC1101F	FUNDAMENTALS OF IOT AND SENSORS	F	FITS	2	0	2	0	3	4	FITS(1) Rule:1
4	FCC	FC-1	23EC2223F	FUNDAMENTALS OF ROBOTICS	F	FOR	2	0	2	0	3	4	
5	OEC	OE-1	23EC2105R	SIGNALS & COMMUNICATION SYSTEMS	R	SCS	3	0	2	0	4	5	
6	OEC	OE-2	23EC2208R	DIGITAL COMMUNICATION	R	DC	3	0	2	0	4	5	
7	OEC	OE-3	23EC3112R	DISCRETE TIME SIGNAL PROCESSING	R	DTSP	3	0	2	0	4	5	
8	SMFC	SMFC-CORE	23EC2210R	NETWORK PROTOCOLS AND SECURITY	R	NPS	3	0	2	0	4	5	
9	SMFC	SMFC-CORE	23EC1101R	FUNDAMENTALS OF IOT AND SENSORS	R	FITS	3	0	4	0	5	7	FITS(1) Rule:1
10	SMFC	SMFC-	23EC2106R	PROCESSORS AND CONTROLLERS	R	PRC	3	0	2	0	4	5	
11	SMFC	SMFC-CORE	23EC2209R	ELECTROMAGNETIC WAVES & TRANSMISSION LINES	R	EMWTL	3	0	0	0	3	3	
12	SMFC	SMFC-CORE	23EC1202	DIGITAL DESIGN & COMPUTER ARCHITECTURE	R	DDCA	3	0	2	0	4	5	
13	SMFC	SMFC-CORE	23EC1203	BASIC ELECTRICAL AND ELECTRONIC CIRCUITS	R	BEEC	2	0	0	0	2	2	
14	SMFC	SMFC-CORE	23EC2104R	ANALOG ELECTRONIC CIRCUIT DESIGN	R	AECD	3	0	2	2	4.5	7	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
15	SMFC	SMFC-	23EC2211R	VLSI DESIGN	R	VLSID	3	0	2	2	4.5	7	

27. DOUBLE MAJOR: SECOND MAJOR IOT FOR FIRST MAJOR BT / ME / CIVIL

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	FCC	FC-1	23EC2210F	NETWORK PROTOCOLS AND SECURITY	F	NPS	2	0	2	0	3	4	
2	FCC	FC-1	23EC1101F	FUNDAMENTALS OF IOT AND SENSORS	F	FITS	2	0	2	0	3	4	FITS(1) Rule:1
3	FCC	FC-1	23IN2222F	CLOUD COMPUTING FOR IOT	F	CCIOT	2	0	2	0	3	4	
4	OEC	OE-1	23IN2101R	IOT SYSTEM DESIGN	R	IOTPA	3	0	2	0	4	5	
5	OEC	OE-2	23IN2102	ELECTRONIC DEVICES AND INTEGRATED CIRCUITS	R	EDAIC	3	0	2	0	4	5	
6	OEC	OE-3	23IN2203	WIRELESS TECHNOLOGIES FOR IOT	R	WTIOT	3	0	2	0	4	5	
7	SMFC	SMFC-CORE	23EC2210R	NETWORK PROTOCOLS AND SECURITY	R	NPS	3	0	2	0	4	5	
8	SMFC	SMFC-CORE	23EC1101R	FUNDAMENTALS OF IOT AND SENSORS	R	FITS	3	0	4	0	5	7	FITS(1) Rule:1
9	SMFC	SMFC-	23EC2106R	PROCESSORS AND CONTROLLERS	R	PRC	3	0	2	0	4	5	
10	SMFC	SMFC-	23IN3104R	REAL TIME OPERATING SYSTEMS	R	RTOS	3	0	2	0	4	5	
11	SMFC	SMFC-	23IN3105R	EMBEDDED SYSTEMS DESIGN	R	ESD	2	0	2	0	3	4	
12	SMFC	SMFC-CORE	23EC1202	DIGITAL DESIGN & COMPUTER ARCHITECTURE	R	DDCA	3	0	2	0	4	5	

28. DOUBLE MAJOR: SECOND MAJOR AIDS FOR FIRST MAJOR BT / ME / CIVIL / EEE

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	FCC	FC-1	23AD2224F	CLOUD COMPUTING	F	CC	2	1	0	0	3	3	
2	OEC	OE-1	23AD2204R	DATA MANAGEMENT AND WAREHOUSING	R	DMW	3	0	2	0	4	5	
3	OEC	OE-2	23AD3106R	BIG DATA ENGINEERING	R	BDE	3	0	2	0	4	5	
4	OEC	OE-3	23AD3207R	NATURAL LANGUAGE PROCESSING	R	NLP	3	0	2	0	4	5	
5	SMFC	SMFC-CORE	23AD01HF	MACHINE LEARNING FOR HEALTHCARE	R	MLH	3	0	2	0	4	5	
6	SMFC	SMFC-	23AD03HF	REINFORCEMENT LEARNING	R	RIL	3	0	2	0	4	5	
7	SMFC	SMFC-	23AD04HF	EXPLAINABLE AI	R	EAI	3	0	2	0	4	5	
8	SMFC	SMFC-	23AD2205R	DEEP LEARNING	R	DL	3	0	2	4	5	9	
9	SMFC	SMFC-CORE	23AD4108	ETHICS FOR ARTIFICIAL INTELLIGENCE	R	EAI	1	0	0	0	1	1	
10	SMFC	SMFC-CORE	23AD2103R	SYSTEM DESIGN & INTRODUCTION TO CLOUD	R	SDC	3	0	2	0	4	5	

29. DOUBLE MAJOR: SECOND MAJOR ME FOR FIRST MAJOR CIVIL

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	FCC	FC-1	23ME2107F	THERMODYNAMICS	F	TD	2	1	0	0	3	3	
2	OEC	OE-1	23ME2208	MANUFACTURING PROCESSES	R	MP	3	0	2	0	4	5	
3	OEC	OE-2	23ME3110	HEAT TRANSFER	R	HT	3	0	2	0	4	5	
4	OEC	OE-3	23ME3214R	MACHINE DESIGN	R	MD	3	0	2	0	4	5	
5	SMFC	SMFC-	23ME3112	THERMAL SYSTEMS ENGINEERING	R	TSE	2	1	0	4	4	7	
6	SMFC	SMFC-CORE	23ME2209R	KINEMATICS & DYNAMICS OF MACHINES	R	KDOM	3	1	2	0	5	6	
7	SMFC	SMFC-	23ME3111R	MECHANICAL ENGINEERING DESIGN	R	MED	3	0	0	0	3	3	
8	SMFC	SMFC-CORE	23ME02RF	ADVANCED MATERIALS FOR ENGINEERING APPLICATIONS	R	AMEA	2	0	2	0	3	4	
9	SMFC	SMFC-	23ME3113R	MANUFACTURING TECHNOLOGY	R	MT	2	0	2	0	3	4	
10	SMFC	SMFC-CORE	23ME3215	DIGITAL MANUFACTURING & ROBOTICS	R	DMR	3	0	0	0	3	3	

30. DOUBLE MAJOR: SECOND MAJOR BT FOR FIRST MAJOR B.TECH / BBA / B.COM / BSC / BCA / BA

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	FCC	FC-1	23BT2224F	BIOREACTOR OPERATIONS	F	BO	2	0	2	0	3	4	
2	SDC	SDP-1	23SDBT01A	MEDICAL LAB TECHNOLOGY	A	MLT	0	0	6	4	4	10	
3	SDC	SDP-1	23SDBT01E	MEDICAL LAB TECHNOLOGY	E	MLT	0	0	6	4	4	10	
4	SDC	SDP-1	23SDBT01R	MEDICAL LAB TECHNOLOGY	R	MLT	0	0	2	4	2	6	
5	OEC	OE-1	23BT2209R	BIOCHEMICAL REACTION ENGINEERING	R	BCRE	3	0	2	0	4	5	
6	OEC	OE-2	23BT3212	PLANT AND ANIMAL BIOTECHNOLOGY	R	PABT	3	0	2	0	4	5	
7	OEC	OE-3	23BT3213R	DOWNSTREAM PROCESSING	R	DSP	2	0	4	0	4	6	
8	SMFC	SMFC-	23BT2104	MICROBIOLOGY	R	MBG	3	0	2	0	4	5	
9	SMFC	SMFC-	23BT2215	PROCESS ENGINEERING PRINCIPLES	R	PEP	2	0	2	0	3	4	
10	SMFC	SMFC-	23BT3214	BIOINFORMATICS	R	BI	2	0	2	0	3	4	
11	SMFC	SMFC-	23BT1101	CELL BIOLOGY	R	CB	3	0	0	0	3	3	
12	SMFC	SMFC-	23BT2103R	BIOCHEMISTRY	R	BCM	3	0	2	0	4	5	
13	SMFC	SMFC-	23BT2105R	IMMUNOLOGY	R	IMM	3	0	2	0	4	5	
14	SMFC	SMFC-	23BT2206	MOLECULAR BIOLOGY	R	MBY	3	0	0	0	3	3	

34. DOUBLE MAJOR: SECOND MAJOR FOOD TECHNOLOGY FOR FIRST MAJOR B.TECH / B.COM / BBA / BSC / BCA / BA

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	OEC	OE-1	22FT2212R	PROCESSING OF AQUATIC FOODS	R	PAF	3	0	2	0	4	5	
2	OEC	OE-2	22FT22C1R	FOOD ANALYSIS AND QUALITY ASSURANCE	R	FAQA	3	0	2	0	4	5	
3	OEC	OE-3	22FT3215R	TECHNOLOGY OF MEAT AND POULTRY	R	TMP	3	0	2	0	4	5	
4	SMFC	SMFC-	22FT1102	FOOD CHEMISTRY	R	FC	3	0	2	0	4	5	
5	SMFC	SMFC-	22FT1105	FOOD BIOCHEMISTRY	R	FBC	3	0	2	0	4	5	
6	SMFC	SMFC-CORE	22FT2109R	PROCESSING OF HORTICULTURAL PRODUCE	R	PHP	3	0	2	0	4	5	
7	SMFC	SMFC-CORE	22FT12C1	PRINCIPLES OF FOOD PRESERVATION	R	PFP	1	0	0	4	2	5	
8	SMFC	SMFC-	22FT32C2R	FOOD PACKAGING TECHNOLOGY	R	FPT	1	0	0	4	2	5	
9	SMFC	SMFC-	22FT1207R	FOOD MICROBIOLOGY	R	FMB	3	0	2	0	4	5	
10	SMFC	SMFC-CORE	22FT2213R	BAKERY, CONFECTIONERY AND SNACKS TECHNOLOGY	R	BCST	2	0	4	0	4	6	
11	SMFC	SMFC-CORE	22FT1104	INTRODUCTION TO FOOD SCIENCE AND TECHNOLOGY	R	IFST	3	0	2	0	4	5	

35. DOUBLE MAJOR: SECOND MAJOR COMMERCE FOR FIRST MAJOR B.TECH / BBA / BSC / BCA / BA

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	OEC	OE-1	23ACCBAT	BUSINESS TECHNOLOGY	R	BT	4	0	0	0	4	4	
2	OEC	OE-2	23ACCAFA	FINANCIAL ACCOUNTING	R	FA	3	2	0	0	5	5	
3	OEC	OE-3	23ACCAMA	MANAGEMENT ACCOUNTING	R	MA	3	2	0	0	5	5	
4	SMFC	SMFC-	23ACCAPM	PERFORMANCE MANAGEMENT	R	PM	3	2	0	0	5	5	
5	SMFC	SMFC-	22CM1206	ADVANCED COST ACCOUNTING	R	ACA	3	2	0	0	5	5	
6	SMFC	SMFC-CORE	22CM31B5	ACCOUNTING & REPORTING STANDARDS	R	ARS	3	2	0	0	5	5	
7	SMFC	SMFC-	23ACCATX	TAXATION	R	TXT	3	2	0	0	5	5	
8	SMFC	SMFC-	22CM21B2	INCOME TAX LAW & PRACTICE	R	ITLP	3	2	0	0	5	5	
9	SMFC	SMFC-	22CM1203	DATA ANALYSIS WITH EXCEL	R	DAWE	0	0	0	4	1	4	

36. SPECIALIZATION: AGRI-BIOTECHNOLOGY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDBT10A	MASS SPECTROMETRY BASED PROTEOMICS	A	MSBP	0	0	6	4	4	10	AIML(1) Rule:1
2	SDC	SDP-4	23SDBT10E	MASS SPECTROMETRY BASED PROTEOMICS	E	MSBP	0	0	6	4	4	10	AIML(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
3	SDC	SDP-4	23SDBT10R	MASS SPECTROMETRY BASED PROTEOMICS	R	MSBP	0	0	2	4	2	6	AIML(1) Rule:1
4	PEC	PE-1	23ABT3101A	BIOSENSORS AND BIOELECTRONICS	A	BSBE	4	0	4	4	7	12	GN(1) Rule:1
5	PEC	PE-1	23ABT3101E	BIOSENSORS AND BIOELECTRONICS	E	BSBE	4	0	4	4	7	12	GN(1) Rule:1
6	PEC	PE-1	23ABT3101R	BIOSENSORS AND BIOELECTRONICS	R	BSBE	3	0	2	4	5	9	GN(1) Rule:1
7	PEC	PE-2	23ABT3202A	IOT APPLICATIONS IN PRECISION AGRICULTURE	A	IOTAPA	5	0	0	0	5	5	FITS(1) Rule:1
8	PEC	PE-2	23ABT3202E	IOT APPLICATIONS IN PRECISION AGRICULTURE	E	IOTAPA	5	0	0	0	5	5	FITS(1) Rule:1
9	PEC	PE-2	23ABT3202R	IOT APPLICATIONS IN PRECISION AGRICULTURE	R	IOTAPA	3	0	0	0	3	3	FITS(1) Rule:1
10	PEC	PE-2	23ABT3203A	MACHINE LEARNING FOR PRECISION AGRICULTURE	A	MLPA	5	0	0	0	5	5	
11	PEC	PE-2	23ABT3203E	MACHINE LEARNING FOR PRECISION AGRICULTURE	E	MLPA	5	0	0	0	5	5	
12	PEC	PE-2	23ABT3203R	MACHINE LEARNING FOR PRECISION AGRICULTURE	R	MLPA	3	0	0	0	3	3	
13	PEC	PE-3	23ABT3304A	IMAGE PROCESSING FOR AGRICULTURAL APPLICATIONS	A	IPAA	4	0	4	4	7	12	
14	PEC	PE-3	23ABT3304E	IMAGE PROCESSING FOR AGRICULTURAL APPLICATIONS	E	IPAA	4	0	4	4	7	12	
15	PEC	PE-3	23ABT3304R	IMAGE PROCESSING FOR AGRICULTURAL APPLICATIONS	R	IPAA	3	0	2	4	5	9	
16	PEC	PE-4	23ABT3405M	BIOINSTRUMENTATION	M	BIM	4	0	0	0	4	4	
17	PEC	PE-4	23ABT3406M	DATA ACQUISITION AND COMMUNICATION SYSTEMS FOR AGRICULTURE	M	DACSA	3	0	0	0	3	3	
18	PEC	PE-5	23ABT3507	MICROFLUIDICS FOR AGRICULTURAL APPLICATIONS	R	MAP	3	0	0	0	3	3	
19	PEC	PE-5	23ABT3508	BIOINFORMATICS FOR AGRICULTURE	R	BIA	3	0	0	0	3	3	

37. SPECIALIZATION: AI AND AUTONOMOUS SYSTEMS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDAD09A	AUTONOMOUS VEHICLE SYSTEMS	A	AVS	0	0	6	4	4	10	
2	SDC	SDP-4	23SDAD09E	AUTONOMOUS VEHICLE SYSTEMS	E	AVS	0	0	6	4	4	10	
3	SDC	SDP-4	23SDAD09R	AUTONOMOUS VEHICLE SYSTEMS	R	AVS	0	0	2	4	2	6	
4	PEC	PE-1	23ASS3101A	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	A	ADAS	4	0	4	4	7	12	AIML(1) Rule:1
5	PEC	PE-1	23ASS3101E	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	E	ADAS	4	0	4	4	7	12	AIML(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
6	PEC	PE-1	23ASS3101R	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	R	ADAS	3	0	2	4	5	9	AIML(1) Rule:1
7	PEC	PE-1	23ASS3102A	AI AND CONTROLS FOR AUTONOMUS FUTURE VEHICLE	A	AICAFT	4	0	4	4	7	12	
8	PEC	PE-1	23ASS3102E	AI AND CONTROLS FOR AUTONOMUS FUTURE VEHICLE	E	AICAFT	4	0	4	4	7	12	
9	PEC	PE-1	23ASS3102R	AI AND CONTROLS FOR AUTONOMUS FUTURE VEHICLE	R	AICAFT	3	0	2	4	5	9	
10	PEC	PE-2	23ASS3202A	INTRODUCTION TO INTELLIGENT DRONES	A	IID	5	0	0	0	5	5	AIML(1) Rule:1
11	PEC	PE-2	23ASS3202E	INTRODUCTION TO INTELLIGENT DRONES	E	IID	5	0	0	0	5	5	AIML(1) Rule:1
12	PEC	PE-2	23ASS3202R	INTRODUCTION TO INTELLIGENT DRONES	R	IID	3	0	0	0	3	3	AIML(1) Rule:1
13	PEC	PE-2	23ASS3203A	AI AND IOT FOR AUTONOMOUS VEHICLE	A	AIAV	5	0	0	0	5	5	AIML(1) Rule:1
14	PEC	PE-2	23ASS3203E	AI AND IOT FOR AUTONOMOUS VEHICLE	E	AIAV	5	0	0	0	5	5	AIML(1) Rule:1
15	PEC	PE-2	23ASS3203R	AI AND IOT FOR AUTONOMOUS VEHICLE	R	AIAV	3	0	0	0	3	3	AIML(1) Rule:1
16	PEC	PE-2	23ASS3205A	AUTONOMOUS VEHICLE ECU DESIGN WITH AUTOSAR	A	AVECUDA	3	0	4	0	5	7	
17	PEC	PE-2	23ASS3205E	AUTONOMOUS VEHICLE ECU DESIGN WITH AUTOSAR	E	AVECUDA	3	0	4	0	5	7	
18	PEC	PE-2	23ASS3205R	AUTONOMOUS VEHICLE ECU DESIGN WITH AUTOSAR	R	AVECUDA	2	0	2	0	3	4	
19	PEC	PE-3	23ASS3304A	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	A	ADLAS	4	0	4	4	7	12	AIML(1) Rule:1
20	PEC	PE-3	23ASS3304E	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	E	ADLAS	4	0	4	4	7	12	AIML(1) Rule:1
21	PEC	PE-3	23ASS3304R	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	R	ADLAS	3	0	2	4	5	9	AIML(1) Rule:1
22	PEC	PE-3	23ASS3309A	AUTONOMOUS ELECTRIC MOBILITY - SYSTEMS AND APPLICATIONS	A	AAAV	4	0	4	4	7	12	
23	PEC	PE-3	23ASS3309E	AUTONOMOUS ELECTRIC MOBILITY - SYSTEMS AND APPLICATIONS	E	AAAV	4	0	4	4	7	12	
24	PEC	PE-3	23ASS3309R	AUTONOMOUS ELECTRIC MOBILITY - SYSTEMS AND APPLICATIONS	R	AAAV	3	0	2	4	5	9	
25	PEC	PE-4	23ASS3405M	EXPERT SYSTEMS	M	ES	3	0	0	0	3	3	AIML(1) Rule:1
26	PEC	PE-4	23ASS3406M	SELF-DRIVING CARS	M	SDC	3	0	0	0	3	3	AIML(1) Rule:1
27	PEC	PE-4	23ASS3410M	CYBERSECURITY IN AUTONOMUS VEHICLE	M	CAV	3	0	0	0	3	3	
28	PEC	PE-5	23ASS3507	LOCALIZATION & PROGRAMMING REAL-TIME AUTONOMOUS SYSTEMS	R	LPRAS	3	0	0	0	3	3	AIML(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
29	PEC	PE-5	23ASS3508	REINFORCEMENT LEARNING FOR AUTONOMOUS SYSTEM	R	RLA	3	0	0	0	3	3	AIML(1) Rule:1
30	PEC	PE-5	23ASS3511	AI DRIVEN ECU DESIGN FOR AUTONOMOUS VEHICLES	R	AEDATT	2	0	2	0	3	4	

38. SPECIALIZATION: AI FOR COMPUTATIONAL INTELLIGENCE

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCS17A	GENERATIVE ADVERSARIAL NETWORKS FOR IMAGES	A	GANI	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCS17E	GENERATIVE ADVERSARIAL NETWORKS FOR IMAGES	E	GANI	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCS17R	GENERATIVE ADVERSARIAL NETWORKS FOR IMAGES	R	GANI	0	0	2	4	2	6	
4	PEC	PE-1	23ACI3101A	GENERATIVE ADVERSARIAL NETWORKS	A	GANS	4	0	4	4	7	12	AIML(1) Rule:1
5	PEC	PE-1	23ACI3101E	GENERATIVE ADVERSARIAL NETWORKS	E	GANS	4	0	4	4	7	12	AIML(1) Rule:1
6	PEC	PE-1	23ACI3101R	GENERATIVE ADVERSARIAL NETWORKS	R	GANS	3	0	2	4	5	9	AIML(1) Rule:1
7	PEC	PE-2	23ACI3202A	EXPLAINABLE AI AND COMMUNICATIONS	A	EAIC	5	0	0	0	5	5	AIML(1) Rule:1
8	PEC	PE-2	23ACI3202E	EXPLAINABLE AI AND COMMUNICATIONS	E	EAIC	5	0	0	0	5	5	AIML(1) Rule:1
9	PEC	PE-2	23ACI3202R	EXPLAINABLE AI AND COMMUNICATIONS	R	EAIC	3	0	0	0	3	3	AIML(1) Rule:1
10	PEC	PE-3	23ACI3303A	FUZZY LOGIC WITH SET THEORY	A	FLST	4	0	4	4	7	12	AIML(1) Rule:1
11	PEC	PE-3	23ACI3303E	FUZZY LOGIC WITH SET THEORY	E	FLST	4	0	4	4	7	12	AIML(1) Rule:1
12	PEC	PE-3	23ACI3303R	FUZZY LOGIC WITH SET THEORY	R	FLST	3	0	2	4	5	9	AIML(1) Rule:1
13	PEC	PE-4	23ACI3404M	HEURISTIC ALGORITHMS	M	HAG	3	0	0	0	3	3	AIML(1) Rule:1
14	PEC	PE-4	23ACI3405M	SWARM INTELLIGENCE APPROACHES	M	SIA	3	0	0	0	3	3	AIML(1) Rule:1
15	PEC	PE-5	23ACI3506	DATA MANIPULATION	R	DMP	3	0	0	0	3	3	AIML(1) Rule:1
16	PEC	PE-5	23ACI3507	REINFORCEMENT LEARNING	R	RLG	3	0	0	0	3	3	AIML(1) Rule:1
17	PEC	PE-5	23ACI3508	EVOLUTIONARY COMPUTATION	R	ECP	3	0	0	0	3	3	AIML(1) Rule:1

39. SPECIALIZATION: AI SYSTEMS FOR VISUAL INTELLIGENCE

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCS19A	VISUAL RECOGNITION AND SCENE UNDERSTANDING	A	VRSU	0	0	6	4	4	10	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
2	SDC	SDP-4	23SDCS19E	VISUAL RECOGNITION AND SCENE UNDERSTANDING	E	VRSU	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCS19R	VISUAL RECOGNITION AND SCENE UNDERSTANDING	R	VRSU	0	0	2	4	2	6	
4	PEC	PE-1	23AVI3101A	DEEP LEARNING	A	DL	4	0	4	4	7	12	AIML(1) Rule:1
5	PEC	PE-1	23AVI3101E	DEEP LEARNING	E	DL	4	0	4	4	7	12	AIML(1) Rule:1
6	PEC	PE-1	23AVI3101R	DEEP LEARNING	R	DL	3	0	2	4	5	9	AIML(1) Rule:1
7	PEC	PE-2	23AVI3202A	COMPUTER VISION	A	CV	5	0	0	0	5	5	AIML(1) Rule:1
8	PEC	PE-2	23AVI3202E	COMPUTER VISION	E	CV	5	0	0	0	5	5	AIML(1) Rule:1
9	PEC	PE-2	23AVI3202R	COMPUTER VISION	R	CV	3	0	0	0	3	3	AIML(1) Rule:1
10	PEC	PE-3	23AVI3303A	OBJECT DETECTION	A	OD	4	0	4	4	7	12	AIML(1) Rule:1
11	PEC	PE-3	23AVI3303E	OBJECT DETECTION	E	OD	4	0	4	4	7	12	AIML(1) Rule:1
12	PEC	PE-3	23AVI3303R	OBJECT DETECTION	R	OD	3	0	2	4	5	9	AIML(1) Rule:1
13	PEC	PE-4	23AVI3404M	VISUAL RECOGNITION AND SCENE UNDERSTANDING	M	VRASU	3	0	0	0	3	3	AIML(1) Rule:1
14	PEC	PE-4	23AVI3405M	DEEP REINFORCEMENT LEARNING FOR VISION	M	DRLV	3	0	0	0	3	3	AIML(1) Rule:1
15	PEC	PE-5	23AVI3506	HUMAN COMPUTER INTERACTION	R	HCI	3	0	0	0	3	3	AIML(1) Rule:1
16	PEC	PE-5	23AVI3507	OBJECT LOCALIZATION	R	OL	3	0	0	0	3	3	AIML(1) Rule:1
17	PEC	PE-5	23AVI3508	ADVANCED IMAGE PROCESSING AND ANALYSIS	R	AIPA	3	0	0	0	3	3	AIML(1) Rule:1

40. SPECIALIZATION: AI-DRIVEN EDGE ARCHITECTURES AND APPLICATIONS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCS20A	SMART IOT AND SENSOR NETWORKS	A	SISN	0	0	6	4	4	10	FITS(1) Rule:1
2	SDC	SDP-4	23SDCS20E	SMART IOT AND SENSOR NETWORKS	E	SISN	0	0	6	4	4	10	FITS(1) Rule:1
3	SDC	SDP-4	23SDCS20R	SMART IOT AND SENSOR NETWORKS	R	SISN	0	0	2	4	2	6	FITS(1) Rule:1
4	PEC	PE-1	23ADE3101A	EDGE COMPUTING FUNDAMENTALS	A	ECF	4	0	4	4	7	12	OS(1) Rule:1
5	PEC	PE-1	23ADE3101E	EDGE COMPUTING FUNDAMENTALS	E	ECF	4	0	4	4	7	12	OS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
6	PEC	PE-1	23ADE3101R	EDGE COMPUTING FUNDAMENTALS	R	ECF	3	0	2	4	5	9	OS(1) Rule:1
7	PEC	PE-2	23ADE3202A	AI AT THE EDGE	A	AIAE	5	0	0	0	5	5	OS(1) Rule:1
8	PEC	PE-2	23ADE3202E	AI AT THE EDGE	E	AIAE	5	0	0	0	5	5	OS(1) Rule:1
9	PEC	PE-2	23ADE3202R	AI AT THE EDGE	R	AIAE	3	0	0	0	3	3	OS(1) Rule:1
10	PEC	PE-3	23ADE3303A	EDGE AI ARCHITECTURES AND APPLICATIONS	A	EAIAA	4	0	4	4	7	12	OS(1) Rule:1
11	PEC	PE-3	23ADE3303E	EDGE AI ARCHITECTURES AND APPLICATIONS	E	EAIAA	4	0	4	4	7	12	OS(1) Rule:1
12	PEC	PE-3	23ADE3303R	EDGE AI ARCHITECTURES AND APPLICATIONS	R	EAIAA	3	0	2	4	5	9	OS(1) Rule:1
13	PEC	PE-4	23ADE3404M	EDGE AI AND 5G	M	EAI5G	3	0	0	0	3	3	OS(1) Rule:1
14	PEC	PE-4	23ADE3405M	EDGE AI SECURITY AND PROTECTION	M	EAI5P	3	0	0	0	3	3	OS(1) Rule:1
15	PEC	PE-5	23ADE3506	EDGE AI DEVELOPMENT FRAMEWORKS AND TOOLS	R	EAI5DFT	3	0	0	0	3	3	OS(1) Rule:23CS2104
16	PEC	PE-5	23ADE3507	EDGE AI ANALYTICS AND DATA MANAGEMENT	R	EAI5ADM	3	0	0	0	3	3	OS(1) Rule:1
17	PEC	PE-5	23ADE3508	EDGE AI AND SUSTAINABILITY	R	EAI5AS	3	0	0	0	3	3	OS(1) Rule:1

41. SPECIALIZATION: AI-DRIVEN LANGUAGE TECHNOLOGIES

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCS18A	TEXT ANALYTICS	A	TAT	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCS18E	TEXT ANALYTICS	E	TAT	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCS18R	TEXT ANALYTICS	R	TAT	0	0	2	4	2	6	
4	PEC	PE-1	23ALT3101A	APPLIED MACHINE LEARNING FOR TEXT ANALYSIS	A	AMLFTA	4	0	4	4	7	12	AIML(1) Rule:1
5	PEC	PE-1	23ALT3101E	APPLIED MACHINE LEARNING FOR TEXT ANALYSIS	E	AMLFTA	4	0	4	4	7	12	AIML(1) Rule:1
6	PEC	PE-1	23ALT3101R	APPLIED MACHINE LEARNING FOR TEXT ANALYSIS	R	AMLFTA	3	0	2	4	5	9	AIML(1) Rule:1
7	PEC	PE-2	23ALT3202A	DEEP LEARNING FOR NATURAL LANGUAGE PROCESSING	A	DLFNLP	5	0	0	0	5	5	AIML(1) Rule:1
8	PEC	PE-2	23ALT3202E	DEEP LEARNING FOR NATURAL LANGUAGE PROCESSING	E	DLFNLP	5	0	0	0	5	5	AIML(1) Rule:1
9	PEC	PE-3	23ALT3202R	DEEP LEARNING FOR NATURAL LANGUAGE PROCESSING	R	DLFNLP	3	0	0	0	3	3	AIML(1) Rule:1
10	PEC	PE-3	23ALT3303A	CONVERSATIONAL AI AND CHATBOT DEVELOPMENT	A	CAICBD	4	0	4	4	7	12	AIML(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
11	PEC	PE-3	23ALT3303E	CONVERSATIONAL AI AND CHATBOT DEVELOPMENT	E	CAICBD	4	0	4	4	7	12	AIML(1) Rule:1
12	PEC	PE-3	23ALT3303R	CONVERSATIONAL AI AND CHATBOT DEVELOPMENT	R	CAICBD	3	0	2	4	5	9	AIML(1) Rule:1
13	PEC	PE-4	23ALT3404M	TEXT UNDERSTANDING	M	TUS	3	0	0	0	3	3	AIML(1) Rule:1
14	PEC	PE-4	23ALT3405M	NATURAL LANGUAGE PROCESSING	M	NLP	3	0	0	0	3	3	AIML(1) Rule:1
15	PEC	PE-5	23ALT3506	LANGUAGE UNDERSTANDING WITH PRE-TRAINED MODELS	R	LUWPTM	3	0	0	0	3	3	AIML(1) Rule:1
16	PEC	PE-5	23ALT3507	LARGE LANGUAGE MODEL FOR SPEECH PROCESSING	R	LLMFSP	3	0	0	0	3	3	AIML(1) Rule:1

42. SPECIALIZATION: AUTOMOTIVE ELECTRONICS AND AUTOSAR

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	23AEA3101A	AUTOMOTIVE SENSOR AND APPLICATIONS	A	ASA	4	0	4	4	7	12	
2	PEC	PE-1	23AEA3101E	AUTOMOTIVE SENSOR AND APPLICATIONS	E	ASA	4	0	4	4	7	12	
3	PEC	PE-1	23AEA3101R	AUTOMOTIVE SENSOR AND APPLICATIONS	R	ASA	3	0	2	4	5	9	
4	PEC	PE-2	23AEA3202A	AUTOTRONICS	A	AT	5	0	0	0	5	5	
5	PEC	PE-2	23AEA3202E	AUTOTRONICS	E	AT	5	0	0	0	5	5	
6	PEC	PE-2	23AEA3202R	AUTOTRONICS	R	AT	3	0	0	0	3	3	
7	PEC	PE-2	23AEA3203A	AUTOMOTIVE POLLUTION AND ITS CONTROL	A	APC	5	0	0	0	5	5	
8	PEC	PE-2	23AEA3203E	AUTOMOTIVE POLLUTION AND ITS CONTROL	E	APC	5	0	0	0	5	5	
9	PEC	PE-2	23AEA3203R	AUTOMOTIVE POLLUTION AND ITS CONTROL	R	APC	3	0	0	0	3	3	
10	PEC	PE-3	23AEA3304A	ALTERNATE DRIVES, TRACTION AND CONTROLS	A	ADTC	4	0	4	4	7	12	AIML(1) Rule:1
11	PEC	PE-3	23AEA3304E	ALTERNATE DRIVES, TRACTION AND CONTROLS	E	ADTC	4	0	4	4	7	12	AIML(1) Rule:1
12	PEC	PE-3	23AEA3304R	ALTERNATE DRIVES, TRACTION AND CONTROLS	R	ADTC	3	0	2	4	5	9	AIML(1) Rule:1
13	PEC	PE-4	23AEA3405M	VEHICLE CONTROL SYSTEMS	M	VCS	3	0	0	0	3	3	
14	PEC	PE-4	23AEA3406M	AUTOMOTIVE ELECTRICAL AND ELECTRONIC SYSTEMS	M	AEES	3	0	0	0	3	3	
15	PEC	PE-5	23AEA3507	SOFT COMPUTING TECHNIQUES FOR AUTOMOTIVE APPLICATIONS	R	SCTAA	3	0	0	0	3	3	
16	PEC	PE-5	23AEA3508	AUTOMOTIVE NETWORKING AND PROTOCOLS	R	ANP	3	0	0	0	3	3	

43. SPECIALIZATION: AUTOMOTIVE ENERGY ENGINEERING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDME04A	ANALYSIS OF ENERGY SYSTEMS	A	AES	0	0	6	4	4	10	DBMS(1) Rule:1
2	SDC	SDP-4	23SDME04E	ANALYSIS OF ENERGY SYSTEMS	E	AES	0	0	6	4	4	10	DBMS(1) Rule:1
3	SDC	SDP-4	23SDME04R	ANALYSIS OF ENERGY SYSTEMS	R	AES	0	0	2	4	2	6	DBMS(1) Rule:1
4	PEC	PE-1	23ECF3101A	AUTOMOBILE ENGINEERING	A	AE	4	0	4	4	7	12	
5	PEC	PE-1	23ECF3101E	AUTOMOBILE ENGINEERING	E	AE	4	0	4	4	7	12	
6	PEC	PE-1	23ECF3101R	AUTOMOBILE ENGINEERING	R	AE	3	0	2	4	5	9	
7	PEC	PE-2	23ECF3202A	AUTOTRONICS & SAFETY	A	ATS	5	0	0	0	5	5	
8	PEC	PE-2	23ECF3202E	AUTOTRONICS & SAFETY	E	ATS	5	0	0	0	5	5	
9	PEC	PE-2	23ECF3202R	AUTOTRONICS & SAFETY	R	ATS	3	0	0	0	3	3	
10	PEC	PE-2	23ECF3203A	AUTONOMOUS VEHICLES	A	AV	5	0	0	0	5	5	
11	PEC	PE-2	23ECF3203E	AUTONOMOUS VEHICLES	E	AV	5	0	0	0	5	5	
12	PEC	PE-2	23ECF3203R	AUTONOMOUS VEHICLES	R	AV	3	0	0	0	3	3	
13	PEC	PE-3	23ECF3304A	HYBRID AND ELECTRIC VEHICLE DESIGN	A	HEVD	4	0	4	4	7	12	
14	PEC	PE-3	23ECF3304E	HYBRID AND ELECTRIC VEHICLE DESIGN	E	HEVD	4	0	4	4	7	12	
15	PEC	PE-3	23ECF3304R	HYBRID AND ELECTRIC VEHICLE DESIGN	R	HEVD	3	0	2	4	5	9	
16	PEC	PE-4	23ECF3405M	SPECIAL PURPOSE VEHICLES	M	SPV	3	0	0	0	3	3	
17	PEC	PE-4	23ECF3406M	VEHICLE DYNAMICS	M	VD	3	0	0	0	3	3	
18	PEC	PE-5	23ECF3507	THERMAL MANAGEMENT OF ELECTRIC AND ELECTRONIC SYSTEMS	R	TMEES	3	0	0	0	3	3	
19	PEC	PE-5	23ECF3508	ALTERNATE ENERGY SOURCES FOR AUTOMOBILES	R	AESFA	3	0	0	0	3	3	

44. SPECIALIZATION: BIOINFORMATICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDBT08A	DRUG DESIGN: PRINCIPLES AND ENGINEERING	A	DDPE	0	0	6	4	4	10	
2	SDC	SDP-4	23SDBT08E	DRUG DESIGN: PRINCIPLES AND ENGINEERING	E	DDPE	0	0	6	4	4	10	
3	SDC	SDP-4	23SDBT08R	DRUG DESIGN: PRINCIPLES AND ENGINEERING	R	DDPE	0	0	2	4	2	6	
4	PEC	PE-1	23BIS3101A	MOLECULAR MODELLING AND DRUG DESIGN	A	MMDD	4	0	4	4	7	12	CB(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
5	PEC	PE-1	23BIS3101E	MOLECULAR MODELLING AND DRUG DESIGN	E	MMDD	4	0	4	4	7	12	CB(1) Rule:1
6	PEC	PE-1	23BIS3101R	MOLECULAR MODELLING AND DRUG DESIGN	R	MMDD	3	0	2	4	5	9	CB(1) Rule:1
7	PEC	PE-2	23BIS3202A	BIOMEDICAL INFORMATICS	A	BMI	5	0	0	0	5	5	CB(1) Rule:1
8	PEC	PE-2	23BIS3202E	BIOMEDICAL INFORMATICS	E	BMI	5	0	0	0	5	5	CB(1) Rule:1
9	PEC	PE-2	23BIS3202R	BIOMEDICAL INFORMATICS	R	BMI	3	0	0	0	3	3	CB(1) Rule:1
10	PEC	PE-2	23BIS3203A	PYTHON AND R PROGRAMMING	A	P&RP	5	0	0	0	5	5	CB(1) Rule:1
11	PEC	PE-2	23BIS3203E	PYTHON AND R PROGRAMMING	E	P&RP	5	0	0	0	5	5	CB(1) Rule:1
12	PEC	PE-2	23BIS3203R	PYTHON AND R PROGRAMMING	R	P&RP	3	0	0	0	3	3	CB(1) Rule:1
13	PEC	PE-3	23BIS3304A	STRUCTURAL BIOLOGY	A	SB	4	0	4	4	7	12	CB(1) Rule:1
14	PEC	PE-3	23BIS3304E	STRUCTURAL BIOLOGY	E	SB	4	0	4	4	7	12	CB(1) Rule:1
15	PEC	PE-3	23BIS3304R	STRUCTURAL BIOLOGY	R	SB	3	0	2	4	5	9	CB(1) Rule:1
16	PEC	PE-4	23BIS3405M	APPLIED BIOINFORMATICS	M	ABI	3	0	0	0	3	3	CB(1) Rule:1
17	PEC	PE-4	23BIS3406M	NGS SEQUENCING AND DATA ANALYSIS	M	NGSDA	3	0	0	0	3	3	CB(1) Rule:1
18	PEC	PE-5	23BIS3507	SYSTEMS BIOLOGY	R	SSB	3	0	0	0	3	3	CB(1) Rule:1
19	PEC	PE-5	23BIS3508	DATABASE MANAGEMENT SYSTEM FOR BIOLOGIST	R	DBMS	3	0	0	0	3	3	CB(1) Rule:1

45. SPECIALIZATION: BLOCKCHAIN ENGINEERING FOR WEB3

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDAD08A	EMERGING BLOCKCHAIN MODELS FOR DIGITAL CURRENCIES	A	EBCMDC	0	0	6	4	4	10	
2	SDC	SDP-4	23SDAD08E	EMERGING BLOCKCHAIN MODELS FOR DIGITAL CURRENCIES	E	EBCMDC	0	0	6	4	4	10	
3	SDC	SDP-4	23SDAD08R	EMERGING BLOCKCHAIN MODELS FOR DIGITAL CURRENCIES	R	EBCMDC	0	0	2	4	2	6	
4	PEC	PE-1	23BEW3101A	INTRODUCTION TO BLOCKCHAIN TECHNOLOGY, CRYPTOCURRENCIES AND TOKENS	A	ITBTCT	4	0	4	4	7	12	
5	PEC	PE-1	23BEW3101E	INTRODUCTION TO BLOCKCHAIN TECHNOLOGY, CRYPTOCURRENCIES AND TOKENS	E	ITBTCT	4	0	4	4	7	12	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
6	PEC	PE-1	23BEW3101R	INTRODUCTION TO BLOCKCHAIN TECHNOLOGY, CRYPTOCURRENCIES AND TOKENS	R	ITBTCT	3	0	2	4	5	9	
7	PEC	PE-2	23BEW3202A	SMART CONTRACTS	A	SCR	5	0	0	0	5	5	
8	PEC	PE-2	23BEW3202E	SMART CONTRACTS	E	SCR	5	0	0	0	5	5	
9	PEC	PE-2	23BEW3202R	SMART CONTRACTS	R	SCR	3	0	0	0	3	3	
10	PEC	PE-3	23BEW3303A	DECENTRALIZED APPLICATIONS AND DECENTRALIZED WEB	A	DADW	4	0	4	4	7	12	
11	PEC	PE-3	23BEW3303E	DECENTRALIZED APPLICATIONS AND DECENTRALIZED WEB	E	DADW	4	0	4	4	7	12	
12	PEC	PE-3	23BEW3303R	DECENTRALIZED APPLICATIONS AND DECENTRALIZED WEB	R	DADW	3	0	2	4	5	9	
13	PEC	PE-4	23BEW3404M	BLOCKCHAIN PLATFORMS AND PROTOCOLS	M	BCPAP	3	0	0	0	3	3	
14	PEC	PE-4	23BEW3405M	BLOCKCHAIN SECURITY	M	BCS	3	0	0	0	3	3	
15	PEC	PE-4	23BEW3406M	ORACLES AND DATA FEEDS	M	ODF	3	0	0	0	3	3	
16	PEC	PE-5	23BEW3507	BLOCKCHAIN SCALABILITY AND LAYER 2 SOLUTIONS	R	BCSALS	3	0	0	0	3	3	
17	PEC	PE-5	23BEW3508	REGULATORY LANDSCAPE AND COMPLIANCE	R	RLAC	3	0	0	0	3	3	
18	PEC	PE-5	23BEW3509	FUTURE TRENDS IN BLOCKCHAIN AND WEB3	R	FTBCAW	3	0	0	0	3	3	

46. SPECIALIZATION: CLOUD AND EDGE COMPUTING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCS04A	CLOUD BASED SOLUTIONS ARCHITECT	A	CBSA	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCS04E	CLOUD BASED SOLUTIONS ARCHITECT	E	CBSA	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCS04R	CLOUD BASED SOLUTIONS ARCHITECT	R	CBSA	0	0	2	4	2	6	
4	PEC	PE-1	23CEC3101A	CLOUD INFRASTRUCTURE AND SERVICES	A	CIS	4	0	4	4	7	12	OS(1) Rule:1
5	PEC	PE-1	23CEC3101E	CLOUD INFRASTRUCTURE AND SERVICES	E	CIS	4	0	4	4	7	12	OS(1) Rule:1
6	PEC	PE-1	23CEC3101R	CLOUD INFRASTRUCTURE AND SERVICES	R	CIS	3	0	2	4	5	9	OS(1) Rule:1
7	PEC	PE-2	23CEC3202A	ADVANCED OPERATING SYSTEMS	A	AOS	5	0	0	0	5	5	OS(1) Rule:1
8	PEC	PE-2	23CEC3202E	ADVANCED OPERATING SYSTEMS	E	AOS	5	0	0	0	5	5	OS(1) Rule:1
9	PEC	PE-2	23CEC3202R	ADVANCED OPERATING SYSTEMS	R	AOS	3	0	0	0	3	3	OS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
10	PEC	PE-2	23CEC3203A	FUNCTIONAL & CONCURRENT PROGRAMMING	A	FCP	5	0	0	0	5	5	OS(1) Rule:1
11	PEC	PE-2	23CEC3203E	FUNCTIONAL & CONCURRENT PROGRAMMING	E	FCP	5	0	0	0	5	5	OS(1) Rule:1
12	PEC	PE-2	23CEC3203R	FUNCTIONAL & CONCURRENT PROGRAMMING	R	FCP	3	0	0	0	3	3	OS(1) Rule:1
13	PEC	PE-2	23CEC3204A	CLOUD DEVOPS	A	CD	5	0	0	0	5	5	OS(1) Rule:1
14	PEC	PE-2	23CEC3204E	CLOUD DEVOPS	E	CD	5	0	0	0	5	5	OS(1) Rule:1
15	PEC	PE-2	23CEC3204R	CLOUD DEVOPS	R	CD	3	0	0	0	3	3	OS(1) Rule:1
16	PEC	PE-2	23CEC3305A	CLOUD & SERVERLESS COMPUTING	A	CSC	4	0	4	4	7	12	OS(1) Rule:1
17	PEC	PE-3	23CEC3305E	CLOUD & SERVERLESS COMPUTING	E	CSC	4	0	4	4	7	12	OS(1) Rule:1
18	PEC	PE-3	23CEC3305R	CLOUD & SERVERLESS COMPUTING	R	CSC	3	0	2	4	5	9	OS(1) Rule:1
19	PEC	PE-4	23CEC3406M	ADVANCED COMPUTER ARCHITECTURE	M	ACA	3	0	0	0	3	3	OS(1) Rule:1
20	PEC	PE-4	23CEC3407M	PARALLEL ALGORITHMS	M	PA	3	0	0	0	3	3	OS(1) Rule:1
21	PEC	PE-4	23CEC3408M	CLOUD SECURITY	M	CS	3	0	0	0	3	3	OS(1) Rule:1
22	PEC	PE-4	23CEC3409M	ARCHITECTING CLOUD SOLUTIONS*	M	ACS	3	0	0	0	3	3	OS(1) Rule:1
23	PEC	PE-5	23CEC3510	EDGE COMPUTING	R	EC	3	0	0	0	3	3	OS(1) Rule:1
24	PEC	PE-5	23CEC3511	HIGH PERFORMANCE COMPUTING	R	HPC	3	0	0	0	3	3	OS(1) Rule:1
25	PEC	PE-5	23CEC3512	DESIGN OF DISTRIBUTED APPLICATIONS ON CLOUD (DDA)	R	DDAC	3	0	0	0	3	3	OS(1) Rule:1
26	PEC	PE-5	23CEC3513	CLOUD NETWORKING	R	CN	3	0	0	0	3	3	OS(1) Rule:1

47. SPECIALIZATION: CLOUD INFRASTRUCTURE DESIGN AND ENGINEERING?

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCS16A	CLOUD INFRASTRUCTURE DESIGN	A	CISD	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCS16E	CLOUD INFRASTRUCTURE DESIGN	E	CISD	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCS16R	CLOUD INFRASTRUCTURE DESIGN	R	CISD	0	0	2	4	2	6	
4	PEC	PE-1	23CID3101A	CLOUD INFRASTRUCTURE ENGINEERING	A	CIE	4	0	4	4	7	12	OS(1) Rule:1
5	PEC	PE-1	23CID3101E	CLOUD INFRASTRUCTURE ENGINEERING	E	CIE	4	0	4	4	7	12	OS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
6	PEC	PE-1	23CID3101R	CLOUD INFRASTRUCTURE ENGINEERING	R	CIE	3	0	2	4	5	9	OS(1) Rule:1
7	PEC	PE-2	23CID3202A	ENTERPRISE CLOUD COMPUTING: TECHNOLOGY, ARCHITECTURE, APPLICATIONS	A	ECT	5	0	0	0	5	5	OS(1) Rule:1
8	PEC	PE-2	23CID3202E	ENTERPRISE CLOUD COMPUTING: TECHNOLOGY, ARCHITECTURE, APPLICATIONS	E	ECT	5	0	0	0	5	5	OS(1) Rule:1
9	PEC	PE-2	23CID3202R	ENTERPRISE CLOUD COMPUTING: TECHNOLOGY, ARCHITECTURE, APPLICATIONS	R	ECT	3	0	0	0	3	3	OS(1) Rule:1
10	PEC	PE-2	23CID3203A	ARCHITECTING HIGHLY AVAILABLE AND SCALABLE CLOUD ENVIRONMENTS	A	AHASCE	5	0	0	0	5	5	OS(1) Rule:1
11	PEC	PE-2	23CID3203E	ARCHITECTING HIGHLY AVAILABLE AND SCALABLE CLOUD ENVIRONMENTS	E	AHASCE	5	0	0	0	5	5	OS(1) Rule:1
12	PEC	PE-2	23CID3203R	ARCHITECTING HIGHLY AVAILABLE AND SCALABLE CLOUD ENVIRONMENTS	R	AHASCE	3	0	0	0	3	3	OS(1) Rule:1
13	PEC	PE-3	23CID3304A	CLOUD INFRASTRUCTURE ARCHITECTURE AND ENGINEERING	A	CIA	4	0	4	4	7	12	OS(1) Rule:1
14	PEC	PE-3	23CID3304E	CLOUD INFRASTRUCTURE ARCHITECTURE AND ENGINEERING	E	CIA	4	0	4	4	7	12	OS(1) Rule:1
15	PEC	PE-3	23CID3304R	CLOUD INFRASTRUCTURE ARCHITECTURE AND ENGINEERING	R	CIA	3	0	2	4	5	9	OS(1) Rule:1
16	PEC	PE-4	23CID3405M	RELIABLE CLOUD INFRASTRUCTURE: DESIGN & PROCESS	M	RID	3	0	0	0	3	3	OS(1) Rule:1
17	PEC	PE-4	23CID3406M	HYBRID CLOUD INTEGRATION AND MANAGEMENT	M	HCIM	3	0	0	0	3	3	OS(1) Rule:1
18	PEC	PE-5	23CID3507	CLOUD ENGINEERING	R	CE	3	0	0	0	3	3	OS(1) Rule:1
19	PEC	PE-5	23CID3508	CLOUD DATA MANAGEMENT AND STORAGE SOLUTIONS	R	CDMSS	3	0	0	0	3	3	OS(1) Rule:1

48. SPECIALIZATION: CLOUD NATIVE SECURITY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCS05A	CLOUD BASED SECURITY SPECIALITY	A	CBSS	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCS05E	CLOUD BASED SECURITY SPECIALITY	E	CBSS	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCS05R	CLOUD BASED SECURITY SPECIALITY	R	CBSS	0	0	2	4	2	6	
4	PEC	PE-1	23CNS3101A	INTRODUCTION TO CLOUD NATIVE COMPUTING	A	ITCNC	4	0	4	4	7	12	OS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
5	PEC	PE-1	23CNS3101E	INTRODUCTION TO CLOUD NATIVE COMPUTING	E	ITCNC	4	0	4	4	7	12	OS(1) Rule:1
6	PEC	PE-1	23CNS3101R	INTRODUCTION TO CLOUD NATIVE COMPUTING	R	ITCNC	3	0	2	4	5	9	OS(1) Rule:1
7	PEC	PE-2	23CNS3202A	FUNDAMENTALS OF CLOUD SECURITY	A	FOCS	5	0	0	0	5	5	OS(1) Rule:1
8	PEC	PE-2	23CNS3202E	FUNDAMENTALS OF CLOUD SECURITY	E	FOCS	5	0	0	0	5	5	OS(1) Rule:1
9	PEC	PE-2	23CNS3202R	FUNDAMENTALS OF CLOUD SECURITY	R	FOCS	3	0	0	0	3	3	OS(1) Rule:1
10	PEC	PE-3	23CNS3303A	CONTAINER SECURITY	A	CTSY	4	0	4	4	7	12	OS(1) Rule:1
11	PEC	PE-3	23CNS3303E	CONTAINER SECURITY	E	CTSY	4	0	4	4	7	12	OS(1) Rule:1
12	PEC	PE-3	23CNS3303R	CONTAINER SECURITY	R	CTSY	3	0	2	4	5	9	OS(1) Rule:1
13	PEC	PE-4	23CNS3404M	MICROSERVICES SECURITY	M	MSS	3	0	0	0	3	3	OS(1) Rule:1
14	PEC	PE-4	23CNS3405M	INFRASTRUCTURE AS CODE SECURITY	M	ISACS	3	0	0	0	3	3	OS(1) Rule:1
15	PEC	PE-4	23CNS3406M	IDENTITY AND ACCESS MANAGEMENT IN CLOUD NATIVE ENVIRONMENTS	M	IAMCNE	3	0	0	0	3	3	OS(1) Rule:1
16	PEC	PE-4	23CNS3407M	NETWORK SECURITY IN CLOUD NATIVE ARCHITECTURES	M	NSCNA	3	0	0	0	3	3	OS(1) Rule:1
17	PEC	PE-5	23CNS3508	MONITORING AND LOGGING FOR CLOUD NATIVE SECURITY	R	MLCNS	3	0	0	0	3	3	OS(1) Rule:1
18	PEC	PE-5	23CNS3509	COMPLIANCE AND GOVERNANCE IN CLOUD NATIVE ENVIRONMENTS	R	CGCNE	3	0	0	0	3	3	OS(1) Rule:1
19	PEC	PE-5	23CNS3510	SERVERLESS SECURITY	R	SLSY	3	0	0	0	3	3	OS(1) Rule:1
20	PEC	PE-5	23CNS3511	CLOUD NATIVE SECURITY TOOLS AND SOLUTIONS	R	CNSTAS	3	0	0	0	3	3	OS(1) Rule:1
21	PEC	PE-5	23CNS3512	FUTURE TRENDS IN CLOUD NATIVE SECURITY	R	FTCNS	3	0	0	0	3	3	OS(1) Rule:1

49. SPECIALIZATION: CLOUD NATIVE SOFTWARE ENGINEERING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCS15A	SOFTWARE DESIGN WITH CLOUD NATIVE COMPUTING	A	SDCNC	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCS15E	SOFTWARE DESIGN WITH CLOUD NATIVE COMPUTING	E	SDCNC	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCS15R	SOFTWARE DESIGN WITH CLOUD NATIVE COMPUTING	R	SDCNC	0	0	2	4	2	6	
4	PEC	PE-1	23CNE3101A	FOUNDATIONS OF CLOUD NATIVE COMPUTING	A	FCNC	4	0	4	4	7	12	OS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
5	PEC	PE-1	23CNE3101E	FOUNDATIONS OF CLOUD NATIVE COMPUTING	E	FCNC	4	0	4	4	7	12	OS(1) Rule:1
6	PEC	PE-1	23CNE3101R	FOUNDATIONS OF CLOUD NATIVE COMPUTING	R	FCNC	3	0	2	4	5	9	OS(1) Rule:1
7	PEC	PE-2	23CNE3202A	CLOUD NATIVE APPLICATION DEVELOPMENT	A	CNAD	5	0	0	0	5	5	OS(1) Rule:1
8	PEC	PE-2	23CNE3202E	CLOUD NATIVE APPLICATION DEVELOPMENT	E	CNAD	5	0	0	0	5	5	OS(1) Rule:1
9	PEC	PE-2	23CNE3202R	CLOUD NATIVE APPLICATION DEVELOPMENT	R	CNAD	3	0	0	0	3	3	OS(1) Rule:1
10	PEC	PE-2	23CNE3203A	CLOUD NATIVE DESIGN PROCESS	A	CNDP	5	0	0	0	5	5	OS(1) Rule:1
11	PEC	PE-2	23CNE3203E	CLOUD NATIVE DESIGN PROCESS	E	CNDP	5	0	0	0	5	5	OS(1) Rule:1
12	PEC	PE-2	23CNE3203R	CLOUD NATIVE DESIGN PROCESS	R	CNDP	3	0	0	0	3	3	OS(1) Rule:1
13	PEC	PE-3	23CNE3304A	SOFTWARE ENGINEERING FOR CLOUD COMPUTING	A	SEC	4	0	4	4	7	12	OS(1) Rule:1
14	PEC	PE-3	23CNE3304E	SOFTWARE ENGINEERING FOR CLOUD COMPUTING	E	SEC	4	0	4	4	7	12	OS(1) Rule:1
15	PEC	PE-3	23CNE3304R	SOFTWARE ENGINEERING FOR CLOUD COMPUTING	R	SEC	3	0	2	4	5	9	OS(1) Rule:1
16	PEC	PE-4	23CNE3405M	SERVERLESS COMPUTING AND EVENT-DRIVEN ARCHITECTURES	M	SCEDA	3	0	0	0	3	3	OS(1) Rule:1
17	PEC	PE-4	23CNE3406M	CLOUD NATIVE SOFTWARE ARCHITECTURES	M	CNSA	3	0	0	0	3	3	OS(1) Rule:1
18	PEC	PE-5	23CNE3507	CLOUD NATIVE NETWORKING AND STORAGE SYSTEMS	R	CNNSS	3	0	0	0	3	3	OS(1) Rule:1
19	PEC	PE-5	23CNE3508	CLOUD INFRASTRUCTURE AND VIRTUALIZATION	R	CIIV	3	0	0	0	3	3	OS(1) Rule:1

50. SPECIALIZATION: CLOUD-BASED SCIENTIFIC COMPUTING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCS14A	CLOUD ARCHITECTURES FOR SCIENTIFIC WORKLOADS	A	CASW	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCS14E	CLOUD ARCHITECTURES FOR SCIENTIFIC WORKLOADS	E	CASW	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCS14R	CLOUD ARCHITECTURES FOR SCIENTIFIC WORKLOADS	R	CASW	0	0	2	4	2	6	
4	PEC	PE-1	23CSC3101A	FUNDAMENTALS OF CLOUD-BASED SCIENTIFIC COMPUTING	A	FCS	4	0	4	4	7	12	OS(1) Rule:1
5	PEC	PE-1	23CSC3101E	FUNDAMENTALS OF CLOUD-BASED SCIENTIFIC COMPUTING	E	FCS	4	0	4	4	7	12	OS(1) Rule:1
6	PEC	PE-1	23CSC3101R	FUNDAMENTALS OF CLOUD-BASED SCIENTIFIC COMPUTING	R	FCS	3	0	2	4	5	9	OS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
7	PEC	PE-2	23CSC3202A	DEVELOPMENT OF SCIENTIFIC APPLICATIONS USING CLOUD-BASED TECHNOLOGY	A	DSA	5	0	0	0	5	5	OS(1) Rule:1
8	PEC	PE-2	23CSC3202E	DEVELOPMENT OF SCIENTIFIC APPLICATIONS USING CLOUD-BASED TECHNOLOGY	E	DSA	5	0	0	0	5	5	OS(1) Rule:1
9	PEC	PE-2	23CSC3202R	DEVELOPMENT OF SCIENTIFIC APPLICATIONS USING CLOUD-BASED TECHNOLOGY	R	DSA	3	0	0	0	3	3	OS(1) Rule:1
10	PEC	PE-2	23CSC3203A	DISTRIBUTED SCIENTIFIC COMPUTING IN THE CLOUD	A	DSCC	5	0	0	0	5	5	OS(1) Rule:1
11	PEC	PE-2	23CSC3203E	DISTRIBUTED SCIENTIFIC COMPUTING IN THE CLOUD	E	DSCC	5	0	0	0	5	5	OS(1) Rule:1
12	PEC	PE-2	23CSC3203R	DISTRIBUTED SCIENTIFIC COMPUTING IN THE CLOUD	R	DSCC	3	0	0	0	3	3	OS(1) Rule:1
13	PEC	PE-3	23CSC3304A	CLOUD BASED HIGH PERFORMANCE COMPUTING	A	CHC	4	0	4	4	7	12	OS(1) Rule:1
14	PEC	PE-3	23CSC3304E	CLOUD BASED HIGH PERFORMANCE COMPUTING	E	CHC	4	0	4	4	7	12	OS(1) Rule:1
15	PEC	PE-3	23CSC3304R	CLOUD BASED HIGH PERFORMANCE COMPUTING	R	CHC	3	0	2	4	5	9	OS(1) Rule:1
16	PEC	PE-4	23CSC3405M	CLOUD-BASED GRID COMPUTING	M	CGC	3	0	0	0	3	3	OS(1) Rule:1
17	PEC	PE-4	23CSC3406M	CLOUD COMPUTING FOR SCIENTIFIC DISCOVERY	M	CCFSD	3	0	0	0	3	3	OS(1) Rule:1
18	PEC	PE-5	23CSC3508	PARALLEL COMPUTING FOR SCIENTISTS USING CLOUD PLATFORMS	R	PCSCP	3	0	0	0	3	3	OS(1) Rule:1
19	PEC	PE-5	23CSC3507	CLOUD-BASED SCALABLE COMPUTING AND BIG DATA ANALYTICS	R	CSCBD	3	0	0	0	3	3	OS(1) Rule:1

51. SPECIALIZATION: COMPUTER COMMUNICATION AND 5G TECHNOLOGY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDEC12A	NETWORK PROGRAMMABILITY AND AUTOMATION	A	NPA	0	0	6	4	4	10	
2	SDC	SDP-4	23SDEC12E	NETWORK PROGRAMMABILITY AND AUTOMATION	E	NPA	0	0	6	4	4	10	
3	SDC	SDP-4	23SDEC12R	NETWORK PROGRAMMABILITY AND AUTOMATION	R	NPA	0	0	2	4	2	6	
4	PEC	PE-1	23CCF3101A	TCP/IP & OTHER PROTOCOL SUITE	A	TCP	4	0	4	4	7	12	
5	PEC	PE-1	23CCF3101E	TCP/IP & OTHER PROTOCOL SUITE	E	TCP	4	0	4	4	7	12	
6	PEC	PE-1	23CCF3101R	TCP/IP & OTHER PROTOCOL SUITE	R	TCP	3	0	2	4	5	9	
7	PEC	PE-2	23CCF3202A	CLOUD COMPUTING AND NETWORKS SECURITY	A	CCNS	5	0	0	0	5	5	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
8	PEC	PE-2	23CCF3202E	CLOUD COMPUTING AND NETWORKS SECURITY	E	CCNS	5	0	0	0	5	5	
9	PEC	PE-2	23CCF3202R	CLOUD COMPUTING AND NETWORKS SECURITY	R	CCNS	3	0	0	0	3	3	
10	PEC	PE-3	23CCF3303A	VOIP AND BROADBAND NETWORKS	A	VBNS	4	0	4	4	7	12	
11	PEC	PE-3	23CCF3303E	VOIP AND BROADBAND NETWORKS	E	VBNS	4	0	4	4	7	12	
12	PEC	PE-3	23CCF3303R	VOIP AND BROADBAND NETWORKS	R	VBNS	3	0	2	4	5	9	
13	PEC	PE-4	23CCF3404M	5G MOBILE AND IEEE STANDARDS	M	5GMI	3	0	0	0	3	3	
14	PEC	PE-5	23CCF3505	IP MULTIMEDIA SUB-SYSTEM & EMERGING TECHNOLOGIES	R	IMSET	3	0	0	0	3	3	
15	PEC	PE-5	23CCF3506	IT SECURITY: DEFENCE AGAINST THE DIGITAL DARK ARTS	R	IMSET	3	0	0	0	3	3	

52. SPECIALIZATION: CONSTRUCTION TECHNOLOGY AND MANAGEMENT

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-3	23SDCE04A	PLANNING AND SCHEDULING OF RESIDENTIAL BUILDING USING PRIMAVERA SOFTWARE	A	PSRBPS	0	0	6	4	4	10	
2	SDC	SDP-3	23SDCE04E	PLANNING AND SCHEDULING OF RESIDENTIAL BUILDING USING PRIMAVERA SOFTWARE	E	PSRBPS	0	0	6	4	4	10	
3	SDC	SDP-3	23SDCE04R	PLANNING AND SCHEDULING OF RESIDENTIAL BUILDING USING PRIMAVERA SOFTWARE	R	PSRBPS	0	0	2	4	2	6	
4	PEC	PE-1	23CTM3101A	BUILDING INFORMATION MODELLING	A	BIM	4	0	4	4	7	12	
5	PEC	PE-1	23CTM3101E	BUILDING INFORMATION MODELLING	E	BIM	4	0	4	4	7	12	
6	PEC	PE-1	23CTM3101R	BUILDING INFORMATION MODELLING	R	BIM	3	0	2	4	5	9	
7	PEC	PE-1	23CTM3202A	ADVANCED CONSTRUCTION TECHNOLOGY	A	ACT	5	0	0	0	5	5	
8	PEC	PE-1	23CTM3202E	ADVANCED CONSTRUCTION TECHNOLOGY	E	ACT	5	0	0	0	5	5	
9	PEC	PE-1	23CTM3202R	ADVANCED CONSTRUCTION TECHNOLOGY	R	ACT	3	0	0	0	3	3	
10	PEC	PE-2	23CTM3203A	SUSTAINABLE CONSTRUCTION TECHNOLOGY	A	SCT	5	0	0	0	5	5	
11	PEC	PE-2	23CTM3203E	SUSTAINABLE CONSTRUCTION TECHNOLOGY	E	SCT	5	0	0	0	5	5	
12	PEC	PE-2	23CTM3203R	SUSTAINABLE CONSTRUCTION TECHNOLOGY	R	SCT	3	0	0	0	3	3	
13	PEC	PE-3	23CTM3304A	CONSTRUCTION PLANNING & SCHEDULING	A	CPS	4	0	4	4	7	12	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
14	PEC	PE-3	23CTM3304E	CONSTRUCTION PLANNING & SCHEDULING	E	CPS	4	0	4	4	7	12	
15	PEC	PE-3	23CTM3304R	CONSTRUCTION PLANNING & SCHEDULING	R	CPS	3	0	2	4	5	9	
16	PEC	PE-4	23CTM3405M	CONSTRUCTION CONTRACTS	M	CC	3	0	0	0	3	3	
17	PEC	PE-4	23CTM3406M	CONSTRUCTION FORMULATION APPRAISAL	M	CFA	3	0	0	0	3	3	
18	PEC	PE-5	23CTM3507	QUALITY AND SAFETY IN CONSTRUCTION	R	QSC	3	0	0	0	3	3	
19	PEC	PE-5	23CTM3508	GREEN BUILDING	R	GB	3	0	0	0	3	3	

53. SPECIALIZATION: CROSS PLATFORM DEVELOPMENT FRAMEWORKS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCI04A	ADVANCED ANDROID MOBILE APPLICATION WITH CLOUD-BASED WEB SERVICES	A	AAMA	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCI04E	ADVANCED ANDROID MOBILE APPLICATION WITH CLOUD-BASED WEB SERVICES	E	AAMA	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCI04R	ADVANCED ANDROID MOBILE APPLICATION WITH CLOUD-BASED WEB SERVICES	R	AAMA	0	0	2	4	2	6	
4	PEC	PE-1	23CPD3101A	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	A	FMAD	4	0	4	4	7	12	
5	PEC	PE-1	23CPD3101E	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	E	FMAD	4	0	4	4	7	12	
6	PEC	PE-1	23CPD3101R	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	R	FMAD	3	0	2	4	5	9	
7	PEC	PE-2	23CPD3202A	REACT NATIVE FOR ANDROID AND IOS DEVELOPMENT	A	RNA	5	0	0	0	5	5	
8	PEC	PE-2	23CPD3202E	REACT NATIVE FOR ANDROID AND IOS DEVELOPMENT	E	RNA	5	0	0	0	5	5	
9	PEC	PE-2	23CPD3202R	REACT NATIVE FOR ANDROID AND IOS DEVELOPMENT	R	RNA	3	0	0	0	3	3	
10	PEC	PE-2	23CPD3203A	FRAMEWORK BASED CROSS PLATFORM APP DEVELOPMENT	A	FBCPD	5	0	0	0	5	5	
11	PEC	PE-2	23CPD3203E	FRAMEWORK BASED CROSS PLATFORM APP DEVELOPMENT	E	FBCPD	5	0	0	0	5	5	
12	PEC	PE-2	23CPD3203R	FRAMEWORK BASED CROSS PLATFORM APP DEVELOPMENT	R	FBCPD	3	0	0	0	3	3	
13	PEC	PE-3	23CPD3304A	SECURE MOBILE APPLICATION DEVELOPMENT	A	SMAD	4	0	4	4	7	12	
14	PEC	PE-3	23CPD3304E	SECURE MOBILE APPLICATION DEVELOPMENT	E	SMAD	4	0	4	4	7	12	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
15	PEC	PE-3	23CPD3304R	SECURE MOBILE APPLICATION DEVELOPMENT	R	SMAD	3	0	2	4	5	9	
16	PEC	PE-4	23CPD3406M	META REACT NATIVE SPECIALIZATION	M	MRNS	3	0	0	0	3	3	
17	PEC	PE-4	23CPD3405M	UX DESIGN	M	UXD	3	0	0	0	3	3	
18	PEC	PE-5	23CPD3507	ADVANCED MOBILE APPLICATION DEVELOPMENT	R	AMAD	3	0	0	0	3	3	
19	PEC	PE-5	23CPD3508	CROSS PLATFORM USER INTERFACE DESIGN	R	CPED	3	0	0	0	3	3	

54. SPECIALIZATION: CYBER PHYSICAL SYSTEMS AND IOT

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDIN06A	EMBEDDED AND IOT ROGRAMMING	A	IOTHP	0	0	6	4	4	10	FITS(1) Rule:1
2	SDC	SDP-4	23SDIN06E	EMBEDDED AND IOT ROGRAMMING	E	IOTHP	0	0	6	4	4	10	FITS(1) Rule:1
3	SDC	SDP-4	23SDIN06R	EMBEDDED AND IOT ROGRAMMING	R	IOTHP	0	0	2	4	2	6	FITS(1) Rule:1
4	PEC	PE-1	23CPS3101A	IOT SENSING AND ACTUATING DEVICES	A	ISAD	4	0	4	4	7	12	FITS(1) Rule:1
5	PEC	PE-1	23CPS3101E	IOT SENSING AND ACTUATING DEVICES	E	ISAD	4	0	4	4	7	12	FITS(1) Rule:1
6	PEC	PE-1	23CPS3101R	IOT SENSING AND ACTUATING DEVICES	R	ISAD	3	0	2	4	5	9	FITS(1) Rule:1
7	PEC	PE-2	23CPS3202A	INTERNET OF THINGS ARCHITECTURES AND PROTOCOLS	A	IOTAP	5	0	0	0	5	5	
8	PEC	PE-2	23CPS3202E	INTERNET OF THINGS ARCHITECTURES AND PROTOCOLS	E	IOTAP	5	0	0	0	5	5	
9	PEC	PE-2	23CPS3202R	INTERNET OF THINGS ARCHITECTURES AND PROTOCOLS	R	IOTAP	3	0	0	0	3	3	
10	PEC	PE-3	23CPS3303A	CYBER PHYSICAL SYSTEMS	A	CPS	4	0	4	4	7	12	
11	PEC	PE-3	23CPS3303E	CYBER PHYSICAL SYSTEMS	E	CPS	4	0	4	4	7	12	
12	PEC	PE-3	23CPS3303R	CYBER PHYSICAL SYSTEMS	R	CPS	3	0	2	4	5	9	
13	PEC	PE-4	23CPS3404M	FOUNDATIONS OF HYBRID AND EMBEDED SYSTEMS	M	DVP	3	0	0	0	3	3	
14	PEC	PE-5	23CPS3505	CLOUD COMPUTING FOR IOT ENGINEERS	R	CCIOTE	3	0	0	0	3	3	FITS(1) Rule:1
15	PEC	PE-5	23CPS3506	WIRELESS SENSOR NETWORKS	R	WSN	3	0	0	0	3	3	
16	PEC	PE-5	23CPS3507	EDGE COMPUTING	R	EC	3	0	0	0	3	3	

55. SPECIALIZATION: CYBER SECURITY AND BLOCKCHAIN TECHNOLOGY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCS05A	CLOUD BASED SECURITY SPECIALITY	A	CBSS	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCS05E	CLOUD BASED SECURITY SPECIALITY	E	CBSS	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCS05R	CLOUD BASED SECURITY SPECIALITY	R	CBSS	0	0	2	4	2	6	
4	PEC	PE-1	23CSB3101A	CRYPT ANALYSIS & CYBER DEFENSE	A	CACD	4	0	4	4	7	12	
5	PEC	PE-1	23CSB3101E	CRYPT ANALYSIS & CYBER DEFENSE	E	CACD	4	0	4	4	7	12	
6	PEC	PE-1	23CSB3101R	CRYPT ANALYSIS & CYBER DEFENSE	R	CACD	3	0	2	4	5	9	
7	PEC	PE-2	23CSB3202A	NETWORK AND INFRASTRUCTURE SECURITY	A	NIS	5	0	0	0	5	5	
8	PEC	PE-2	23CSB3202E	NETWORK AND INFRASTRUCTURE SECURITY	E	NIS	5	0	0	0	5	5	
9	PEC	PE-2	23CSB3202R	NETWORK AND INFRASTRUCTURE SECURITY	R	NIS	3	0	0	0	3	3	
10	PEC	PE-2	23CSB3203A	INTRODUCTION TO BLOCKCHAIN AND CRYPTO CURRENCIES	A	IBCC	3	0	4	0	5	7	
11	PEC	PE-2	23CSB3203E	INTRODUCTION TO BLOCKCHAIN AND CRYPTO CURRENCIES	E	IBCC	3	0	4	0	5	7	
12	PEC	PE-2	23CSB3203R	INTRODUCTION TO BLOCKCHAIN AND CRYPTO CURRENCIES	R	IBCC	2	0	2	0	3	4	
13	PEC	PE-3	23CSB3304A	DIGITAL FORENSICS	A	DF	4	0	4	4	7	12	
14	PEC	PE-3	23CSB3304E	DIGITAL FORENSICS	E	DF	4	0	4	4	7	12	
15	PEC	PE-3	23CSB3304R	DIGITAL FORENSICS	R	DF	3	0	2	4	5	9	
16	PEC	PE-4	23CSB3405M	DATABASE SYSTEM AND SECURITY	M	DSS	3	0	0	0	3	3	
17	PEC	PE-4	23CSB3406M	PROGRAMMING FOR SMART CONTRACTS	M	PSC	3	0	0	0	3	3	
18	PEC	PE-4	23CSB3407M	CLOUD SECURITY	M	CS	3	0	0	0	3	3	
19	PEC	PE-5	23CSB3508	SECURE SOFTWARE ENGINEERING	R	SSE	3	0	0	0	3	3	
20	PEC	PE-5	23CSB3509	WEB SECURITY	R	WS	3	0	0	0	3	3	
21	PEC	PE-5	23CSB3510	SECURITY GOVERNANCE & MANAGEMENT	R	SGM	3	0	0	0	3	3	

56. SPECIALIZATION: DATA COMMUNICATIONS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDEC13A	5G PRIVATE AND INDUSTRIAL AUTOMATION NETWORKS	A	5PIA	0	0	6	4	4	10	
2	SDC	SDP-4	23SDEC13E	5G PRIVATE AND INDUSTRIAL AUTOMATION NETWORKS	E	5PIA	0	0	6	4	4	10	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
3	SDC	SDP-4	23SDEC13R	5G PRIVATE AND INDUSTRIAL AUTOMATION NETWORKS	R	5PIA	0	0	2	4	2	6	
4	PEC	PE-1	23DCS3101A	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	A	4GW	4	0	4	4	7	12	WC(1) Rule:1
5	PEC	PE-1	23DCS3101E	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	E	4GW	4	0	4	4	7	12	WC(1) Rule:1
6	PEC	PE-1	23DCS3101R	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	R	4GW	3	0	2	4	5	9	WC(1) Rule:1
7	PEC	PE-2	23DCS3202A	MODERN SATELLITE COMMUNICATION SYSTEMS	A	MSCS	5	0	0	0	5	5	WC(1) Rule:1
8	PEC	PE-2	23DCS3202E	MODERN SATELLITE COMMUNICATION SYSTEMS	E	MSCS	5	0	0	0	5	5	WC(1) Rule:1
9	PEC	PE-2	23DCS3202R	MODERN SATELLITE COMMUNICATION SYSTEMS	R	MSCS	3	0	0	0	3	3	WC(1) Rule:1
10	PEC	PE-3	23DCS3303A	5G WIRELESS TECHNOLOGIES	A	5GWT	4	0	4	4	7	12	WC(1) Rule:1
11	PEC	PE-3	23DCS3303E	5G WIRELESS TECHNOLOGIES	E	5GWT	4	0	4	4	7	12	WC(1) Rule:1
12	PEC	PE-3	23DCS3303R	5G WIRELESS TECHNOLOGIES	R	5GWT	3	0	2	4	5	9	WC(1) Rule:1
13	PEC	PE-4	23DCS3404M	OPTICAL WIRELESS COMMUNICATIONS	M	PWC	3	0	0	0	3	3	WC(1) Rule:1
14	PEC	PE-5	23DCS3505	MACHINE LEARNING FOR WIRELESS COMMUNICATION	R	MLWC	3	0	0	0	3	3	WC(1) Rule:1

57. SPECIALIZATION: DATA ENGINEERING FOR AI

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDAD11A	AI-DRIVEN DATA ENGINEERING	A	ADDE	0	0	6	4	4	10	
2	SDC	SDP-4	23SDAD11E	AI-DRIVEN DATA ENGINEERING	E	ADDE	0	0	6	4	4	10	
3	SDC	SDP-4	23SDAD11R	AI-DRIVEN DATA ENGINEERING	R	ADDE	0	0	2	4	2	6	
4	PEC	PE-1	23DEA3101A	FUNDAMENTALS OF DATA ENGINEERING	A	FDE	4	0	4	4	7	12	DBMS(1) Rule:1
5	PEC	PE-1	23DEA3101E	FUNDAMENTALS OF DATA ENGINEERING	E	FDE	4	0	4	4	7	12	DBMS(1) Rule:1
6	PEC	PE-1	23DEA3101R	FUNDAMENTALS OF DATA ENGINEERING	R	FDE	3	0	2	4	5	9	DBMS(1) Rule:1
7	PEC	PE-2	23DEA3202A	DATA EXPLORATION AND PREPARATION	A	DEP	5	0	0	0	5	5	DBMS(1) Rule:1
8	PEC	PE-2	23DEA3202E	DATA EXPLORATION AND PREPARATION	E	DEP	5	0	0	0	5	5	DBMS(1) Rule:1
9	PEC	PE-2	23DEA3202R	DATA EXPLORATION AND PREPARATION	R	DEP	3	0	0	0	3	3	DBMS(1) Rule:1
10	PEC	PE-3	23DEA3303A	BIG DATA TECHNOLOGIES	A	BDT	4	0	4	4	7	12	DBMS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
11	PEC	PE-3	23DEA3303E	BIG DATA TECHNOLOGIES	E	BDT	4	0	4	4	7	12	DBMS(1) Rule:1
12	PEC	PE-3	23DEA3303R	BIG DATA TECHNOLOGIES	R	BDT	3	0	2	4	5	9	DBMS(1) Rule:1
13	PEC	PE-4	23DEA3404M	DATA WAREHOUSING AND BUSINESS INTELLIGENCE	M	DWBI	3	0	0	0	3	3	DBMS(1) Rule:1
14	PEC	PE-5	23DEA3505	MACHINE LEARNING ENGINEERING FOR BIG DATA	R	MLEBD	3	0	0	0	3	3	DBMS(1) Rule:1

58. SPECIALIZATION: DATA SCIENCE AND BIG DATA ANALYTICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCS08A	CLOUD BASED DATA ANALYTICS SPECIALITY	A	CBDAS	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCS08E	CLOUD BASED DATA ANALYTICS SPECIALITY	E	CBDAS	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCS08R	CLOUD BASED DATA ANALYTICS SPECIALITY	R	CBDAS	0	0	2	4	2	6	
4	PEC	PE-1	23DSB3101A	DATA ANALYTICS AND VISUALIZATION	A	DAV	4	0	4	4	7	12	DBMS(1) Rule:1
5	PEC	PE-1	23DSB3101E	DATA ANALYTICS AND VISUALIZATION	E	DAV	4	0	4	4	7	12	DBMS(1) Rule:1
6	PEC	PE-1	23DSB3101R	DATA ANALYTICS AND VISUALIZATION	R	DAV	3	0	2	4	5	9	DBMS(1) Rule:1
7	PEC	PE-2	23DSB3202A	DATA WAREHOUSING AND MINING	A	DWHM	5	0	0	0	5	5	DBMS(1) Rule:1
8	PEC	PE-2	23DSB3202E	DATA WAREHOUSING AND MINING	E	DWHM	5	0	0	0	5	5	DBMS(1) Rule:1
9	PEC	PE-2	23DSB3202R	DATA WAREHOUSING AND MINING	R	DWHM	3	0	0	0	3	3	DBMS(1) Rule:1
10	PEC	PE-3	23DSB3303A	BIG DATA ANALYTICS	A	BDA	4	0	4	4	7	12	DBMS(1) Rule:1
11	PEC	PE-3	23DSB3303E	BIG DATA ANALYTICS	E	BDA	4	0	4	4	7	12	DBMS(1) Rule:1
12	PEC	PE-3	23DSB3303R	BIG DATA ANALYTICS	R	BDA	3	0	2	4	5	9	DBMS(1) Rule:1
13	PEC	PE-4	23DSB3404M	BIG DATA OPTIMIZATION	M	BDO	3	0	0	0	3	3	DBMS(1) Rule:1
14	PEC	PE-4	23DSB3407M	DATA ANALYTICS ON CLOUD	M	DAC	3	0	0	0	3	3	DBMS(1) Rule:1
15	PEC	PE-4	23DSB3408M	DIGITAL MEDIA ANALYTICS	M	DMA	3	0	0	0	3	3	DBMS(1)
16	PEC	PE-4	23DSB3406M	DIGITAL VIDEO PROCESSING	M	DVP	3	0	0	0	3	3	DBMS(1) Rule:1
17	PEC	PE-5	23DSB3509	ADVANCED DATABASES	R	AD	3	0	0	0	3	3	DBMS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
18	PEC	PE-5	23DSB3510	BUSINESS ANALYTICS	R	BA	3	0	0	0	3	3	DBMS(1) Rule:1
19	PEC	PE-5	23DSB3511	GRAPH & WEB ANALYTICS	R	GWA	3	0	0	0	3	3	DBMS(1) Rule:1
20	PEC	PE-5	23DSB3512	DATA GOVERNANCE ON CLOUD	R	DGC	3	0	0	0	3	3	DBMS(1) Rule:1

59. SPECIALIZATION: DISTRIBUTED LEDGER ANALYTICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDAD08A	EMERGING BLOCKCHAIN MODELS FOR DIGITAL CURRENCIES	A	EBCMDC	0	0	6	4	4	10	
2	SDC	SDP-4	23SDAD08E	EMERGING BLOCKCHAIN MODELS FOR DIGITAL CURRENCIES	E	EBCMDC	0	0	6	4	4	10	
3	SDC	SDP-4	23SDAD08R	EMERGING BLOCKCHAIN MODELS FOR DIGITAL CURRENCIES	R	EBCMDC	0	0	2	4	2	6	
4	PEC	PE-1	23DLA3101A	SYSTEM & NETWORK TRAFFIC SECURITY ANALYTICS	A	SNTSA	4	0	4	4	7	12	DBMS(1) Rule:1
5	PEC	PE-1	23DLA3101E	SYSTEM & NETWORK TRAFFIC SECURITY ANALYTICS	E	SNTSA	4	0	4	4	7	12	DBMS(1) Rule:1
6	PEC	PE-1	23DLA3101R	SYSTEM & NETWORK TRAFFIC SECURITY ANALYTICS	R	SNTSA	3	0	2	4	5	9	DBMS(1) Rule:1
7	PEC	PE-2	23DLA3202A	AUTOMATED NETWORK ANALYSIS	A	ANA	5	0	0	0	5	5	DBMS(1) Rule:1
8	PEC	PE-2	23DLA3202E	AUTOMATED NETWORK ANALYSIS	E	ANA	5	0	0	0	5	5	DBMS(1) Rule:1
9	PEC	PE-2	23DLA3202R	AUTOMATED NETWORK ANALYSIS	R	ANA	3	0	0	0	3	3	DBMS(1) Rule:1
10	PEC	PE-2	23DLA3203A	BLOCKCHAIN TECHNOLOGY FOR DIGITAL TRANSFORMATION	A	BTDT	5	0	0	0	5	5	FOR(1) Rule:1
11	PEC	PE-2	23DLA3203E	BLOCKCHAIN TECHNOLOGY FOR DIGITAL TRANSFORMATION	E	BTDT	5	0	0	0	5	5	FOR(1) Rule:1
12	PEC	PE-2	23DLA3203R	BLOCKCHAIN TECHNOLOGY FOR DIGITAL TRANSFORMATION	R	BTDT	3	0	0	0	3	3	FOR(1) Rule:1
13	PEC	PE-3	23DLA3304A	MULTI AGENT SYSTEMS	A	MAS	4	0	4	4	7	12	DBMS(1) Rule:1
14	PEC	PE-3	23DLA3304E	MULTI AGENT SYSTEMS	E	MAS	4	0	4	4	7	12	DBMS(1) Rule:1
15	PEC	PE-3	23DLA3304R	MULTI AGENT SYSTEMS	R	MAS	3	0	2	4	5	9	DBMS(1) Rule:1
16	PEC	PE-4	23DLA3405M	BLOCKCHAIN ANALYTICS	M	BCA	3	0	0	0	3	3	DBMS(1) Rule:1
17	PEC	PE-4	23DLA3406M	CRYPTOCURRENCY AND BLOCKCHAIN TECHNOLOGY	M	CBT	3	0	0	0	3	3	DBMS(1) Rule:1
18	PEC	PE-5	23DLA3507	DISTRIBUTED LEDGER ARCHITECTURE FOR AUTOMATION	R	DLAA	3	0	0	0	3	3	DBMS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
19	PEC	PE-5	23DLA3508	PERMISSIONED DISTRIBUTED LEDGER	R	PDL	3	0	0	0	3	3	DBMS(1) Rule:1

60. SPECIALIZATION: EMBEDDED SYSTEMS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDEC14A	EMBEDDED PROTOTYPE	A	EPT	0	0	6	4	4	10	
2	SDC	SDP-4	23SDEC14E	EMBEDDED PROTOTYPE	E	EPT	0	0	6	4	4	10	
3	SDC	SDP-4	23SDEC14R	EMBEDDED PROTOTYPE	R	EPT	0	0	2	4	2	6	
4	PEC	PE-1	23EDS3101A	ADVANCED EMBEDDED SYSTEMS	A	AES	4	0	4	4	7	12	
5	PEC	PE-1	23EDS3101E	ADVANCED EMBEDDED SYSTEMS	E	AES	4	0	4	4	7	12	
6	PEC	PE-1	23EDS3101R	ADVANCED EMBEDDED SYSTEMS	R	AES	3	0	2	4	5	9	
7	PEC	PE-2	23EDS3202A	EMBEDDED SYSTEMS FOR IOT	A	ESIOT	5	0	0	0	5	5	FITS(1) Rule:1
8	PEC	PE-2	23EDS3202E	EMBEDDED SYSTEMS FOR IOT	E	ESIOT	5	0	0	0	5	5	FITS(1) Rule:1
9	PEC	PE-2	23EDS3202R	EMBEDDED SYSTEMS FOR IOT	R	ESIOT	3	0	0	0	3	3	FITS(1) Rule:1
10	PEC	PE-3	23EDS3303A	EMBEDDED AND REAL-TIME SYSTEMS	A	ERTS	4	0	4	4	7	12	
11	PEC	PE-3	23EDS3303E	EMBEDDED AND REAL-TIME SYSTEMS	E	ERTS	4	0	4	4	7	12	
12	PEC	PE-3	23EDS3303R	EMBEDDED AND REAL-TIME SYSTEMS	R	ERTS	3	0	2	4	5	9	
13	PEC	PE-4	23EDS3404M	CLOUD ARCHITECTURE IN IOT	M	CAIOT	3	0	0	0	3	3	FITS(1) Rule:1
14	PEC	PE-5	23EDS3505	EDGE COMPUTING & DATA ANALYTICS IN IOT	R	ECDAI	3	0	0	0	3	3	FITS(1)

61. SPECIALIZATION: E-MOBILITY ENGINEERING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDEE06A	EVT HARDWARE PROTOTYPING	A	EVTHP	0	0	6	4	4	10	
2	SDC	SDP-4	23SDEE06E	EVT HARDWARE PROTOTYPING	E	EVTHP	0	0	6	4	4	10	
3	SDC	SDP-4	23SDEE06R	EVT HARDWARE PROTOTYPING	R	EVTHP	0	0	2	4	2	6	
4	PEC	PE-1	23EME3101A	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	A	PTDEV	4	0	4	4	7	12	
5	PEC	PE-1	23EME3101E	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	E	PTDEV	4	0	4	4	7	12	
6	PEC	PE-1	23EME3101R	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	R	PTDEV	3	0	2	4	5	9	
7	PEC	PE-2	23EME3202A	COMMUNICATION PROTOCOLS & TESTING OF ELECTRIC VEHICLE	A	CPTEV	5	0	0	0	5	5	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
8	PEC	PE-2	23EME3202E	COMMUNICATION PROTOCOLS & TESTING OF ELECTRIC VEHICLE	E	CPTEV	5	0	0	0	5	5	
9	PEC	PE-2	23EME3202R	COMMUNICATION PROTOCOLS & TESTING OF ELECTRIC VEHICLE	R	CPTEV	3	0	0	0	3	3	
10	PEC	PE-2	23EME3203A	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	A	AVAE	5	0	0	0	5	5	
11	PEC	PE-2	23EME3203E	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	E	AVAE	5	0	0	0	5	5	
12	PEC	PE-2	23EME3203R	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	R	AVAE	3	0	0	0	3	3	
13	PEC	PE-3	23EME3304A	CHARGING STATIONS FOR ELECTRIC VEHICLES	A	CSEV	4	0	4	4	7	12	
14	PEC	PE-3	23EME3304E	CHARGING STATIONS FOR ELECTRIC VEHICLES	E	CSEV	4	0	4	4	7	12	
15	PEC	PE-3	23EME3304R	CHARGING STATIONS FOR ELECTRIC VEHICLES	R	CSEV	3	0	2	4	5	9	
16	PEC	PE-4	23EME3405M	INTRODUCTION TO BATTERY-MANAGEMENT SYSTEMS	M	IBMS	3	0	0	0	3	3	
17	PEC	PE-4	23EME3406M	BATTERY STATE ESTIMATION ALGORITHMS FOR ELECTRIC VEHICLE	M	BSAEV	3	0	0	0	3	3	
18	PEC	PE-5	23EME3507	AI AND IOT FOR ELECTRIC VEHICLE	R	AIEV	3	0	0	0	3	3	FITS(1) Rule:1
19	PEC	PE-5	23EME3508	EV SYSTEM AND WIRING DESIGN	R	ESWS	3	0	0	0	3	3	

62. SPECIALIZATION: ENGINEERING DESIGN

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDME05A	3D MODELLING AND DIGITAL PROTOTYPING	A	3DMDP	0	0	6	4	4	10	DBMS(1) Rule:1
2	SDC	SDP-4	23SDME05E	3D MODELLING AND DIGITAL PROTOTYPING	E	3DMDP	0	0	6	4	4	10	DBMS(1) Rule:1
3	SDC	SDP-4	23SDME05R	3D MODELLING AND DIGITAL PROTOTYPING	R	3DMDP	0	0	2	4	2	6	DBMS(1) Rule:1
4	PEC	PE-1	23EGD3101A	MODELING ANALYSIS & DESIGN OF ROBOTIC SYSTEMS	A	MADRS	4	0	4	4	7	12	EM(1) Rule:1
5	PEC	PE-1	23EGD3101E	MODELING ANALYSIS & DESIGN OF ROBOTIC SYSTEMS	E	MADRS	4	0	4	4	7	12	EM(1) Rule:1
6	PEC	PE-1	23EGD3101R	MODELING ANALYSIS & DESIGN OF ROBOTIC SYSTEMS	R	MADRS	3	0	2	4	5	9	EM(1) Rule:1
7	PEC	PE-2	23EGD3202A	CREEP, FATIGUE AND FRACTURE MECHANICS	A	CFFM	5	0	0	0	5	5	EM(1) Rule:1
8	PEC	PE-2	23EGD3202E	CREEP, FATIGUE AND FRACTURE MECHANICS	E	CFFM	5	0	0	0	5	5	EM(1) Rule:1
9	PEC	PE-2	23EGD3202R	CREEP, FATIGUE AND FRACTURE MECHANICS	R	CFFM	3	0	0	0	3	3	EM(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
10	PEC	PE-2	23EGD3203A	THEORY OF ELASTICITY AND PLASTICITY	A	TEP	5	0	0	0	5	5	EM(1) Rule:1
11	PEC	PE-2	23EGD3203E	THEORY OF ELASTICITY AND PLASTICITY	E	TEP	5	0	0	0	5	5	EM(1) Rule:1
12	PEC	PE-2	23EGD3203R	THEORY OF ELASTICITY AND PLASTICITY	R	TEP	3	0	0	0	3	3	EM(1) Rule:1
13	PEC	PE-3	23EGD3304A	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN ENGINEERING DESIGN	A	SDSIED	4	0	4	4	7	12	EM(1) Rule:1
14	PEC	PE-3	23EGD3304E	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN ENGINEERING DESIGN	E	SDSIED	4	0	4	4	7	12	EM(1) Rule:1
15	PEC	PE-3	23EGD3304R	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN ENGINEERING DESIGN	R	SDSIED	3	0	2	4	5	9	EM(1) Rule:1
16	PEC	PE-4	23EGD3405M	ADVANCED VIBRATIONS	M	AV	3	0	0	0	3	3	EM(1) Rule:1
17	PEC	PE-4	23EGD3406M	MECHANICS OF COMPOSITE MATERIALS	M	MOCM	3	0	0	0	3	3	EM(1) Rule:1
18	PEC	PE-5	23EGD3507	ADVANCED STRENGTH OF MATERIALS	R	ASM	3	0	0	0	3	3	EM(1) Rule:1
19	PEC	PE-5	23EGD3508	HYBRID AND ELECTRIC VEHICLE DESIGN	R	HEVD	3	0	0	0	3	3	EM(1) Rule:1

63. SPECIALIZATION: GAME DEVELOPMENT AND UX DESIGN

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCS06A	CERTIFIED GAME DEVELOPER	A	CGD	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCS06E	CERTIFIED GAME DEVELOPER	E	CGD	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCS06R	CERTIFIED GAME DEVELOPER	R	CGD	0	0	2	4	2	6	
4	PEC	PE-1	23GDU3101A	PROGRAMMING FOR GAME DEVELOPMENT	A	PGD	4	0	4	4	7	12	CTSD(1) Rule:1
5	PEC	PE-1	23GDU3101E	PROGRAMMING FOR GAME DEVELOPMENT	E	PGD	4	0	4	4	7	12	CTSD(1) Rule:1
6	PEC	PE-1	23GDU3101R	PROGRAMMING FOR GAME DEVELOPMENT	R	PGD	3	0	2	4	5	9	CTSD(1) Rule:1
7	PEC	PE-2	23GDU3202A	UX DESIGN	A	UD	5	0	0	0	5	5	CTSD(1) Rule:1
8	PEC	PE-2	23GDU3202E	UX DESIGN	E	UD	5	0	0	0	5	5	CTSD(1) Rule:1
9	PEC	PE-2	23GDU3202R	UX DESIGN	R	UD	3	0	0	0	3	3	CTSD(1) Rule:1
10	PEC	PE-3	23GDU3303A	AR & VR APPLICATION DEVELOPMENT	A	AR&VR	4	0	4	4	7	12	CTSD(1) Rule:1
11	PEC	PE-3	23GDU3303E	AR & VR APPLICATION DEVELOPMENT	E	AR&VR	4	0	4	4	7	12	CTSD(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
12	PEC	PE-3	23GDU3303R	AR & VR APPLICATION DEVELOPMENT	R	AR&VR	3	0	2	4	5	9	CTSD(1) Rule:1
13	PEC	PE-4	23GDU3404M	COMPUTER GRAPHICS	M	CG	3	0	0	0	3	3	CTSD(1) Rule:1
14	PEC	PE-4	23GDU3405M	3D MODELLING & ANIMATION	M	3DMA	3	0	0	0	3	3	CTSD(1) Rule:1
15	PEC	PE-5	23GDU3506	PRINCIPLES OF GAME DESIGN	R	PRGD	3	0	0	0	3	3	CTSD(1) Rule:1
16	PEC	PE-5	23GDU3507	BUSINESS OF GAMES & ENTREPRENEURSHIP	R	BGE	3	0	0	0	3	3	CTSD(1) Rule:1

64. SPECIALIZATION: GEOTECHNICAL AND TRANSPORTATION ENGINEERING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCE05A	DESIGN OF THE PAVEMENT BY USING MX ROADS	A	DPMX	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCE05E	DESIGN OF THE PAVEMENT BY USING MX ROADS	E	DPMX	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCE05R	DESIGN OF THE PAVEMENT BY USING MX ROADS	R	DPMX	0	0	2	4	2	6	
4	PEC	PE-1	23GTE3101A	ADVANCED FOUNDATION ENGINEERING	A	AFE	4	0	4	4	7	12	
5	PEC	PE-1	23GTE3101E	ADVANCED FOUNDATION ENGINEERING	E	AFE	4	0	4	4	7	12	
6	PEC	PE-1	23GTE3101R	ADVANCED FOUNDATION ENGINEERING	R	AFE	3	0	2	4	5	9	
7	PEC	PE-2	23GTE3202A	INTELLIGENT TRANSPORTATION SYSTEMS	A	ITS	5	0	0	0	5	5	FOR(1) Rule:1
8	PEC	PE-2	23GTE3202E	INTELLIGENT TRANSPORTATION SYSTEMS	E	ITS	5	0	0	0	5	5	FOR(1) Rule:1
9	PEC	PE-2	23GTE3202R	INTELLIGENT TRANSPORTATION SYSTEMS	R	ITS	3	0	0	0	3	3	FOR(1) Rule:1
10	PEC	PE-3	23GTE3203A	GROUND IMPROVEMENT TECHNIQUES	A	GIT	5	0	0	0	5	5	DNA(1) Rule:1
11	PEC	PE-3	23GTE3203E	GROUND IMPROVEMENT TECHNIQUES	E	GIT	5	0	0	0	5	5	DNA(1) Rule:1
12	PEC	PE-3	23GTE3203R	GROUND IMPROVEMENT TECHNIQUES	R	GIT	3	0	0	0	3	3	DNA(1) Rule:1
13	PEC	PE-3	23GTE3304A	PAVEMENT MATERIALS &DESIGN	A	PMD	4	0	4	4	7	12	
14	PEC	PE-3	23GTE3304E	PAVEMENT MATERIALS &DESIGN	E	PMD	4	0	4	4	7	12	
15	PEC	PE-3	23GTE3304R	PAVEMENT MATERIALS &DESIGN	R	PMD	3	0	2	4	5	9	
16	PEC	PE-4	23GTE3405M	URBAN TRANSPORTATION SYSTEMS PLANNING	M	UTSP	3	0	0	0	3	3	FOR(1)
17	PEC	PE-4	23GTE3406M	GEOTECHNICAL EARTHQUAKE ENGINEERING	M	BIE	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
18	PEC	PE-5	23GTE3507	TRAFFIC ENGINEERING AND MANAGEMENT	R	TEM	3	0	0	0	3	3	
19	PEC	PE-5	23GTE3508	DESIGN OF EARTH RETAINING STRUCTURES	R	DERS	3	0	0	0	3	3	

65. SPECIALIZATION: GREEN ENERGY TECHNOLOGIES

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDEE05A	MODELING AND SIMULATION OF GREEN ENERGY SYSTEMS	A	GML	0	0	6	4	4	10	
2	SDC	SDP-4	23SDEE05E	MODELING AND SIMULATION OF GREEN ENERGY SYSTEMS	E	GML	0	0	6	4	4	10	
3	SDC	SDP-4	23SDEE05R	MODELING AND SIMULATION OF GREEN ENERGY SYSTEMS	R	GML	0	0	2	4	2	6	
4	PEC	PE-1	23GET3101A	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	A	SPMET	4	0	4	4	7	12	
5	PEC	PE-1	23GET3101E	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	E	SPMET	4	0	4	4	7	12	
6	PEC	PE-1	23GET3101R	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	R	SPMET	3	0	2	4	5	9	
7	PEC	PE-2	23GET3202A	WIND AND ENERGY STORAGE TECHNOLOGIES	A	WEST	5	0	0	0	5	5	
8	PEC	PE-2	23GET3202E	WIND AND ENERGY STORAGE TECHNOLOGIES	E	WEST	5	0	0	0	5	5	
9	PEC	PE-2	23GET3202R	WIND AND ENERGY STORAGE TECHNOLOGIES	R	WEST	3	0	0	0	3	3	
10	PEC	PE-2	23GET3203A	ENERGY ECONOMICS AND POLICY	A	EEP	5	0	0	0	5	5	
11	PEC	PE-2	23GET3203E	ENERGY ECONOMICS AND POLICY	E	EEP	5	0	0	0	5	5	
12	PEC	PE-2	23GET3203R	ENERGY ECONOMICS AND POLICY	R	EEP	3	0	0	0	3	3	
13	PEC	PE-3	23GET3304A	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	A	GIRES	4	0	4	4	7	12	
14	PEC	PE-3	23GET3304E	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	E	GIRES	4	0	4	4	7	12	
15	PEC	PE-3	23GET3304R	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	R	GIRES	3	0	2	4	5	9	
16	PEC	PE-4	23GET3405M	ENERGY MANAGEMENT AND GREEN BUILDING	M	EMGB	3	0	0	0	3	3	
17	PEC	PE-4	23GET3406M	HYDROGEN FUEL CELL TECHNOLOGY	M	HFCT	3	0	0	0	3	3	
18	PEC	PE-5	23GET3507	AI AND IOT FOR GREEN ENERGY INTEGRATION	R	AIGEI	3	0	0	0	3	3	FITS(1) Rule:1
19	PEC	PE-5	23GET3508	POWER ELECTRONICS FOR RENEWABLE ENERGY SYSTEMS	R	PERES	3	0	0	0	3	3	

66. SPECIALIZATION: HARDWARE-SOFTWARE CO-DESIGN FOR SECURITY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCS21	HARDWARE SOFTWARE CODESIGN IMPLEMENTATION FOR SECURITY SPECILAITY	A	HSCISS	0	0	6	4	4	10	DNA(1) Rule:1
2	SDC	SDP-4	23SDCS21	HARDWARE SOFTWARE CODESIGN IMPLEMENTATION FOR SECURITY SPECILAITY	E	HSCISS	0	0	6	4	4	10	DNA(1) Rule:1
3	SDC	SDP-4	23SDCS21	HARDWARE SOFTWARE CODESIGN IMPLEMENTATION FOR SECURITY SPECILAITY	R	HSCISS	0	0	2	4	2	6	DNA(1) Rule:1
4	PEC	PE-1	23HSS3101A	INTRODUCTION TO HARDWARE-SOFTWARE CO-DESIGN	A	ITHSCD	4	0	4	4	7	12	
5	PEC	PE-1	23HSS3101E	INTRODUCTION TO HARDWARE-SOFTWARE CO-DESIGN	E	ITHSCD	4	0	4	4	7	12	
6	PEC	PE-1	23HSS3101R	INTRODUCTION TO HARDWARE-SOFTWARE CO-DESIGN	R	ITHSCD	3	0	2	4	5	9	
7	PEC	PE-2	23HSS3202A	FUNDAMENTALS OF COMPUTER SECURITY	A	FOCS	5	0	0	0	5	5	
8	PEC	PE-2	23HSS3202E	FUNDAMENTALS OF COMPUTER SECURITY	E	FOCS	5	0	0	0	5	5	
9	PEC	PE-2	23HSS3202R	FUNDAMENTALS OF COMPUTER SECURITY	R	FOCS	3	0	0	0	3	3	
10	PEC	PE-3	23HSS3303A	HARDWARE SECURITY MECHANISMS	A	HSM	4	0	4	4	7	12	
11	PEC	PE-3	23HSS3303E	HARDWARE SECURITY MECHANISMS	E	HSM	4	0	4	4	7	12	
12	PEC	PE-3	23HSS3303R	HARDWARE SECURITY MECHANISMS	R	HSM	3	0	2	4	5	9	
13	PEC	PE-4	23HSS3404M	SOFTWARE SECURITY PRINCIPLES	M	SSP	3	0	0	0	3	3	
14	PEC	PE-4	23HSS3405M	SECURE CO-DESIGN METHODOLOGIES	M	SCDM	3	0	0	0	3	3	
15	PEC	PE-4	23HSS3406M	HARDWARE TROJAN DETECTION AND PREVENTION	M	HTDAP	3	0	0	0	3	3	
16	PEC	PE-5	23HSS3507	SIDE-CHANNEL ATTACKS AND COUNTERMEASURES	R	SCACM	3	0	0	0	3	3	
17	PEC	PE-5	23HSS3508	FORMAL METHODS FOR HARDWARE-SOFTWARE SECURITY	R	FMHSS	3	0	0	0	3	3	
18	PEC	PE-5	23HSS3509	TRUSTED PLATFORM MODULES AND SECURE ELEMENTS	R	TPMASE	3	0	0	0	3	3	
19	PEC	PE-5	23HSS3510	SECURE COMMUNICATION PROTOCOLS AND APIS	R	SCPA	3	0	0	0	3	3	
20	PEC	PE-5	23HSS3511	HARDWARE-SOFTWARE CO-DESIGN	R	HSCCS	3	0	0	0	3	3	
21	PEC	PE-5	23HSS3512	FUTURE TRENDS IN HARDWARE-SOFTWARE CO-DESIGN FOR SECURITY	R	FTHSCS	3	0	0	0	3	3	

67. SPECIALIZATION: HEALTHCARE DATA ANALYTICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDBT08A	DRUG DESIGN: PRINCIPLES AND ENGINEERING	A	DDPE	0	0	6	4	4	10	
2	SDC	SDP-4	23SDBT08E	DRUG DESIGN: PRINCIPLES AND ENGINEERING	E	DDPE	0	0	6	4	4	10	
3	SDC	SDP-4	23SDBT08R	DRUG DESIGN: PRINCIPLES AND ENGINEERING	R	DDPE	0	0	2	4	2	6	
4	PEC	PE-1	23HDA3101A	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	A	ISDPDD	4	0	4	4	7	12	CDS(1) Rule:1
5	PEC	PE-1	23HDA3101E	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	E	ISDPDD	4	0	4	4	7	12	CDS(1) Rule:1
6	PEC	PE-1	23HDA3101R	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	R	ISDPDD	3	0	2	4	5	9	CDS(1) Rule:1
7	PEC	PE-2	23HDA3202A	BIO MEDICAL INFORMATICS	A	BMI	5	0	0	0	5	5	CDS(1) Rule:1
8	PEC	PE-2	23HDA3202E	BIO MEDICAL INFORMATICS	E	BMI	5	0	0	0	5	5	CDS(1) Rule:1
9	PEC	PE-2	23HDA3202R	BIO MEDICAL INFORMATICS	R	BMI	3	0	0	0	3	3	CDS(1) Rule:1
10	PEC	PE-2	23HDA3203A	GENETIC PROGRAMMING	A	GP	5	0	0	0	5	5	CDS(1) Rule:1
11	PEC	PE-2	23HDA3203E	GENETIC PROGRAMMING	E	GP	5	0	0	0	5	5	CDS(1) Rule:1
12	PEC	PE-2	23HDA3203R	GENETIC PROGRAMMING	R	GP	3	0	0	0	3	3	CDS(1) Rule:1
13	PEC	PE-2	23HDA3204A	PYTHON FOR GENOMIC DATA SCIENCE	A	PFGDS	5	0	0	0	5	5	CDS(1) Rule:1
14	PEC	PE-2	23HDA3204E	PYTHON FOR GENOMIC DATA SCIENCE	E	PFGDS	5	0	0	0	5	5	CDS(1) Rule:1
15	PEC	PE-2	23HDA3204R	PYTHON FOR GENOMIC DATA SCIENCE	R	PFGDS	3	0	0	0	3	3	CDS(1) Rule:1
16	PEC	PE-3	23HDA3305A	COMPUTATIONAL NEUROSCIENCE	A	CNSE	4	0	4	4	7	12	CDS(1) Rule:1
17	PEC	PE-3	23HDA3305E	COMPUTATIONAL NEUROSCIENCE	E	CNSE	4	0	4	4	7	12	CDS(1) Rule:1
18	PEC	PE-3	23HDA3305R	COMPUTATIONAL NEUROSCIENCE	R	CNSE	3	0	2	4	5	9	CDS(1) Rule:1
19	PEC	PE-4	23HDA3407M	INTRODUCTION TO GENOMIC TECHNOLOGIES	M	IGT	3	0	0	0	3	3	CDS(1) Rule:1
20	PEC	PE-4	23HDA3406M	NGS SEQUENCING AND DATA ANALYSIS	M	NGSDA	3	0	0	0	3	3	CDS(1) Rule:1
21	PEC	PE-5	23HDA3511	EPI GENETIC CONTROL OF GENE EXPRESSION	R	ECBI	3	0	0	0	3	3	CDS(1) Rule:1
22	PEC	PE-5	23HDA3509	MOLECULAR MODELING AND DRUG DESIGN	R	MMDD	3	0	0	0	3	3	CDS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
23	PEC	PE-5	23HDA3510	GENOMIC DATA SCIENCE & CLUSTERING	R	GDSC	3	0	0	0	3	3	CDS(1) Rule:1

68. SPECIALIZATION: INDUSTRIAL AUTOMATION

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDEE07A	IA HARDWARE PROTOTYPING	A	IAHP	0	0	6	4	4	10	
2	SDC	SDP-4	23SDEE07E	IA HARDWARE PROTOTYPING	E	IAHP	0	0	6	4	4	10	
3	SDC	SDP-4	23SDEE07R	IA HARDWARE PROTOTYPING	R	IAHP	0	0	2	4	2	6	
4	PEC	PE-1	23ILA3101A	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	A	IIIoT	4	0	4	4	7	12	ELM(1) Rule:1
5	PEC	PE-1	23ILA3101E	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	E	IIIoT	4	0	4	4	7	12	ELM(1) Rule:1
6	PEC	PE-1	23ILA3101R	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	R	IIIoT	3	0	2	4	5	9	ELM(1) Rule:1
7	PEC	PE-2	23ILA3202A	INDUSTRIAL AUTOMATION AND ROBOTICS	A	IAR	5	0	0	0	5	5	ELM(1) Rule:1
8	PEC	PE-2	23ILA3202E	INDUSTRIAL AUTOMATION AND ROBOTICS	E	IAR	5	0	0	0	5	5	ELM(1) Rule:1
9	PEC	PE-2	23ILA3202R	INDUSTRIAL AUTOMATION AND ROBOTICS	R	IAR	3	0	0	0	3	3	ELM(1) Rule:1
10	PEC	PE-2	23ILA3203A	EDGE COMPUTING FOR INDUSTRY 4.0	A	ECI	5	0	0	0	5	5	ELM(1) Rule:1
11	PEC	PE-2	23ILA3203E	EDGE COMPUTING FOR INDUSTRY 4.0	E	ECI	5	0	0	0	5	5	ELM(1) Rule:1
12	PEC	PE-2	23ILA3203R	EDGE COMPUTING FOR INDUSTRY 4.0	R	ECI	3	0	0	0	3	3	ELM(1) Rule:1
13	PEC	PE-3	23ILA3304A	INDUSTRIAL DRIVES AND CONTROL	A	ID&C	4	0	4	4	7	12	ELM(1) Rule:1
14	PEC	PE-3	23ILA3304E	INDUSTRIAL DRIVES AND CONTROL	E	ID&C	4	0	4	4	7	12	ELM(1) Rule:1
15	PEC	PE-3	23ILA3304R	INDUSTRIAL DRIVES AND CONTROL	R	ID&C	3	0	2	4	5	9	ELM(1) Rule:1
16	PEC	PE-4	23ILA3405M	INDUSTRIAL COMMUNICATION PROTOCOLS AND CYBER SECURITY	M	ICPCS	3	0	0	0	3	3	ELM(1) Rule:1
17	PEC	PE-4	23ILA3406M	DIGITAL MANUFACTURING AND DESIGN	M	DMD	3	0	0	0	3	3	ELM(1) Rule:1
18	PEC	PE-5	23ILA3508	PLC PROGRAMMING & CONTROL	R	PLCPC	3	0	0	0	3	3	ELM(1) Rule:1
19	PEC	PE-5	23ILA3507	SMART SENSORS AND SENSOR NETWORKING	R	SSSN	3	0	0	0	3	3	ELM(1) Rule:1

69. SPECIALIZATION: INDUSTRIAL BIOTECHNOLOGY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDBT07A	ASPECTS OF BIOCHEMICAL ENGINEERING	A	ABCE	0	0	6	4	4	10	
2	SDC	SDP-4	23SDBT07E	ASPECTS OF BIOCHEMICAL ENGINEERING	E	ABCE	0	0	6	4	4	10	
3	SDC	SDP-4	23SDBT07R	ASPECTS OF BIOCHEMICAL ENGINEERING	R	ABCE	0	0	2	4	2	6	
4	PEC	PE-1	23IBT3101A	PHARMACEUTICAL BIOTECHNOLOGY	A	PBT	4	0	4	4	7	12	BO(1) Rule:1
5	PEC	PE-1	23IBT3101E	PHARMACEUTICAL BIOTECHNOLOGY	E	PBT	4	0	4	4	7	12	BO(1) Rule:1
6	PEC	PE-1	23IBT3101R	PHARMACEUTICAL BIOTECHNOLOGY	R	PBT	3	0	2	4	5	9	BO(1) Rule:1
7	PEC	PE-2	23IBT3202A	PHARMACOVIGILANCE AND SAFETY	A	PCS	5	0	0	0	5	5	BO(1) Rule:1
8	PEC	PE-2	23IBT3202E	PHARMACOVIGILANCE AND SAFETY	E	PCS	5	0	0	0	5	5	BO(1) Rule:1
9	PEC	PE-2	23IBT3202R	PHARMACOVIGILANCE AND SAFETY	R	PCS	3	0	0	0	3	3	BO(1) Rule:1
10	PEC	PE-2	23IBT3203A	BIOPROCESS ECONOMICS AND PLANT DESIGN	A	BEPD	5	0	0	0	5	5	BO(1) Rule:1
11	PEC	PE-2	23IBT3203E	BIOPROCESS ECONOMICS AND PLANT DESIGN	E	BEPD	5	0	0	0	5	5	BO(1) Rule:1
12	PEC	PE-2	23IBT3203R	BIOPROCESS ECONOMICS AND PLANT DESIGN	R	BEPD	3	0	0	0	3	3	BO(1) Rule:1
13	PEC	PE-3	23IBT3304A	ENZYME ENGINEERING	A	EE	4	0	4	4	7	12	BO(1) Rule:1
14	PEC	PE-3	23IBT3304E	ENZYME ENGINEERING	E	EE	4	0	4	4	7	12	BO(1) Rule:1
15	PEC	PE-3	23IBT3304R	ENZYME ENGINEERING	R	EE	3	0	2	4	5	9	BO(1) Rule:1
16	PEC	PE-4	23IBT3405M	BIOPROCESS VALIDATION AND CGMP	M	BVcGMP	3	0	0	0	3	3	BO(1) Rule:1
17	PEC	PE-4	23IBT3406M	FOOD TECHNOLOGY	M	FT	3	0	0	0	3	3	BO(1) Rule:1
18	PEC	PE-5	23IBT3507	MICROBIAL TECHNOLOGY	R	MBT	3	0	0	0	3	3	BO(1) Rule:1
19	PEC	PE-5	23IBT3508	METABOLIC ENGINEERING	R	MBE	3	0	0	0	3	3	BO(1) Rule:1

70. SPECIALIZATION: INTELLIGENT MULTIMEDIA PROCESSING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDEC15A	NATURAL LANGUAGE PROCESSING USING TENSOR FLOW	A	NLPTF	0	0	6	4	4	10	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
2	SDC	SDP-4	23SDEC15E	NATURAL LANGUAGE PROCESSING USING TENSOR FLOW	E	NLPTF	0	0	6	4	4	10	
3	SDC	SDP-4	23SDEC15R	NATURAL LANGUAGE PROCESSING USING TENSOR FLOW	R	NLPTF	0	0	2	4	2	6	
4	PEC	PE-1	23IMP3101A	NATURAL LANGUAGE PROCESSING & APPLICATIONS	A	NLPA	4	0	4	4	7	12	DNA(1) Rule:1
5	PEC	PE-1	23IMP3101E	NATURAL LANGUAGE PROCESSING & APPLICATIONS	E	NLPA	4	0	4	4	7	12	DNA(1) Rule:1
6	PEC	PE-1	23IMP3101R	NATURAL LANGUAGE PROCESSING & APPLICATIONS	R	NLPA	3	0	2	4	5	9	DNA(1) Rule:1
7	PEC	PE-2	23IMP3202A	DATA ENGINEERING	A	DE	5	0	0	0	5	5	DNA(1) Rule:1
8	PEC	PE-2	23IMP3202E	DATA ENGINEERING	E	DE	5	0	0	0	5	5	DNA(1) Rule:1
9	PEC	PE-2	23IMP3202R	DATA ENGINEERING	R	DE	3	0	0	0	3	3	DNA(1) Rule:1
10	PEC	PE-3	23IMP3303A	BIO MEDICAL SIGNAL AND IMAGE ANALYSIS	A	AMSIA	4	0	4	4	7	12	DNA(1) Rule:1
11	PEC	PE-3	23IMP3303E	BIO MEDICAL SIGNAL AND IMAGE ANALYSIS	E	AMSIA	4	0	4	4	7	12	DNA(1) Rule:1
12	PEC	PE-3	23IMP3303R	BIO MEDICAL SIGNAL AND IMAGE ANALYSIS	R	AMSIA	3	0	2	4	5	9	DNA(1) Rule:1
13	PEC	PE-4	23IMP3404M	DATA VISUALIZATION	M	DV	3	0	0	0	3	3	DNA(1) Rule:1
14	PEC	PE-5	23IMP3505	MULTI MEDIA PROCESSING	R	MMP	3	0	0	0	3	3	DNA(1) Rule:1
15	PEC	PE-5	23IMP3506	INTRODUCTION TO QUANTUM COMPUTING	R	MMP	3	0	0	0	3	3	DNA(1) Rule:1

71. SPECIALIZATION: IOT ANALYTICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDIN05A	IOT ANALYTICS FOR THE CLOUD	A	IOTAC	0	0	6	4	4	10	FITS(1) Rule:1
2	SDC	SDP-4	23SDIN05E	IOT ANALYTICS FOR THE CLOUD	E	IOTAC	0	0	6	4	4	10	FITS(1) Rule:1
3	SDC	SDP-4	23SDIN05R	IOT ANALYTICS FOR THE CLOUD	R	IOTAC	0	0	2	4	2	6	FITS(1) Rule:1
4	PEC	PE-1	23IOT3101A	INDUSTRIAL INTERNET OF THINGS	A	IIOT	4	0	4	4	7	12	FITS(1) Rule:1
5	PEC	PE-1	23IOT3101E	INDUSTRIAL INTERNET OF THINGS	E	IIOT	4	0	4	4	7	12	FITS(1) Rule:1
6	PEC	PE-1	23IOT3101R	INDUSTRIAL INTERNET OF THINGS	R	IIOT	3	0	2	4	5	9	FITS(1) Rule:1
7	PEC	PE-2	23IOT3202A	EDGE COMPUTING	A	EC	5	0	0	0	5	5	FITS(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
8	PEC	PE-2	23IOT3202E	EDGE COMPUTING	E	EC	5	0	0	0	5	5	FITS(1) Rule:1
9	PEC	PE-2	23IOT3202R	EDGE COMPUTING	R	EC	3	0	0	0	3	3	FITS(1) Rule:1
10	PEC	PE-2	23IOT3203A	PRECISION AGRICULTURE	A	PA	5	0	0	0	5	5	FITS(1) Rule:1
11	PEC	PE-2	23IOT3203E	PRECISION AGRICULTURE	E	PA	5	0	0	0	5	5	FITS(1) Rule:1
12	PEC	PE-2	23IOT3203R	PRECISION AGRICULTURE	R	PA	3	0	0	0	3	3	FITS(1) Rule:1
13	PEC	PE-2	23IOT3204A	SMART FARMING	A	SF	5	0	0	0	5	5	FITS(1) Rule:1
14	PEC	PE-2	23IOT3204E	SMART FARMING	E	SF	5	0	0	0	5	5	FITS(1) Rule:1
15	PEC	PE-2	23IOT3204R	SMART FARMING	R	SF	3	0	0	0	3	3	FITS(1) Rule:1
16	PEC	PE-3	23IOT3305A	DEEP LEARNING	A	DL	4	0	4	4	7	12	FITS(1) Rule:1
17	PEC	PE-3	23IOT3305E	DEEP LEARNING	E	DL	4	0	4	4	7	12	FITS(1) Rule:1
18	PEC	PE-3	23IOT3305R	DEEP LEARNING	R	DL	3	0	2	4	5	9	FITS(1) Rule:1
19	PEC	PE-4	23IOT3406M	DATA VISUALIZATION TECHNIQUES	M	DVT	3	0	0	0	3	3	FITS(1) Rule:1
20	PEC	PE-4	23IOT3407M	APPLIED MACHINE LEARNING FOR AGRICULTURE	M	AMLA	3	0	0	0	3	3	FITS(1) Rule:1
21	PEC	PE-5	23IOT3508	BIG DATA ANALYTICS	R	BDA	3	0	0	0	3	3	FITS(1) Rule:1

72. SPECIALIZATION: MEDICAL BIOTECHNOLOGY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDBT09A	CELL CULTURE TECHNOLOGIES	A	CCT	0	0	6	4	4	10	
2	SDC	SDP-4	23SDBT09E	CELL CULTURE TECHNOLOGIES	E	CCT	0	0	6	4	4	10	
3	SDC	SDP-4	23SDBT09R	CELL CULTURE TECHNOLOGIES	R	CCT	0	0	2	4	2	6	
4	PEC	PE-1	23MBT3101A	STEM CELL TECHNOLOGY	A	SCT	4	0	4	4	7	12	
5	PEC	PE-1	23MBT3101E	STEM CELL TECHNOLOGY	E	SCT	4	0	4	4	7	12	
6	PEC	PE-1	23MBT3101R	STEM CELL TECHNOLOGY	R	SCT	3	0	2	4	5	9	
7	PEC	PE-2	23MBT3202A	VIROLOGY	A	VR	5	0	0	0	5	5	
8	PEC	PE-2	23MBT3202E	VIROLOGY	E	VR	5	0	0	0	5	5	
9	PEC	PE-2	23MBT3202R	VIROLOGY	R	VR	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
10	PEC	PE-2	23MBT3203A	NANOBIOTECHNOLOGY	A	NBT	5	0	0	0	5	5	FITS(1) Rule:1
11	PEC	PE-2	23MBT3203E	NANOBIOTECHNOLOGY	E	NBT	5	0	0	0	5	5	FITS(1) Rule:1
12	PEC	PE-2	23MBT3203R	NANOBIOTECHNOLOGY	R	NBT	3	0	0	0	3	3	FITS(1) Rule:1
13	PEC	PE-3	23MBT3304A	HEALTHCARE BIOTECHNOLOGY	A	HBT	4	0	4	4	7	12	AIML(1) Rule:1
14	PEC	PE-3	23MBT3304E	HEALTHCARE BIOTECHNOLOGY	E	HBT	4	0	4	4	7	12	AIML(1) Rule:1
15	PEC	PE-3	23MBT3304R	HEALTHCARE BIOTECHNOLOGY	R	HBT	3	0	2	4	5	9	AIML(1) Rule:1
16	PEC	PE-4	23MBT3405M	CANCER BIOLOGY	M	CB	3	0	0	0	3	3	
17	PEC	PE-4	23MBT3406M	NEUROBIOLOGY	M	NB	3	0	0	0	3	3	
18	PEC	PE-5	23MBT3507	BIOELECTRONICS & BIOSENSORS	R	BB	3	0	0	0	3	3	
19	PEC	PE-5	23MBT3508	TISSUE ENGINEERING	R	NBT	3	0	0	0	3	3	

73. SPECIALIZATION: ROBOTICS AND AUTOMATION

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDEC17A	ROBOT DESIGN AND ANALYSIS	A	RDA	0	0	6	4	4	10	
2	SDC	SDP-4	23SDEC17E	ROBOT DESIGN AND ANALYSIS	E	RDA	0	0	6	4	4	10	
3	SDC	SDP-4	23SDEC17R	ROBOT DESIGN AND ANALYSIS	R	RDA	0	0	2	4	2	6	
4	PEC	PE-1	23RAN3101A	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	A	RMPDC	4	0	4	4	7	12	FOR(1) Rule:1
5	PEC	PE-1	23RAN3101E	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	E	RMPDC	4	0	4	4	7	12	FOR(1) Rule:1
6	PEC	PE-1	23RAN3101R	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	R	RMPDC	3	0	2	4	5	9	FOR(1) Rule:1
7	PEC	PE-1	23RAN3102A	AUTONOMOUS MOBILE ROBOT SYSTEMS	A	AMRS	4	0	4	4	7	12	FOR(1) Rule:1
8	PEC	PE-1	23RAN3102E	AUTONOMOUS MOBILE ROBOT SYSTEMS	E	AMRS	4	0	4	4	7	12	FOR(1) Rule:1
9	PEC	PE-1	23RAN3102R	AUTONOMOUS MOBILE ROBOT SYSTEMS	R	AMRS	3	0	2	4	5	9	FOR(1) Rule:1
10	PEC	PE-2	23RAN3202A	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	A	AVAE	5	0	0	0	5	5	FOR(1) Rule:1
11	PEC	PE-2	23RAN3202E	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	E	AVAE	5	0	0	0	5	5	FOR(1) Rule:1
12	PEC	PE-2	23RAN3202R	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	R	AVAE	3	0	0	0	3	3	FOR(1) Rule:1
13	PEC	PE-2	23RAN3203A	ROBOT MANIPULATION AND WHEELED MOBILE ROBOTS	A	RMWR	5	0	0	0	5	5	FOR(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
14	PEC	PE-2	23RAN3203E	ROBOT MANIPULATION AND WHEELED MOBILE ROBOTS	E	RMWR	5	0	0	0	5	5	FOR(1) Rule:1
15	PEC	PE-2	23RAN3203R	ROBOT MANIPULATION AND WHEELED MOBILE ROBOTS	R	RMWR	3	0	0	0	3	3	FOR(1) Rule:1
16	PEC	PE-3	23RAN3304A	ADVANCED ROBOTICS	A	AR	4	0	4	4	7	12	FOR(1) Rule:1
17	PEC	PE-3	23RAN3304E	ADVANCED ROBOTICS	E	AR	4	0	4	4	7	12	FOR(1) Rule:1
18	PEC	PE-3	23RAN3304R	ADVANCED ROBOTICS	R	AR	3	0	2	4	5	9	FOR(1) Rule:1
19	PEC	PE-4	23RAN3405M	ARTIFICIAL INTELLIGENCE FOR ROBOTICS	M	AIR	3	0	0	0	3	3	FOR(1)
20	PEC	PE-4	23RAN3406M	HUMAN MACHINE INTERFACE & BRAIN MACHINE INTERFACE	M	HMIBMI	3	0	0	0	3	3	FOR(1)
21	PEC	PE-5	23RAN3507	COMPUTER VISION & APPLICATIONS	R	CVA	3	0	0	0	3	3	FOR(1) Rule:1

74. SPECIALIZATION: SMART GRID TECHNOLOGIES

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDEE04A	AI & ML FOR SMART GRIDS	A	AIMLSG	0	0	6	4	4	10	
2	SDC	SDP-4	23SDEE04E	AI & ML FOR SMART GRIDS	E	AIMLSG	0	0	6	4	4	10	
3	SDC	SDP-4	23SDEE04R	AI & ML FOR SMART GRIDS	R	AIMLSG	0	0	2	4	2	6	
4	PEC	PE-1	23SGT3101A	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	A	DERSG	4	0	4	4	7	12	EPE(1) Rule:1
5	PEC	PE-1	23SGT3101E	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	E	DERSG	4	0	4	4	7	12	EPE(1) Rule:1
6	PEC	PE-1	23SGT3101R	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	R	DERSG	3	0	2	4	5	9	EPE(1) Rule:1
7	PEC	PE-2	23SGT3202A	DISTRIBUTION SYSTEM PRACTICES	A	DSP	5	0	0	0	5	5	EPE(1) Rule:1
8	PEC	PE-2	23SGT3202E	DISTRIBUTION SYSTEM PRACTICES	E	DSP	5	0	0	0	5	5	EPE(1) Rule:1
9	PEC	PE-2	23SGT3202R	DISTRIBUTION SYSTEM PRACTICES	R	DSP	3	0	0	0	3	3	EPE(1) Rule:1
10	PEC	PE-2	23SGT3203A	MICROGRID DYNAMICS AND CONTROL	A	MDC	5	0	0	0	5	5	EPE(1) Rule:1
11	PEC	PE-2	23SGT3203E	MICROGRID DYNAMICS AND CONTROL	E	MDC	5	0	0	0	5	5	EPE(1) Rule:1
12	PEC	PE-2	23SGT3203R	MICROGRID DYNAMICS AND CONTROL	R	MDC	3	0	0	0	3	3	EPE(1) Rule:1
13	PEC	PE-3	23SGT3304A	ENERGY MANAGEMENT SYSTEMS AND SCADA	A	EMS&SCADA	4	0	4	4	7	12	EPE(1) Rule:1
14	PEC	PE-3	23SGT3304E	ENERGY MANAGEMENT SYSTEMS AND SCADA	E	EMS&SCADA	4	0	4	4	7	12	EPE(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
15	PEC	PE-3	23SGT3304R	ENERGY MANAGEMENT SYSTEMS AND SCADA	R	EMS&SCADA	3	0	2	4	5	9	EPE(1) Rule:1
16	PEC	PE-4	23SGT3405M	SMART GRID COMMUNICATION AND CYBERSECURITY	M	SGCCS	3	0	0	0	3	3	EPE(1) Rule:1
17	PEC	PE-4	23SGT3406M	SMART METERS AND SMART CITIES	M	SMSC	3	0	0	0	3	3	EPE(1) Rule:1
18	PEC	PE-5	23SGT3507	INTERNET OF THINGS AND SMART GRID ANALYTICS	R	IOT&SGA	3	0	0	0	3	3	EPE(1) Rule:1
19	PEC	PE-5	23SGT3508	SMART GRID PROTECTION	R	SGP	3	0	0	0	3	3	EPE(1) Rule:1

75. SPECIALIZATION: SMART MANUFACTURING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDME06A	GEOMETRIC DIMENSIONING AND TOLERANCING	A	G DAT	0	0	6	4	4	10	FOR(1) Rule:1
2	SDC	SDP-4	23SDME06E	GEOMETRIC DIMENSIONING AND TOLERANCING	E	G DAT	0	0	6	4	4	10	FOR(1) Rule:1
3	SDC	SDP-4	23SDME06R	GEOMETRIC DIMENSIONING AND TOLERANCING	R	G DAT	0	0	2	4	2	6	FOR(1) Rule:1
4	PEC	PE-1	23SMF3101A	REVERSE ENGINEERING & RAPID PROTOTYPING	A	MMC	4	0	4	4	7	12	MSM(1) Rule:1
5	PEC	PE-1	23SMF3101E	REVERSE ENGINEERING & RAPID PROTOTYPING	E	MMC	4	0	4	4	7	12	MSM(1) Rule:1
6	PEC	PE-1	23SMF3101R	REVERSE ENGINEERING & RAPID PROTOTYPING	R	MMC	3	0	2	4	5	9	MSM(1) Rule:1
7	PEC	PE-2	23SMF3202A	ADVANCED MATERIALS MANUFACTURING & TESTING	A	AMMT	5	0	0	0	5	5	MSM(1) Rule:1
8	PEC	PE-2	23SMF3202E	ADVANCED MATERIALS MANUFACTURING & TESTING	E	AMMT	5	0	0	0	5	5	MSM(1) Rule:1
9	PEC	PE-2	23SMF3202R	ADVANCED MATERIALS MANUFACTURING & TESTING	R	AMMT	3	0	0	0	3	3	MSM(1) Rule:1
10	PEC	PE-2	23SMF3203A	MODERN MANUFACTURING PROCESSES	A	MMP	5	0	0	0	5	5	MSM(1) Rule:1
11	PEC	PE-2	23SMF3203E	MODERN MANUFACTURING PROCESSES	E	MMP	5	0	0	0	5	5	MSM(1) Rule:1
12	PEC	PE-2	23SMF3203R	MODERN MANUFACTURING PROCESSES	R	MMP	3	0	0	0	3	3	MSM(1) Rule:1
13	PEC	PE-3	23SMF3304A	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN SMART MANUFACTURING	A	SDSISM	4	0	4	4	7	12	MSM(1) Rule:1
14	PEC	PE-3	23SMF3304E	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN SMART MANUFACTURING	E	SDSISM	4	0	4	4	7	12	MSM(1) Rule:1
15	PEC	PE-3	23SMF3304R	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN SMART MANUFACTURING	R	SDSISM	3	0	2	4	5	9	MSM(1) Rule:1

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
16	PEC	PE-4	23SMF3405M	ROBOTICS & INDUSTRIAL AUTOMATION	M	RIA	3	0	0	0	3	3	MSM(1) Rule:1
17	PEC	PE-4	23SMF3406M	MECHANICAL MEASUREMENTS AND METROLOGY	M	MMM	3	0	0	0	3	3	MSM(1) Rule:1
18	PEC	PE-5	23SMF3507	MACHINE TO MACHINE COMMUNICATION	R	MMC	3	0	0	0	3	3	MSM(1) Rule:1
19	PEC	PE-5	23SMF3508	FLEXIBLE MANUFACTURING SYSTEMS	R	FMS	3	0	0	0	3	3	MSM(1) Rule:1

76. SPECIALIZATION: SOCIAL AND DIGITAL MEDIA ANALYTICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDAD06A	ANALYSIS OF DIGITAL MARKETING	A	ADM	0	0	6	4	4	10	
2	SDC	SDP-4	23SDAD06E	ANALYSIS OF DIGITAL MARKETING	E	ADM	0	0	6	4	4	10	
3	SDC	SDP-4	23SDAD06R	ANALYSIS OF DIGITAL MARKETING	R	ADM	0	0	2	4	2	6	
4	PEC	PE-1	23SDM3101A	SENTIMENT ANALYSIS	A	SA	4	0	4	4	7	12	DBMS(1) Rule:1
5	PEC	PE-1	23SDM3101E	SENTIMENT ANALYSIS	E	SA	4	0	4	4	7	12	DBMS(1) Rule:1
6	PEC	PE-1	23SDM3101R	SENTIMENT ANALYSIS	R	SA	3	0	2	4	5	9	DBMS(1) Rule:1
7	PEC	PE-2	23SDM3202A	OPINION MINING & RECOMMENDER SYSTEMS	A	OMRS	5	0	0	0	5	5	
8	PEC	PE-2	23SDM3202E	OPINION MINING & RECOMMENDER SYSTEMS	E	OMRS	5	0	0	0	5	5	
9	PEC	PE-2	23SDM3202R	OPINION MINING & RECOMMENDER SYSTEMS	R	OMRS	3	0	0	0	3	3	
10	PEC	PE-2	23SDM3203A	META SOCIAL MEDIA ANALYTICS	A	MSMA	5	0	0	0	5	5	
11	PEC	PE-2	23SDM3203E	META SOCIAL MEDIA ANALYTICS	E	MSMA	5	0	0	0	5	5	
12	PEC	PE-2	23SDM3203R	META SOCIAL MEDIA ANALYTICS	R	MSMA	3	0	0	0	3	3	
13	PEC	PE-3	23SDM3304A	SOCIAL MEDIA MARKETING ANALYTICS	A	SMMA	4	0	4	4	7	12	
14	PEC	PE-3	23SDM3304E	SOCIAL MEDIA MARKETING ANALYTICS	E	SMMA	4	0	4	4	7	12	
15	PEC	PE-3	23SDM3304R	SOCIAL MEDIA MARKETING ANALYTICS	R	SMMA	3	0	2	4	5	9	
16	PEC	PE-4	23SDM3405M	DIGITAL MEDIA ANALYTICS	M	DMA	3	0	0	0	3	3	
17	PEC	PE-4	23SDM3406M	ETHICAL SOCIAL MEDIA	M	ESM	3	0	0	0	3	3	
18	PEC	PE-5	23SDM3508	SEARCH ENGINE OPTIMIZATION	R	SEO	3	0	0	0	3	3	
19	PEC	PE-5	23SDM3507	INTELLIGENT SOCIAL MEDIA MONITORING SYSTEMS	R	ISMMS	3	0	0	0	3	3	

77. SPECIALIZATION: SOFTWARE MODELLING AND DEVOPS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCI05A	CLOUD DEVOPS	A	CDP	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCI05E	CLOUD DEVOPS	E	CDP	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCI05R	CLOUD DEVOPS	R	CDP	0	0	2	4	2	6	
4	PEC	PE-1	23SMD3101A	SOFTWARE VERIFICATION & VALIDATION	A	SVV	4	0	4	4	7	12	
5	PEC	PE-1	23SMD3101E	SOFTWARE VERIFICATION & VALIDATION	E	SVV	4	0	4	4	7	12	
6	PEC	PE-1	23SMD3101R	SOFTWARE VERIFICATION & VALIDATION	R	SVV	3	0	2	4	5	9	
7	PEC	PE-2	23SMD3202A	DESIGN PATTERNS & CLEAN CODING TECHNIQUES	A	DPCT	5	0	0	0	5	5	
8	PEC	PE-2	23SMD3202E	DESIGN PATTERNS & CLEAN CODING TECHNIQUES	E	DPCT	5	0	0	0	5	5	
9	PEC	PE-2	23SMD3202R	DESIGN PATTERNS & CLEAN CODING TECHNIQUES	R	DPCT	3	0	0	0	3	3	
10	PEC	PE-3	23SMD3303A	CONTINUOUS DELIVERY & DEVOPS	A	CDD	4	0	4	4	7	12	
11	PEC	PE-3	23SMD3303E	CONTINUOUS DELIVERY & DEVOPS	E	CDD	4	0	4	4	7	12	
12	PEC	PE-3	23SMD3303R	CONTINUOUS DELIVERY & DEVOPS	R	CDD	3	0	2	4	5	9	
13	PEC	PE-4	23SMD3404M	SOFTWARE PROJECT MANAGEMENT	M	SPM	3	0	0	0	3	3	
14	PEC	PE-4	23SMD3405M	SOFTWARE ARCHITECTURE & DESIGN	M	SAD	3	0	0	0	3	3	
15	PEC	PE-5	23SMD3506	SOFTWARE RELIABILITY	R	SR	3	0	0	0	3	3	
16	PEC	PE-5	23SMD3507	CROSS-PLATFORM USER INTERFACE DESIGN	R	CPUIF	3	0	0	0	3	3	

78. SPECIALIZATION: SPATIAL COMPUTING AND IMMERSIVE TECHNOLOGIES

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCS06A	CERTIFIED GAME DEVELOPER	A	CGD	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCS06E	CERTIFIED GAME DEVELOPER	E	CGD	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCS06R	CERTIFIED GAME DEVELOPER	R	CGD	0	0	2	4	2	6	
4	PEC	PE-1	23SCI3101A	SPATIAL DATA VISUALIZATION	A	SDV	4	0	4	4	7	12	
5	PEC	PE-1	23SCI3101E	SPATIAL DATA VISUALIZATION	E	SDV	4	0	4	4	7	12	
6	PEC	PE-1	23SCI3101R	SPATIAL DATA VISUALIZATION	R	SDV	3	0	2	4	5	9	
7	PEC	PE-2	23SCI3202A	SPATIAL COMPUTING FOR MULTIPLAYER GAMES	A	SCMG	5	0	0	0	5	5	
8	PEC	PE-2	23SCI3202E	SPATIAL COMPUTING FOR MULTIPLAYER GAMES	E	SCMG	5	0	0	0	5	5	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
9	PEC	PE-2	23SCI3202R	SPATIAL COMPUTING FOR MULTIPLAYER GAMES	R	SCMG	3	0	0	0	3	3	
10	PEC	PE-3	23SCI3303A	SPATIAL COMPUTING PLATFORMS AND DEVELOPMENT	A	SCPD	4	0	4	4	7	12	
11	PEC	PE-3	23SCI3303E	SPATIAL COMPUTING PLATFORMS AND DEVELOPMENT	E	SCPD	4	0	4	4	7	12	
12	PEC	PE-3	23SCI3303R	SPATIAL COMPUTING PLATFORMS AND DEVELOPMENT	R	SCPD	3	0	2	4	5	9	
13	PEC	PE-4	23SCI3404M	SPATIAL AND SOCIAL IMPLICATIONS OF IMMERSIVE TECHNOLOGIES	M	SSIIT	3	0	0	0	3	3	DNA(1) Rule:1
14	PEC	PE-4	23SCI3405M	SPATIAL AUDIO DESIGN FOR GAMES	M	SADG	3	0	0	0	3	3	
15	PEC	PE-5	23SCI3506	SPATIAL USER INTERFACE DESIGN	R	SUID	3	0	0	0	3	3	
16	PEC	PE-5	23SCI3507	INTRODUCTION TO SPATIAL COMPUTING	R	ITSC	3	0	0	0	3	3	

79. SPECIALIZATION: STRUCTURAL ENGINEERING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCE06A	DESIGN & ANALYSIS OF DIFFERENT STRUCTURAL COMPONENTS USING SAFE	A	SAFE	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCE06E	DESIGN & ANALYSIS OF DIFFERENT STRUCTURAL COMPONENTS USING SAFE	E	SAFE	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCE06R	DESIGN & ANALYSIS OF DIFFERENT STRUCTURAL COMPONENTS USING SAFE	R	SAFE	0	0	2	4	2	6	
4	PEC	PE-1	23STE3101A	ADVANCED CONCRETE TECHNOLOGY	A	ACT	4	0	4	4	7	12	
5	PEC	PE-1	23STE3101E	ADVANCED CONCRETE TECHNOLOGY	E	ACT	4	0	4	4	7	12	
6	PEC	PE-1	23STE3101R	ADVANCED CONCRETE TECHNOLOGY	R	ACT	3	0	2	4	5	9	
7	PEC	PE-2	23STE3202A	ADVANCED STRUCTURAL ANALYSIS	A	ASA	5	0	0	0	5	5	
8	PEC	PE-2	23STE3202E	ADVANCED STRUCTURAL ANALYSIS	E	ASA	5	0	0	0	5	5	
9	PEC	PE-2	23STE3202R	ADVANCED STRUCTURAL ANALYSIS	R	ASA	3	0	0	0	3	3	
10	PEC	PE-2	23STE3203A	ADVANCED DESIGN OF STEEL STRUCTURE	A	ADSS	5	0	0	0	5	5	
11	PEC	PE-2	23STE3203E	ADVANCED DESIGN OF STEEL STRUCTURE	E	ADSS	5	0	0	0	5	5	
12	PEC	PE-2	23STE3203R	ADVANCED DESIGN OF STEEL STRUCTURE	R	ADSS	3	0	0	0	3	3	
13	PEC	PE-3	23STE3304A	BRIDGE ENGINEERING	A	BE	4	0	4	4	7	12	
14	PEC	PE-3	23STE3304E	BRIDGE ENGINEERING	E	BE	4	0	4	4	7	12	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
15	PEC	PE-3	23STE3304R	BRIDGE ENGINEERING	R	BE	3	0	2	4	5	9	
16	PEC	PE-4	23STE3405M	PRESTRESSED CONCRETE	M	PC	3	0	0	0	3	3	
17	PEC	PE-4	23STE3406M	PRECAST AND PREFABRICATED STRUCTURES	M	PPS	3	0	0	0	3	3	
18	PEC	PE-5	23STE3507	PRE ENGINEERING STRUCTURES	R	PES	3	0	0	0	3	3	
19	PEC	PE-5	23STE3508	ADVANCED DESIGN OF REINFORCED CONCRETE STRUCTURES	R	ADRCS	3	0	0	0	3	3	

80. SPECIALIZATION: VERY LARGE-SCALE INTEGRATION

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDEC18A	VLSI SUBMICRON DESIGN AND VERIFICATION	A	VSDV	0	0	6	4	4	10	
2	SDC	SDP-4	23SDEC18E	VLSI SUBMICRON DESIGN AND VERIFICATION	E	VSDV	0	0	6	4	4	10	
3	SDC	SDP-4	23SDEC18R	VLSI SUBMICRON DESIGN AND VERIFICATION	R	VSDV	0	0	2	4	2	6	
4	PEC	PE-1	23VLS3101A	ANALOG VLSI DESIGN	A	AVD	4	0	4	4	7	12	
5	PEC	PE-1	23VLS3101E	ANALOG VLSI DESIGN	E	AVD	4	0	4	4	7	12	
6	PEC	PE-1	23VLS3101R	ANALOG VLSI DESIGN	R	AVD	3	0	2	4	5	9	
7	PEC	PE-2	23VLS3202A	TESTING AND VERIFICATION OF VLSI CIRCUITS	A	TVVC	5	0	0	0	5	5	
8	PEC	PE-2	23VLS3202E	TESTING AND VERIFICATION OF VLSI CIRCUITS	E	TVVC	5	0	0	0	5	5	
9	PEC	PE-2	23VLS3202R	TESTING AND VERIFICATION OF VLSI CIRCUITS	R	TVVC	3	0	0	0	3	3	
10	PEC	PE-2	23VLS3505	MIXED SIGNAL IC DESIGN	R	MSID	3	0	0	0	3	3	
11	PEC	PE-3	23VLS3303A	VLSI PHYSICAL DESIGN AUTOMATION	A	VPDA	4	0	4	4	7	12	
12	PEC	PE-3	23VLS3303E	VLSI PHYSICAL DESIGN AUTOMATION	E	VPDA	4	0	4	4	7	12	
13	PEC	PE-3	23VLS3303R	VLSI PHYSICAL DESIGN AUTOMATION	R	VPDA	3	0	2	4	5	9	
14	PEC	PE-4	23VLS3404M	SYSTEM-ON-CHIP	M	SOC	3	0	0	0	3	3	

81. SPECIALIZATION: WATER RESOURCE AND ENVIRONMENTAL ENGINEERING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	SDC	SDP-4	23SDCE07A	ARC-GIS (PRO)	A	ARC	0	0	6	4	4	10	
2	SDC	SDP-4	23SDCE07E	ARC-GIS (PRO)	E	ARC	0	0	6	4	4	10	
3	SDC	SDP-4	23SDCE07R	ARC-GIS (PRO)	R	ARC	0	0	2	4	2	6	
4	PEC	PE-1	23WRE3101A	RIVER ENGINEERING	A	RE	4	0	4	4	7	12	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
5	PEC	PE-1	23WRE3101E	RIVER ENGINEERING	E	RE	4	0	4	4	7	12	
6	PEC	PE-1	23WRE3101R	RIVER ENGINEERING	R	RE	3	0	2	4	5	9	
7	PEC	PE-2	23WRE3202A	SOLID WASTE MANAGEMENT AND LANDFILLS	A	SWML	5	0	0	0	5	5	
8	PEC	PE-2	23WRE3202E	SOLID WASTE MANAGEMENT AND LANDFILLS	E	SWML	5	0	0	0	5	5	
9	PEC	PE-2	23WRE3202R	SOLID WASTE MANAGEMENT AND LANDFILLS	R	SWML	3	0	0	0	3	3	
10	PEC	PE-3	23WRE3203A	DESIGN OF HYDRAULIC STRUCTURES	A	DHS	5	0	0	0	5	5	
11	PEC	PE-3	23WRE3203E	DESIGN OF HYDRAULIC STRUCTURES	E	DHS	5	0	0	0	5	5	
12	PEC	PE-3	23WRE3203R	DESIGN OF HYDRAULIC STRUCTURES	R	DHS	3	0	0	0	3	3	
13	PEC	PE-3	23WRE3304A	WATER RESOURCES FIELD METHODS	A	WRFM	4	0	4	4	7	12	
14	PEC	PE-3	23WRE3304E	WATER RESOURCES FIELD METHODS	E	WRFM	4	0	4	4	7	12	
15	PEC	PE-3	23WRE3304R	WATER RESOURCES FIELD METHODS	R	WRFM	3	0	2	4	5	9	
16	PEC	PE-4	23WRE3405M	URBAN WATER HYDROLOGY AND HYDRAULICS	M	UWHH	3	0	0	0	3	3	
17	PEC	PE-4	23WRE3406M	ENVIRONMENTAL IMPACT ASSESSMENT AND LIFE CYCLE ANALYSES	M	EIALCA	3	0	0	0	3	3	
18	PEC	PE-5	23WRE3507	PHYSICO-CHEMICAL PROCESSES FOR WATER AND WASTEWATER TREATMENT	R	PCPWWT	3	0	0	0	3	3	
19	PEC	PE-6	23WRE3508	SUSTAINABLE ENGINEERING AND TECHNOLOGY	R	SET	3	0	0	0	3	3	

84. PROJECT: CAPSTONE PROJECT

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PRI	PRI-CORE	23IE4053R	CAPSTONE PROJECT - 1	R	CP-1	0	0	8	16	8	24	
2	PRI	PRI-CORE	23IE4054R	CAPSTONE PROJECT - 2	R	CP-2	0	0	8	16	8	24	

Program Articulation Matrix

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	HAS	23FL3054 - FLG	CO1	Acquire a working knowledge of the basic elements of the French language viz. letters, vowels, accents, articles, useful expressions, etc.					2			2						
2	HAS	23FL3054 - FLG	CO2	Classify questions and respond in the affirmative or negative with ?tre and avoir and form plurals						2				3				
3	HAS	23FL3054 - FLG	CO3	Utilize and apply the adjectives and essential verbs.								2		2				
4	HAS	23FL3054 - FLG	CO4	Construct and use in speech, vocabulary, reading, questions and answers								2				3		
5	HAS	23FL3055 - GLG	CO1	classify their understanding of greeting wishes, alphabets and numbers learning. to understand the greetings in formal and informal way					2			2						
6	HAS	23FL3055 - GLG	CO2	Apply their knowledge of essential daily expressions, present, past and future tense. Conjugating the verbs in the Singular and Plural groups, Past participle tense and the futertense and relations with the verbs										3				
7	HAS	23FL3055 - GLG	CO3	Utilize their understanding with suitable prepositions, questions, and possessive pronouns, and the importance of four German cases. Prepositions in Akkusativ and Dativ										2				
8	HAS	23FL3055 - GLG	CO4	Develop their knowledge about how to move in public places, such as shopping centres, restaurants, tourist places, etc, and preparation of them for German A1 level examination.								2				3		

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
9	HAS	23FL3058 - JLG	CO1	Classify Hiragana, Katakana, and basic Kanji characters used in greetings and simple scripts					2			2						
10	HAS	23FL3058 - JLG	CO2	Apply their knowledge of essential daily expressions, numbers, months, dates, time, body parts, colors, and common vocabulary to effectively communicate in basic everyday situations										3				
11	HAS	23FL3058 - JLG	CO3	Utilize their understanding of present, past, and future tenses, along with the ability to construct interrogative sentences, to express themselves in various timeframes and ask questions effectively in different conversational contexts. pen_spark								2		2				
12	HAS	23FL3058 - JLG	CO4	Develop their knowledge of verbs, including negative conjugations, and prepositions to discuss hobbies, deliver self-introductions, and navigate basic interview scenarios in Japanese								2				3		
13	HAS	23MB4062 - CPM	CO1	Understand construction principles and techniques to effectively plan and execute construction projects.	2										3		1	
14	HAS	23MB4062 - CPM	CO2	Understand about construction project scheduling, cost estimation, and resource allocation for a particular project	2										3		1	
15	HAS	23MB4062 - CPM	CO3	Understand about the Construction Methods and Techniques	2										3		1	
16	HAS	23MB4062 - CPM	CO4	Understand about the Construction Project Cost Estimation and Control.	2										3		1	
17	HAS	23MB4062 - CPM	CO5	Understand about project cost control and monitoring, earned value management in construction.	2										3		1	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
18	HAS	23MB4063 - RSQM	CO1	Demonstrate an understanding of resource management principles and the importance of resource optimization in construction projects by applying best practices to enhance efficiency.	2					3			3					2
19	HAS	23MB4063 - RSQM	CO2	Interpret and ensure compliance with construction safety regulations and standards set by regulatory bodies, ensuring legal and regulatory adherence in project execution.	2					3			3					2
20	HAS	23MB4063 - RSQM	CO3	Apply hazard identification techniques and conduct comprehensive risk assessments to prioritize and mitigate risks in construction environments, enhancing safety management.	2					3			3					2
21	HAS	23MB4063 - RSQM	CO4	Develop and implement safety management systems and quality assurance strategies, including safety policies, training, and communication, to ensure high safety standards and quality control in construction projects.	2					3			3					2
22	HAS	23MB4068 - IMG	CO1	Identify and analyze market needs and gaps, using tools such as SWOT and PESTLE analysis, to pinpoint real-world problems suitable for entrepreneurial solutions.		1									2		1	
23	HAS	23MB4068 - IMG	CO2	Develop innovative solutions through creative thinking and apply lean startup principles to build and iterate a minimum viable product (MVP).		1									2		2	
24	HAS	23MB4068 - IMG	CO3	Create a comprehensive lean business model canvas that outlines customer segments, value propositions, channels, revenue streams, and key metrics.		1									2		1	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
25	HAS	23MB4068 - IMG	CO4	Create a compelling business plan and investor pitch, including financial projections and funding strategies, demonstrating effective communication and persuasion skills.		1									2		1	
26	HAS	23UC0026 - HGP	CO1	Understanding the basic concepts of value education								2	1					
27	HAS	23UC0026 - HGP	CO2	Gain basic understanding of the principles in harmony among the human beings								2	1					
28	HAS	23UC0026 - HGP	CO3	Gain knowledge in the concept of Harmony in the family and society								3	3					
29	HAS	23UC0026 - HGP	CO4	Acquire knowledge in the concepts of harmony in the nature								3	3					
30	HAS	23UC0027 - LAMS	CO1	Understand basic leadership, skills and perspectives and leadership styles									2					
31	HAS	23UC0027 - LAMS	CO2	Understand different managerial skills and apply them to develop high performance teams											3			
32	HAS	23UC0027 - LAMS	CO3	Analyse effective communicative strategies and apply them in team tasks										3				
33	HAS	23UC0027 - LAMS	CO4	Apply strategic planning fundamentals and decision-making techniques, through exercises and case studies											3			
34	HAS	23UC1101 - IPE	CO1	Language Mechanics and Basic Grammar										2				
35	HAS	23UC1101 - IPE	CO2	Integrated Reading and Techniques of Writing										2				
36	HAS	23UC1202 - EP	CO1	Express the ability in interactive skills of listening, speaking, reading, and writing that are better suited for the corporate environment.										3				

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
37	HAS	23UC1202 - EP	CO2	Apply various strategies for LSRW skills and apply them in interpreting the text										3				
38	HAS	23UC1203 - DTI	CO1	Understand the importance of Design thinking mindset for identifying contextualized problems		1												
39	HAS	23UC1203 - DTI	CO2	Analyze the problem statement by empathizing with user							2							
40	HAS	23UC1203 - DTI	CO3	Develop ideation and test the prototypes made			2											
41	HAS	23UC1203 - DTI	CO4	Explore the fundamentals of entrepreneurship skills for transforming the challenge into an opportunity											1			
42	BSC	22CE1201 - EGY	CO1	Understand the significance of engineering geology, basics of geological processes that modify the surface of the earth, earthquakes, landslides	1				1				1				1	
43	BSC	22CE1201 - EGY	CO2	Understand the basics of minerals and rocks, geological structures	1				1				1				1	
44	BSC	22CE1201 - EGY	CO3	Understand the geological conditions to identify suitable site for civil engineering projects.	1				1				1				1	
45	BSC	22CE1201 - EGY	CO4	Understand Geological conditions to identify potential sites for groundwater, sites for dam and reservoir and tunnels	1				1				1				1	
46	BSC	22CE1201 - EGY	CO5	Apply and analyze the geological conditions for suitability of the site for a major civil engineering project	1				1				1				1	
47	BSC	23CE3109 - EVE	CO1	To Understand the demand of water and water treatment process	2		1				3							2
48	BSC	23CE3109 - EVE	CO2	Understand the concept of Water distribution system by using Equivalent pipe method	2		1				3							2

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
49	BSC	23CE3109 - EVE	CO3	To Design of sewerage system and septic tank design and sewage treatment process	3		2				3							2
50	BSC	23CE3109 - EVE	CO4	To design concept in construction landfill and elaborate Solid Waste Management methods and Noise pollution effects	3		2				3							2
51	BSC	23CE3109 - EVE	CO5	Evaluate the Advanced waste water treatment and Industrial wastewater treatment	3		2				3							2
52	BSC	23CY1001 - ECY	CO1	Apply the operation of electrochemical systems to produce electric energy and stored devices.	3	2												
53	BSC	23CY1001 - ECY	CO2	Use the fundamental aspects of electrochemistry and materials science relevant to corrosion phenomena.	3	2												
54	BSC	23CY1001 - ECY	CO3	Examine water quality and apply appropriate purification technique for intended problem.	3	2												
55	BSC	23CY1001 - ECY	CO4	Employ the fundamental principles and general properties of materials in various engineering applications.	3	2												
56	BSC	23CY1001 - ECY	CO5	Analyze the data, develop skills in chemical analysis and their application in engineering.	3						3							
57	BSC	23MT1001 - LACE	CO1	Apply matrix algebra to the real-world applications in engineering, physical and biological sciences, computer science, finance, economics and solving the system of equations.	3													
58	BSC	23MT1001 - LACE	CO2	Apply multivariate differential calculus to find maxima & minima of functions and understand the concepts of second order differential equations and its applications.	3													

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
59	BSC	23MT1001 - LACE	CO3	Apply beta and gamma functions to evaluate improper integrals. Evaluate double and triple integrals techniques over a region in two dimensional and three-dimensional geometry.	3													
60	BSC	23MT1001 - LACE	CO4	interpret the physical meaning of different operators such as gradient, curl and compute the line integrals of vector functions and learn their applications.	3													
61	BSC	23MT2003 - MMNM	CO1	Modeling and solution of algebraic and transcendental equations.	3	3											3	
62	BSC	23MT2003 - MMNM	CO2	Applying numerical methods to solve ordinary differential equations.	3	3											3	
63	BSC	23MT2003 - MMNM	CO3	Solving of Linear and non-linear Partial Differential Equations.	3	3											3	
64	BSC	23MT2003 - MMNM	CO4	Applications of Partial Differential Equations.	3	3											3	
65	BSC	23MT2005 - PSQT	CO1	Apply the importance of probabilistic concepts in a wide spectrum of problems arising in engineering applied science.	1		2	3									1	
66	BSC	23MT2005 - PSQT	CO2	Assess the relationship between variables using correlation and regression techniques	1		2	3										1
67	BSC	23MT2005 - PSQT	CO3	Apply the role of Statistical tests of significance in solving real world engineering problems	1		2	3										1
68	BSC	23MT2005 - PSQT	CO4	Formulate Stochastic process in terms of Markov chains and solve problems in queueing systems, and network	1		2	3									1	
69	ESC	23AD2001 - AIML	CO1	Apply a variety of artificial intelligence algorithms and techniques to effectively solve complex problems in diverse real-world environments		3	3	3									3	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
70	ESC	23AD2001 - AIML	CO2	Solve constraint satisfaction problems, employ knowledge engineering principles to perform inferencing, reasoning and probability theory.		3	3	3									3	
71	ESC	23AD2001 - AIML	CO3	Apply various machine learning techniques to analyze and solve real-world problems		3	3	3									3	
72	ESC	23AD2001 - AIML	CO4	solve complex real-world problems using advanced supervised and unsupervised learning techniques.		3	3	3									3	
73	ESC	23AD2001 - AIML	CO5	Evaluate solutions for various AI & ML related problems.			3	3	3								3	
74	ESC	23CE2102R - FMH	CO1	Application of Properties of Fluid	2	2					2						1	
75	ESC	23CE2102R - FMH	CO2	Determination of losses through pipe flow	2	2					2						1	
76	ESC	23CE2102R - FMH	CO3	Analysis of flow in open channel	2	2					2						1	
77	ESC	23CE2102R - FMH	CO4	Analysis of specific energy curve in open channel flow	2	2					2						1	
78	ESC	23CE2102R - FMH	CO5	Illustrate the experimental procedure and interpretation of results obtained	2	2					2						1	
79	ESC	23ES1201 - OOP	CO1	Apply the concepts of Basic Data types, Operators, Decision and Looping Control Statements, Strings			3		3									
80	ESC	23ES1201 - OOP	CO2	Apply the concepts of Lists, Tuples, Dictionaries. Functions, Modules, Class, Object, OOPS principles.			3		3									
81	ESC	23ES1201 - OOP	CO3	Apply Concepts of OOP principles, classes and objects, Call by value vs. Call by reference, recursion, and Nested classes			3		3									
82	ESC	23ES1201 - OOP	CO4	Apply Concepts of Files, Interfaces, Packages, Threads			3		3									

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
83	ESC	23ES1201 - OOP	CO5	Design, implement, and evaluate Python programs using basic data types, variables, expressions, conditional statements, loops, functions, built-in data structures, object-oriented programming concepts, Python libraries and modules, debugging techniques, and file I/O to solve programming problems.							3		3			3	3	
84	ESC	23ME1001 - EM	CO1	Apply the concept of forces, governing static equations, and analyze the planar system of forces.		3											3	
85	ESC	23ME1001 - EM	CO2	Use analytical techniques for analyzing forces in statically determinate structures.			3										3	
86	ESC	23ME1001 - EM	CO3	Apply the concepts of planar and non-planar system of parallel forces and estimate the moment of inertia for lamina and material bodies.				3									3	
87	ESC	23ME1001 - EM	CO4	Apply fundamental concepts of kinematics and kinetics of particles to solve simple practical problems.				3									3	
88	ESC	23ME1002 - EG	CO1	Enumerating engineering curves, Listing various geometries and descriptions on multiple scales.	2				2								3	
89	ESC	23ME1002 - EG	CO2	Apply the concept of first-angle and third-angle projection,	2				3								3	
90	ESC	23ME1002 - EG	CO3	Demonstrate sectional view and sketching in modern tools.	2				3								3	
91	ESC	23ME1002 - EG	CO4	Apply the engineering design process to real world problems					3								3	
92	ESC	23ME1004 - WPE	CO1	Prepare carpentry joints, fitting trade fits, tin-smithy components, and house wiring.	3		3										2	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
93	ESC	23ME1004 - WPE	CO2	Prepare mould cavities, perform lathe, drill, grinding operations, create welding joints, and CNC programs.	3		3										2	
94	ESC	23ME1103 - DTW	CO1	Demonstrate proficiency in typing sentence , paragraph , report , presentations along spread sheets using office tools, LaTeX tools and PowerBI					2									2
95	ESC	23ME1103 - DTW	CO2	Build a static website and blog with using html along with Special features of HTML5, CSS and Javascript					3					3				
96	ESC	23ME1103 - DTW	CO3	Develop a virtual environment with cospace and construct a marker based Augmented Reality			3										3	
97	ESC	23ME1103 - DTW	CO4	Utilising the softwares of Autodesk Fusion 360 and the same can be printed in 3D printer as physical prototype			3										3	
98	ESC	23SC1101 - CTSD	CO1	Develop and apply logical building blocks to solve real world problems	3	3	3											
99	ESC	23SC1101 - CTSD	CO2	Apply computational thinking for designing solutions	3	3	3											
100	ESC	23SC1101 - CTSD	CO3	Develop and apply the CRUD operations on arrays	3													
101	ESC	23SC1101 - CTSD	CO4	Apply CRUD operations on Linear Data Structures	3	3	3											
102	ESC	23SC1101 - CTSD	CO5	Apply the structured programming paradigm with logic building skills onBasic and Linear Data Structures for solving real world problems	3				3									
103	ESC	23SC1101 - CTSD	CO6	Skill the students in such a way that students will be able to develop logicthat help them to create programs as well as applications in C	3				3									

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
104	ESC	23SC1202 - DS	CO1	Understand various sorting algorithms and analyse the efficiency of the algorithms.	3	3												
105	ESC	23SC1202 - DS	CO2	Implement and evaluate Linear Data Structures and Demonstrate their applications.	3	3	3											
106	ESC	23SC1202 - DS	CO3	Implement and evaluate tree data structures and understand hashing techniques	3	3	3						3					
107	ESC	23SC1202 - DS	CO4	Understand graph data structures and apply graphs to solve problems	3	3							3					
108	ESC	23SC1202 - DS	CO5	"Design, Develop and evaluate common practical applications for linear and nonlinear data structures."			3						3					
109	ESC	23SC1202 - DS	CO6	"Skill the students in such a way that students will be able to develop logic that help them to create programs on both linear and non-linear datastructuresand its applications."			3						3					
110	PCC	23CE2103R - SVY	CO1	Understand the knowledge of plane surveying, geodetic surveying for computation of bearings in a traverse.		2		2									2	
111	PCC	23CE2103R - SVY	CO2	Apply and Calculate the difference in elevation by using differential levelling techniques and prepare a contour plan.		2		2									2	
112	PCC	23CE2103R - SVY	CO3	Compute the area of the field and volume of earthwork		2		2									2	
113	PCC	23CE2103R - SVY	CO4	Understand about the different types of curves and uses of GPS & GIS		2		2									2	
114	PCC	23CE2103R - SVY	CO5	Evaluate Conceptualize the project by applying surveying techniques such as chain, compass, traverse.		2		2									2	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
115	PCC	23CE2103R - SVY	CO6	Calculate the height of building by using theodolite and tacheometric survey, and total station surveying		2		2									2	
116	PCC	23CE2105R - SMN	CO1	Solve response of free and forced vibrations		2		2	2								2	
117	PCC	23CE2105R - SMN	CO2	Solve response to Arbitrary, Step and Pulse Excitations (SDoF)		2		2	2								2	
118	PCC	23CE2105R - SMN	CO3	Solve Earthquake Response of Linear Systems (SDoF)		2		2	2								2	
119	PCC	23CE2105R - SMN	CO4	Build Generalized multi Degree of Freedom Systems		2		2	2								2	
120	PCC	23CE2105R - SMN	CO5	Solve response of Multi -degree of freedom systems (MDoF)		2		2	2								2	
121	PCC	23CE2105R - SMN	CO6	Analyze the complex problems in solid mechanics using advanced methods and computational tools.		2		2	2								2	
122	PCC	23CE2105R - SMN	CO7	Apply principles of equilibrium, compatibility, and material behavior to analyze stresses and strains.		2		2	2								2	
123	PCC	23CE2206 - STA	CO1	Mastery of Structural Analysis Methods	1				2								1	
124	PCC	23CE2206 - STA	CO2	Ability to Analyze Complex Structures:	1				2								1	
125	PCC	23CE2206 - STA	CO3	Proficiency in Structural Modeling and Software Tools	1				2								1	
126	PCC	23CE2206 - STA	CO4	Understanding of Structural Behavior and Design Implications	1				2								1	
127	PCC	23CE2206 - STA	CO5	Evaluate the dynamic response of structures subjected to external forces and vibrations, including natural frequencies and mode shapes.	1				2								1	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
128	PCC	23CE2206 - STA	CO6	Apply knowledge of structural analysis principles to solve practical engineering problems and design structural elements that meet safety and performance criteria.	1				2								1	
129	PCC	23CE2206 - STA	CO7	Demonstrate proficiency in using structural analysis software and computational tools to analyze and design structures efficiently and accurately.	1				2								1	
130	PCC	23CE2207 - CT	CO1	Understand about the constituent and properties of cement	2													
131	PCC	23CE2207 - CT	CO2	Understand about the fresh, hardened and durability of concrete.	2													
132	PCC	23CE2207 - CT	CO3	Understand about special concretes and concreting techniques.				2										
133	PCC	23CE2207 - CT	CO4	To apply concrete mix design in the field.			3										2	
134	PCC	23CE2207 - CT	CO5	Demonstrate and apply knowledge experiments in the project-based laboratory						2								
135	PCC	23CE2207 - CT	CO6	Understand the production and placement of concrete														
136	PCC	23CE2207 - CT	CO7	Develop solutions for enhancing concrete performance														
137	PCC	23CE2208R - GTE	CO1	Apply and Describe soils and determine their physical characteristics of given soils..	2					3							1	
138	PCC	23CE2208R - GTE	CO2	Apply the soils and determine their compaction characteristics and engineering characteristics of soil	2					3							1	
139	PCC	23CE2208R - GTE	CO3	Apply the load carrying capacity of pile various soils and methods ,Determine the lateral earth pressure, stability of slopes and retaining walls.	2					3							1	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
140	PCC	23CE2208R - GTE	CO4	Apply the soil sample investigation and bearing capacity at various conditions and settlement, total stress and effective stress methods of analysis to evaluate slope stability. and detailing of well foundations	2					3							1	
141	PCC	23CE2208R - GTE	CO5	Demonstration about Soil general and engineering properties using Geotechnical Engineering laboratory.	2					3							1	
142	PCC	23CE2209R - TPE	CO1	Understand the Current road projects including highway project preparation	2		2										3	3
143	PCC	23CE2209R - TPE	CO2	Design highway cross section elements	2		2										3	3
144	PCC	23CE2209R - TPE	CO3	Design flexible and rigid pavement	2		2										3	3
145	PCC	23CE2209R - TPE	CO4	Analyse the components of traffic stream parameters	2		2										3	3
146	PCC	23CE2209R - TPE	CO5	Identify the suitable road construction materials following IRC codes	2		2										3	3
147	PCC	23CE3110R - DRCS	CO1	Introduction to Reinforced Concrete Structures. Historical development Properties of concrete and reinforcing. steel Advantages and limitations of reinforced concrete	1				2								1	
148	PCC	23CE3110R - DRCS	CO2	Design Loads and Design Criteria. Load combinations and load factors. Serviceability and ultimate limit states. Material properties and design strengths	1				2								1	
149	PCC	23CE3110R - DRCS	CO3	Flexural Design of Reinforced Concrete Beams Behavior of singly and doubly reinforced beams Design of rectangular and T-beams Shear design of reinforced concrete beams	1				2								1	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
150	PCC	23CE3110R - DRCS	CO4	Design of Reinforced Concrete Slabs One-way and two-way slab systems Design for flexure, shear, and deflection Flat plate and flat slab systems	1				2								1	
151	PCC	23CE3110R - DRCS	CO5	Design of Reinforced Concrete Slabs One-way and two-way slab systems Design for flexure, shear, and deflection Flat plate and flat slab systems	1				2								1	
152	PCC	23CE3110R - DRCS	CO6	Axial Load and Combined Axial and Flexural Design of Columns Behavior of axially loaded columns Design of short and slender columns Interaction diagrams and design for combined axial load and bending	1				2								1	
153	PCC	23CE3110R - DRCS	CO7	Demonstrate proficiency in communication by effectively presenting design concepts, calculations, and drawings.	1				2								1	
154	PCC	23CE3211R - QSE	CO1	Applying the methods of approximate estimate and detailed estimate to the buildings.	2		2										3	2
155	PCC	23CE3211R - QSE	CO2	Applying the methods of detailed estimates to R.C.C works, Roads and Canals	2		2										3	2
156	PCC	23CE3211R - QSE	CO3	Applying the specifications concept to for different items of work and performing rate analysis.	2		2										3	2
157	PCC	23CE3211R - QSE	CO4	Applying tenders and contracts concepts to a project and carrying out building valuation	2		2										3	2
158	PCC	23CE3211R - QSE	CO5	Applying estimation concept to buildings, road works, canal works, and B.B.S by using a software package (M.S Excel)	2		2										3	2
159	PCC	23CE3212 - WRE	CO1	Analyze components of hydrological cycle, hydrograph, and its application	2		2				2						2	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
160	PCC	23CE3212 - WRE	CO2	Analyze of groundwater, groundwater movement and well hydraulics	2		2				2						2	
161	PCC	23CE3212 - WRE	CO3	Analyze and design of canal irrigation methods	2		2				2						2	
162	PCC	23CE3212 - WRE	CO4	Analyze and design of dams and reservoirs	2		2				2						2	
163	PCC	23CE4114 - CPM	CO1	Knowledge and Understanding about Construction and project planning	2	1				2							1	
164	PCC	23CE4114 - CPM	CO2	Understanding about Techniques of planning, Resource scheduling of constructions.	2	1				2							1	
165	PCC	23CE4114 - CPM	CO3	Understanding about Construction Cost, Monitoring and Control Supervision	2	1				2							1	
166	PCC	23CE4114 - CPM	CO4	Understanding about PERT, Planning and Organizing construction site and resources	2	1				2							1	
167	PRI	23IE2040 - SIP	CO1	Remember the fundamentals of the science of water cycle along with powerful tools that students can use to diagnose the health of the local water cycle as well as develop targeted action plans to restore the local natural water cycle and bring water prosperity			3										3	
168	PRI	23IE2040 - SIP	CO2	Remember the water sustainability and water resilience of village, city, residential facilities and households using multi-level water scorecards				3									3	
169	PRI	23IE2040 - SIP	CO3	Apply the design thinking positive action plan for a village, campus, residential facility and community neighbourhood.					3								3	
170	PRI	23IE2040 - SIP	CO4	Apply the water positive solutions within an urban watershed, a rural watershed, residential institutional and corporate community						3							3	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
171	PRI	23IE3041 - TIP	CO1	Ability to demonstrate the impact of academic skills and logical thinking			3										3	
172	PRI	23IE3041 - TIP	CO2	Ability to integrate existing and new technical knowledge for industrial application				3									3	
173	PRI	23IE3041 - TIP	CO3	Ability to demonstrate the impact of the internship on their learning and professional development					3								3	
174	PRI	23IE3041 - TIP	CO4	Demonstrate the ability to harness resources by analyzing challenges						3							3	
175	PRI	23IE4053R - CP-1	CO1	Exercise to acquire knowledge within the chosen area of technology for project development.	2													
176	PRI	23IE4053R - CP-1	CO2	Identify, discuss and justify the technical aspects of the chosen area for problem analysis		2												
177	PRI	23IE4053R - CP-1	CO3	Reproduce, improve and refine technical aspects for chosen problem						3							3	3
178	PRI	23IE4053R - CP-1	CO4	Communicate and report effectively project related activities and findings.									2					
179	PRI	23IE4054R - CP-2	CO1	Literature search equips students with the ability to efficiently locate, evaluate, and synthesize academic and scholarly sources relevant to their field of study. Students will develop skills to conduct comprehensive searches, critically assess the credibility of sources, and apply research findings to support their academic or professional work.	2													

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
180	PRI	23IE4054R - CP-2	CO2	Problem identification enables students to accurately recognize and define complex issues or challenges within a given context. Students will learn to analyze situations critically, identify underlying causes, and articulate clear problem statements that guide effective problem-solving strategies.		2												
181	PRI	23IE4054R - CP-2	CO3	Analysis of research work prepares students to critically evaluate and interpret research studies, assessing the methodology, data, and conclusions. Students will develop the ability to dissect research findings, identify strengths and weaknesses, and draw informed conclusions that contribute to their own academic or professional endeavors.						3								
182	PRI	23IE4054R - CP-2	CO4	Analysis of research work prepares students to critically evaluate and interpret research studies, assessing the methodology, data, and conclusions. Students will develop the ability to dissect research findings, identify strengths and weaknesses, and draw informed conclusions that contribute to their own academic or professional endeavors.									2					
183	SIL	22UC0021 - SIL-1	CO1	Apply effective communication and collaboration skills to work with diverse populations in addressing social issues within the community.								3	3					2
184	SIL	22UC0021 - SIL-1	CO2	Build technological solutions to real-world problems or challenges with peers to achieve common goals.								3	3					2

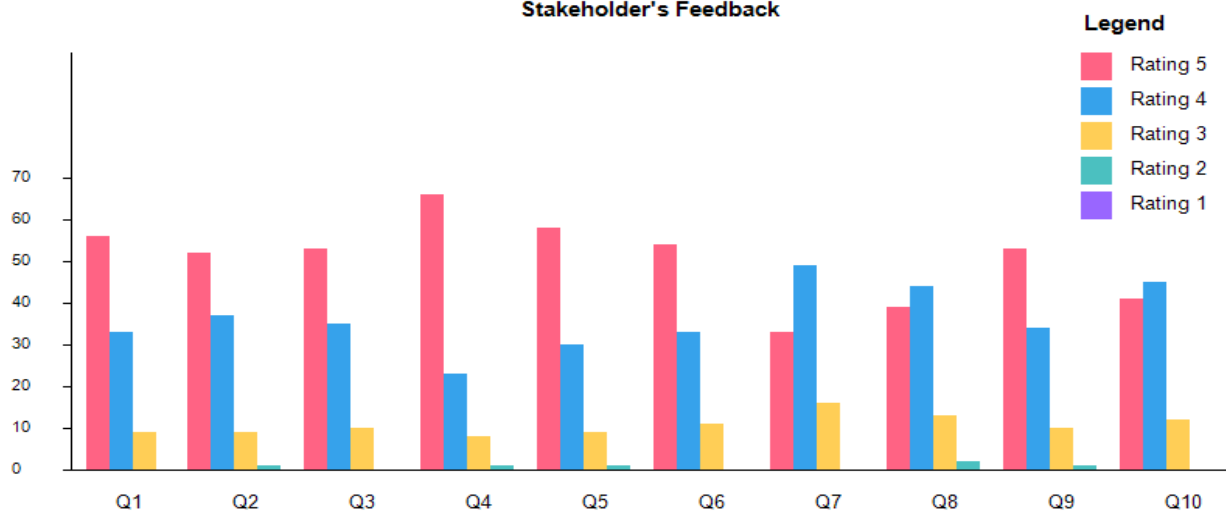
S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
185	SIL	22UC0021 - SIL-1	CO3	Plan effectively to communicate ideas and collaborate with others to achieve artistic or recreational goals.				3										2
186	SIL	22UC0021 - SIL-1	CO4	Develop innovative solutions by thinking critically and creatively within a collaborative social immersive learning environment.				3										2
187	SIL	22UC0021 - SIL-1	CO5	Identify the strategies to promote personal well-being for healthy living through social interaction and shared experiences.						3								2
188	SIL	22UC0022 - SIL-2	CO1	Apply effective communication and collaboration skills to work with diverse populations in addressing social issues within the community.								3	3					
189	SIL	22UC0022 - SIL-2	CO2	Build technological solutions to real-world problems or challenges with peers to achieve common goals.								3	3					
190	SIL	22UC0022 - SIL-2	CO3	Plan effectively to communicate ideas and collaborate with others to achieve artistic or recreational goals.			3					3	3					
191	SIL	22UC0022 - SIL-2	CO4	Develop innovative solutions by thinking critically and creatively within a collaborative social immersive learning environment.			3					3	3					3
192	SIL	22UC0022 - SIL-2	CO5	Identify the strategies to promote personal well-being for healthy living through social interaction and shared experiences.						3		3	3					
193	SIL	22UC0023 - SIL-3	CO1	Apply effective communication and collaboration skills to work with diverse populations in addressing social issues within the community.								3						

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
194	SIL	22UC0023 - SIL-3	CO2	Build technological solutions to real-world problems or challenges with peers to achieve common goals.								3						
195	SIL	22UC0023 - SIL-3	CO3	Plan effectively to communicate ideas and collaborate with others to achieve artistic or recreational goals.			3						3					
196	SIL	22UC0023 - SIL-3	CO4	Develop innovative solutions by thinking critically and creatively within a collaborative social immersive learning environment.			3						3					3
197	SIL	22UC0023 - SIL-3	CO5	Identify the strategies to promote personal well-being for healthy living through social interaction and shared experiences.			3			3			3					3
					2.1	2.1	2.5	2.5	2.2	2.7	2.4	2.5	2.5	2.6	2.5	3	2	2.2

Stakeholder's Feedback

Q#	Question	No. of Stakeholder's						Rating (%)				
		STU	ALU	IE	AP	FAC	TOT	[5]	[4]	[3]	[2]	[1]
Q1	How would you rate the relevance of the current syllabus content in addressing industry needs and trends?	565	236	170	163	662	1796	56.1	33.9	9.1	0.8	0
Q2	How well do the course outcomes align with the skills required in the industry?	565	236	170	163	662	1796	52.6	37.1	9.2	1	0.1
Q3	How would you rate the inclusion of emerging technologies or methodologies in the syllabus?	565	236	170	163	662	1796	53.8	35	10.2	0.9	0
Q4	How effectively are the latest tools integrated into the curriculum?	565	236	170	0	0	971	66.3	23.7	8.3	1.6	0
Q5	How beneficial are the global certifications included in the curriculum for industry readiness?	565	236	170	0	662	1633	58.5	30.4	9.7	1.2	0.1
Q6	How effectively does the curriculum incorporate practical lab experiments relevant to industry practices?	0	236	170	0	0	406	54.4	33.7	11.3	0.5	0
Q7	How does this curriculum compare with similar curricula at other institutions in terms of content and quality?	0	0	0	163	0	163	33.7	49.1	16.6	0.6	0
Q8	How effective is the integration of research opportunities into the curriculum?	0	0	0	163	662	825	39.3	44.7	13.8	2.2	0
Q9	How beneficial were the MOOCs recommended as part of the curriculum?	565	236	0	163	662	1626	53.5	34.7	10.8	1	0
Q10	How well does the course content map to skill council recommendations?	0	0	170	163	662	995	41.3	45.9	12.3	0.5	0

Stakeholder's Feedback



Our Campuses



Green Fields, Vaddeswaram.
Guntur District, A.P., India, Pincode : 522 302.



Aziznagar, Moinabad Road,
Near TS Police Academy, Hyderabad, Telangana,
India, Pincode : 500 075



Bowrampet, ALEAP Industrial Area,
Gajularamaram, Hyderabad, Telangana,
India, Pincode : 500 043



Plot No: 52 & 53, Jubilee Gardens Road No. 2,
Kothaguda, Kondapur, Hyderabad Telangana,
India, Pincode : 500 084



KLEF Deemed to be University

Admin. Office, 29-36-38, Museum Road, Governorpet, Vijayawada. A.P., India. Pincode: 520 002.