

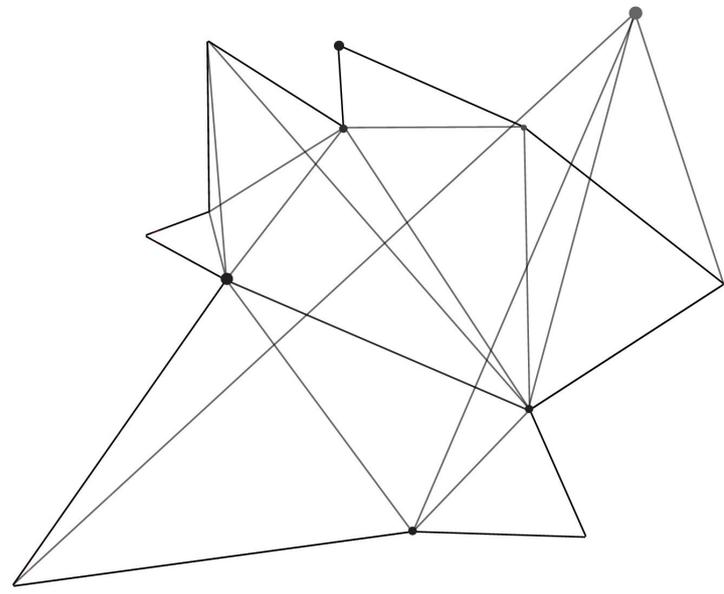


CATEGORY 1 UNIVERSITY
BY MHRD, Govt. of India

45 YEARS OF EDUCATIONAL LEADERSHIP

nir 2025 NATIONAL INSTITUTIONAL RANKING FRAMEWORK

RANKED 26
AMONG ALL UNIVERSITIES



BACHELOR OF TECHNOLOGY

ARTIFICIAL INTELLIGENCE & DATA SCIENCE

PROGRAM HANDBOOK

2025

For Students Admitted in
Academic Year 2025-26





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This Program Handbook is approved in
XLV Academic Council, dated: 20/08/2025

Dr. V. S. V. Prabhakar
BoS Chairman

Prof. Hari Kiran Vege
Dean (Addl.) Academics

Dr. K. Rajasekhara Rao
Pro-VC Academics

Dr. G.P.Saradhi Varma
Vice-Chancellor

Dr. K. Subba Rao
Registrar

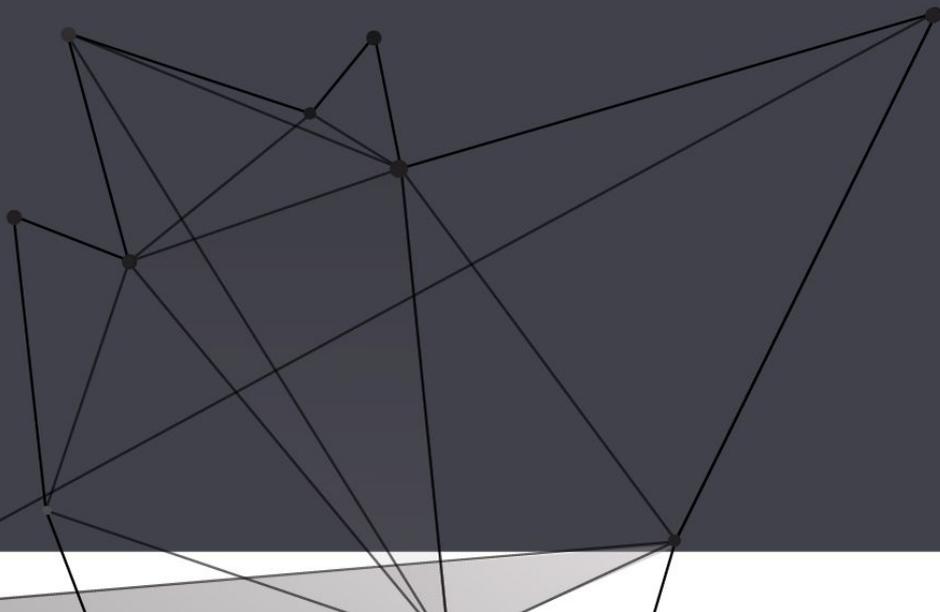


VISION

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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UNIVERSITY**

BY MHRD, Govt. of India

nirf
2025

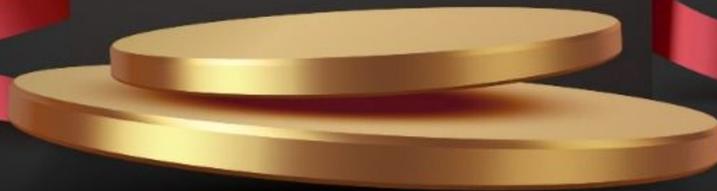
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AWARDS





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. K Rajasekhara Rao
Pro-Vice Chancellor

Dr. Kurra Rajasekhara Rao, Pro-Vice Chancellor is a professor of Computer Science and Engineering (C.S.E.) having more than 35 years of teaching and research as well as administrative experience. His current research interests include topics related to Embedded Systems, Software Engineering, Software Testing, Data Sciences, Image Processing and Knowledge Management. He has authored a book and has more than 240 research publications in various International/National Journals and Conferences. Dr. KRR is a recognized as 'Research Guide' in many reputed universities and 32 doctorates were awarded under his guidance till now.

Prior to this, he discharged duties in various organizations, as a Director, Usha Rama College of Engineering & Technology (Autonomous), Telaprolu, A.P, Director, Sri Prakash College of Engineering (SPCE), Tuni and as a faculty member in various positions in KLCE/K.L.University, Andhra Pradesh for over 20 years. He contributed as a Member in Board of Studies for CSE & IT, at various prestigious institutions like Acharya Nagarjuna University, Krishna University, Sree Vidyaniketan Engineering College, Tirupathi and Bapatla Engineering College, Bapatla. He extended his services to K.L. University as Member in Board of Management, Dean's Council, Academic Council, Standing Committee, Research Board & Board of Studies [CSE].

Dr. KRR's outstanding contributions have been honoured by various organizations. He received the "Patron Award" from Computer Society of India (CSI), India's prestigious professional society in the years 2011 (Ahmedabad) and 2020 (Bhubaneswar). Recognising his administrative capabilities, Association of Scientists, Developers and Faculties (ASDF) through Puducherry CM honoured him with the "Best Dean" award in the year 2012. He was felicitated with the "Aacharya Ratna" from Indian Servers, IMPACT and Lions Club in the year 2019. Received "Bhishmacharya" Award in 2022 by Bharath Educational Excellence Awards. He got honoured as "Global Faculty" by AKS Education awards in 2023 and "Lifetime Achievement Award" by AIMER Society for the year 2024.

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. He has served as Director of Audisankara group of institutions and Narayana Group of Institutions for 18 years and was instrumental in getting these institutions accredited by NAAC, NBA, Autonomous and gained many laurels from the State Government, JNTU etc. He has served as Pro-Vice Chancellor of KL University for 3 years.

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

ABOUT THE DEPARTMENT

Department of Artificial Intelligence & Data Science

The Department of Artificial Intelligence and Data Science (AI&DS) at KL University, established in 2020, is dedicated to shaping graduates with both a deep technical understanding and a capacity for leadership in AI and Data Science. Offering a robust, well-structured 4-year B. Tech program, the department equips students with essential skills for excelling in the fast-paced, technology-driven landscape.

Academic and Research Focus

The department prioritizes achieving global impact through innovative research and academic excellence. With a curriculum that integrates design-based learning, flexible specialization paths, and real-world applications, the department encourages students to tackle societal issues using AI. Collaborative and interdisciplinary research projects focus on areas like healthcare, environmental sustainability, and other pressing global challenges. Partnerships with industry and community initiatives further prepare students to apply their skills in solving contemporary problems.

Faculty Expertise

The AI&DS department boasts a large, experienced research faculty, with over 60% holding doctorates from prestigious Indian institutions. This blend of seasoned professionals and passionate educators actively engages in research, with faculty publishing regularly and mentoring students to reach academic and career milestones. Artificial Intelligence and Data Science is the largest research group in the university with more than 120 faculty. All the faculty of the Research group are involved in active research.

Student Opportunities

Students benefit from numerous career and research options, such as internships with leading tech companies, skill-building workshops, and semester-based design projects. Graduates have access to highly attractive placement opportunities in AI, Data Science, and even in core engineering sectors.

Department Achievements and Recognitions

In its early years, the department has achieved impressive milestones, including successful placements for its inaugural batch, with top salaries reaching up to 42 lakhs per annum. This success underscores the department's commitment to delivering quality education, hands-on training, and strong industry ties, positioning it as a premier destination for AI and Data Science education.

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- Project Research and Internship
- Open Elective Courses
- Value Added Courses
- Audit Courses

VISION

To be a globally recognized centre of excellence in AI & Data Science for sustainable industrial growth and societal transformation.

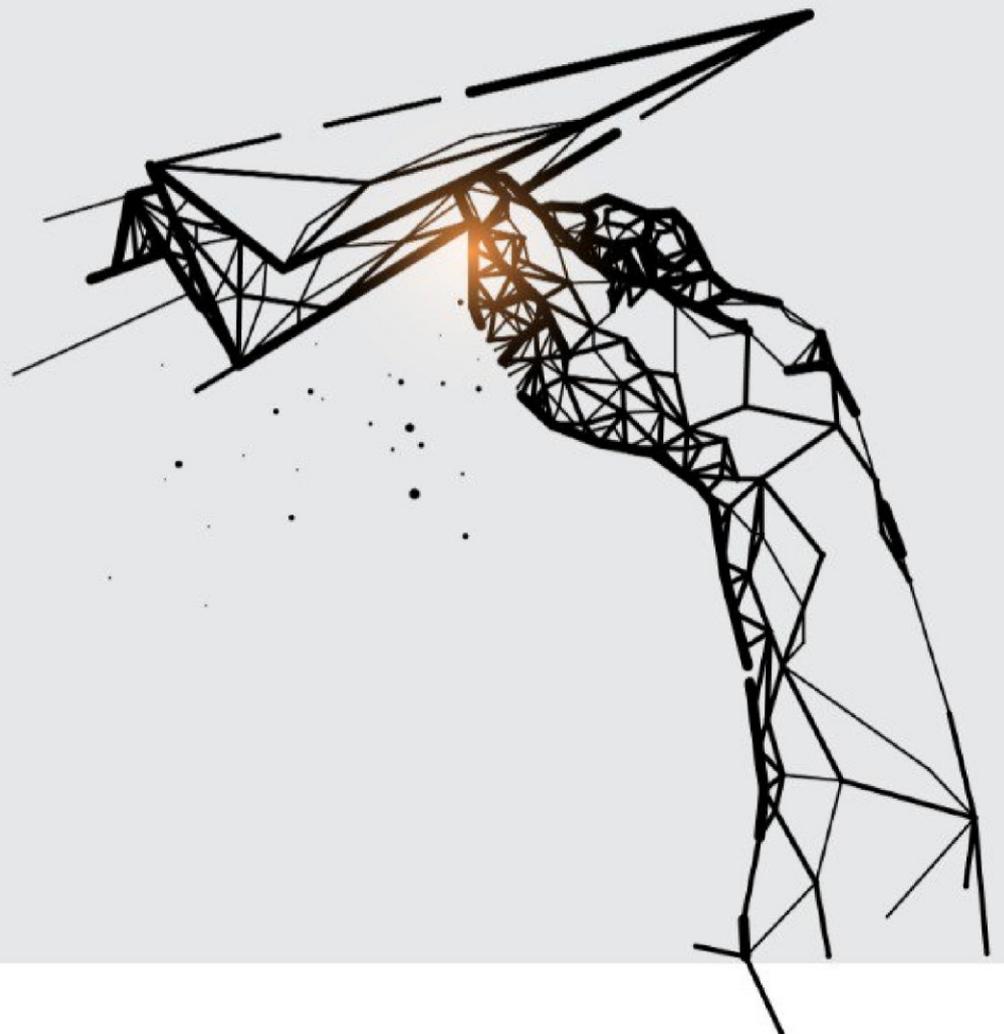
MISSION

To provide a holistic curriculum and conducive learning environment that cultivates analytical thinking, problem-solving, hands-on expertise, and a commitment to lifelong learning, shaping future-ready AI & Data Science professionals.

To foster Cutting-edge research and interdisciplinary collaborations, accelerating technological innovation in AI & Data Science.

To instil ethical AI practices, promoting responsible and sustainable technological advancements that contribute to industry growth and societal well-being.

To nurture entrepreneurial thinking, leadership skills. and industry collaborations, empowering graduates to become innovators, startup founders, and global AI leaders.





Y25: B.Tech. - Artificial Intelligence and Data Science

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
PO1	Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.
PO2	Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)
PO3	Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)
PO4	Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).
PO5	Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)
PO6	The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).
PO7	Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)
PO8	Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.
PO9	Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences
PO10	Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to ones own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.
PO11	Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)
PSO1	An ability to design and develop Artificial Intelligence technology into innovative products for solving real world problems.
PSO2	An ability to design and develop Data Science methods for analyzing massive datasets to extract insights by applying AI as a tool.
PSO3	An Ability to develop scalable, secure and ethical AI solutions for data-driven decision-making process optimization, and automation across domain.

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 and achieve the prescribed CGPA/SGPA, and fulfill the defined outcomes and targets outlined in the degree requirements.
- **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 and achieve the prescribed CGPA/SGPA, and fulfill the defined outcomes and targets outlined in the degree requirements.

- **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 and achieve the prescribed CGPA/SGPA, and fulfill the defined outcomes and targets outlined in the degree requirements.
- **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 and achieve the prescribed CGPA/SGPA, and fulfill the defined outcomes and targets outlined in the degree requirements.

Note: For the above-mentioned major flexibilities, if a student fails to meet the prescribed CGPA/SGPA requirements along with the specific outcome/targets outlined for the respective degree, at any point after registration, then they will lose their eligibility for the honors degree. In such cases, the student will be awarded only the regular B.Tech. Degree. However, a separate grade sheets will be issued, listing the additional courses successfully completed by the student.

Program Add-ons:

- **Specialization:** Specialization degree can be awarded if student completes five professional electives in the same track of his/her interest in addition to fulfilling all other degree requirements.
- **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. Students opting for an Honors degree are additionally required to complete one more global certification or value-added course in their chosen discipline.

- **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 2ndsemester) 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.
- **Peer Learning Mode:** Encourages collaborative learning, where students actively learn from and with each other through discussions, group projects, study circles, or mentoring activities. Credits are based on participation, contributions, and reflective documentation. This mode is suitable for students who thrive in interactive environments and value shared learning experiences.

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

- **Academic Excellence**
 - 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.
 - Students availing this option must demonstrate regular progress in their chosen work or activity, which will be periodically reviewed.
 - Students using the attendance waiver must participate in all assessments and evaluation components without being marked ineligible due to attendance-based regulations.

- **Sports Representation**

- Students officially representing the University at State, National, or International level sports events, shall be exempted from mandatory attendance requirements for the duration of their preparation and participation in recognized competitions.
- Student athletes must submit prior intimation, along with proof of participation and endorsement by the Director of Sports, for verification and academic coordination.

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.
- In cases where there is a clash between 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.

- 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.

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

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

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: 206

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	0.0	20.0	0	5	
12	HEC	HEC-CORE	20.0	20.0	5	5	
13	SDC	SDP-1	2.0	4.0	1	1	
14	SDC	SDP-2	2.0	4.0	1	1	
15	SDC	SDP-3	2.0	4.0	1	1	
16	SDC	SDP-4	2.0	4.0	1	1	
17	PEC	PE-1	4.0	4.0	1	1	
18	PEC	PE-2	3.0	3.0	1	1	
19	PEC	PE-3	3.5	3.5	1	1	
20	PEC	PE-4	3.0	3.0	1	1	
21	PEC	PE-5	3.0	3.0	1	1	
22	PRI	PRI-CORE	16.0	16.0	4	4	PROJECT
23	OEC	OE-1	3.0	3.0	1	1	
24	OEC	OE-2	3.0	3.0	1	1	
25	OEC	OE-3	3.0	3.0	1	1	
26	VAC	VAC-SPORTS	0.0	0.0	1	1	
27	VAC	VAC-CERT	0.0	0.0	4	4	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
28	AUC	AUC-CORE	0.0	0.0	4	4	
29	AUC	AUC-CAREER	0.0	0.0	1	1	
30	MIN	MIN-CORE	16.0	16.0	4	4	MINOR
31	MSDC	MIN-SDP	4.0	4.0	1	1	MINOR

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- No History of Backlogs.
- No History of Betterment.
- Minimum One Scopus Journal Publication.
- Minimum One Design Patent.
- Two Consultancy Projects.
- Additional 20 Credits must be from chosen minor degree.
- Must take up Capstone Project-1 and Capstone Project-2.

2. Honors through Experiential Learning with Double Major

a) Credit Requirement

Total Credit Required: 226

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	0.0	20.0	0	5	
12	HEC	HEC-CORE	20.0	20.0	5	5	
13	SDC	SDP-1	2.0	4.0	1	1	
14	SDC	SDP-2	2.0	4.0	1	1	
15	SDC	SDP-3	2.0	4.0	1	1	
16	SDC	SDP-4	2.0	4.0	1	1	
17	PEC	PE-1	4.0	6.0	1	1	
18	PEC	PE-2	3.0	3.0	1	1	
19	PEC	PE-3	3.5	5.5	1	1	
20	PEC	PE-4	3.0	3.0	1	1	
21	PEC	PE-5	3.0	3.0	1	1	
22	PRI	PRI-CORE	16.0	16.0	4	4	PROJECT
23	OEC	OE-1	3.0	3.0	1	1	
24	OEC	OE-2	3.0	3.0	1	1	
25	OEC	OE-3	3.0	3.0	1	1	
26	VAC	VAC-SPORTS	0.0	0.0	1	1	
27	VAC	VAC-CERT	0.0	0.0	4	4	
28	AUC	AUC-CORE	0.0	0.0	4	4	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	AUC	AUC-CAREER	0.0	0.0	1	1	
30	SMFC	SMFC-CORE	36.0	36.0	9	9	DOUBLE MAJOR
31	SMFC	SMFC-SDP	4.0	4.0	1	1	DOUBLE MAJOR

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- No History of Backlogs.
- No History of Betterment.
- Minimum One Scopus Journal Publication.
- Minimum One Design Patent.
- Two Consultancy Projects.
- Additional 40 Credits must be from selected second major degree.
- Must take up Capstone Project-1 and Capstone Project-2.

3. Honors through Experiential Learning with Specialization

a) Credit Requirement

Total Credit Required: 186

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	0.0	20.0	0	5	
12	HEC	HEC-CORE	20.0	20.0	5	5	
13	SDC	SDP-1	2.0	4.0	1	1	
14	SDC	SDP-2	2.0	4.0	1	1	
15	SDC	SDP-3	2.0	4.0	1	1	
16	SDC	SDP-4	2.0	4.0	1	1	
17	PEC	PE-1	4.0	6.0	1	1	SPECIALIZATION
18	PEC	PE-2	3.0	3.0	1	1	SPECIALIZATION
19	PEC	PE-3	3.5	5.5	1	1	SPECIALIZATION
20	PEC	PE-4	3.0	3.0	1	1	SPECIALIZATION
21	PEC	PE-5	3.0	3.0	1	1	SPECIALIZATION
22	PRI	PRI-CORE	16.0	16.0	4	4	PROJECT
23	OEC	OE-1	3.0	3.0	1	1	
24	OEC	OE-2	3.0	3.0	1	1	
25	OEC	OE-3	3.0	3.0	1	1	
26	VAC	VAC-SPORTS	0.0	0.0	1	1	
27	VAC	VAC-CERT	0.0	0.0	4	4	
28	AUC	AUC-CORE	0.0	0.0	4	4	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	AUC	AUC-CAREER	0.0	0.0	1	1	

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- No History of Backlogs.
- No History of Betterment.
- Minimum One Scopus Journal Publication.
- Minimum One Design Patents.
- Two Consultancy Projects.
- All professional elective credits must be from same chosen specialization.
- Must take up Capstone Project-1 and Capstone Project-2.

4. Honors through Experiential Learning with No Add-on**a) Credit Requirement****Total Credit Required: 186**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	0.0	20.0	0	5	
12	HEC	HEC-CORE	20.0	20.0	5	5	
13	SDC	SDP-1	2.0	4.0	1	1	
14	SDC	SDP-2	2.0	4.0	1	1	
15	SDC	SDP-3	2.0	4.0	1	1	
16	SDC	SDP-4	2.0	4.0	1	1	
17	PEC	PE-1	4.0	4.0	1	1	
18	PEC	PE-2	3.0	3.0	1	1	
19	PEC	PE-3	3.5	3.5	1	1	
20	PEC	PE-4	3.0	3.0	1	1	
21	PEC	PE-5	3.0	3.0	1	1	
22	PRI	PRI-CORE	16.0	16.0	4	4	PROJECT
23	OEC	OE-1	3.0	3.0	1	1	
24	OEC	OE-2	3.0	3.0	1	1	
25	OEC	OE-3	3.0	3.0	1	1	
26	VAC	VAC-SPORTS	0.0	0.0	1	1	
27	VAC	VAC-CERT	0.0	0.0	4	4	
28	AUC	AUC-CORE	0.0	0.0	4	4	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	AUC	AUC-CAREER	0.0	0.0	1	1	

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- No History of Backlogs.
- No History of Betterment.
- Minimum One Scopus Journal Publication.
- Minimum One Design Patent.
- Two Consultancy Projects.
- Must take up Capstone Project-1 and Capstone Project-2.

5. Honors through Innovation with Minor

a) Credit Requirement

Total Credit Required: 206

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	8.0	8.0	4	4	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	0.0	20.0	0	5	
12	HRC	HRC-CORE	0.0	0.0	0	0	
13	HIC	HIC-CORE	12.0	12.0	4	4	
14	HEC	HEC-CORE	0.0	20.0	0	5	
15	SDC	SDP-1	2.0	4.0	1	1	
16	SDC	SDP-2	2.0	4.0	1	1	
17	SDC	SDP-3	2.0	4.0	1	1	
18	SDC	SDP-4	2.0	4.0	1	1	
19	PEC	PE-1	4.0	4.0	1	1	
20	PEC	PE-2	3.0	3.0	1	1	
21	PEC	PE-3	3.5	3.5	1	1	
22	PEC	PE-4	3.0	3.0	1	1	
23	PEC	PE-5	3.0	3.0	1	1	
24	PRI	PRI-CORE	16.0	16.0	4	4	PROJECT
25	OEC	OE-1	3.0	3.0	1	1	
26	OEC	OE-2	3.0	3.0	1	1	
27	OEC	OE-3	3.0	3.0	1	1	
28	VAC	VAC-SPORTS	0.0	0.0	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	VAC	VAC-CERT	0.0	0.0	4	4	
30	AUC	AUC-CORE	0.0	0.0	4	4	
31	AUC	AUC-CAREER	0.0	0.0	1	1	
32	MIN	MIN-CORE	16.0	16.0	4	4	MINOR
33	MSDC	MIN-SDP	4.0	4.0	1	1	MINOR

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- No History of Backlogs.
- No History of Betterment.
- Minimum One Web of Science Journal Publications.
- Minimum Two Design Patents & One Utility Patent.
- LLP Establishment.
- Additional 20 credits must be from same chosen minor degree.
- Must take up Innovation Project-1 and Innovation Project-2.

6. Honors through Innovation with Double Major**a) Credit Requirement****Total Credit Required: 226**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	0.0	20.0	0	5	
12	HIC	HIC-CORE	12.0	12.0	4	4	
13	HEC	HEC-CORE	0.0	20.0	0	5	
14	SDC	SDP-1	2.0	4.0	1	1	
15	SDC	SDP-2	2.0	4.0	1	1	
16	SDC	SDP-3	2.0	4.0	1	1	
17	SDC	SDP-4	2.0	4.0	1	1	
18	PEC	PE-1	4.0	6.0	1	1	
19	PEC	PE-2	3.0	3.0	1	1	
20	PEC	PE-3	3.5	5.5	1	1	
21	PEC	PE-4	3.0	3.0	1	1	
22	PEC	PE-5	3.0	3.0	1	1	
23	PRI	PRI-CORE	16.0	16.0	4	4	PROJECT
24	OEC	OE-1	3.0	3.0	1	1	
25	OEC	OE-2	3.0	3.0	1	1	
26	OEC	OE-3	3.0	3.0	1	1	
27	VAC	VAC-SPORTS	0.0	0.0	1	1	
28	VAC	VAC-CERT	0.0	0.0	4	4	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	AUC	AUC-CORE	0.0	0.0	4	4	
30	AUC	AUC-CAREER	0.0	0.0	1	1	
31	SMFC	SMFC-CORE	36.0	36.0	9	9	DOUBLE MAJOR
32	SMFC	SMFC-SDP	4.0	4.0	1	1	DOUBLE MAJOR

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- No History of Backlogs.
- No History of Betterment.
- Minimum One Web of Science Journal Publications.
- Minimum Two Design Patents & One Utility Patent.
- LLP Establishment.
- Additional 40 Credits must be from selected second major degree.
- Must take up Innovation Project-1 and Innovation Project-2.

7. Honors through Innovation with Specialization

a) Credit Requirement

Total Credit Required: 186

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	0.0	20.0	0	5	
12	HRC	HRC-CORE	0.0	0.0	0	0	
13	HIC	HIC-CORE	12.0	12.0	4	4	
14	HEC	HEC-CORE	0.0	20.0	0	5	
15	SDC	SDP-1	2.0	4.0	1	1	
16	SDC	SDP-2	2.0	4.0	1	1	
17	SDC	SDP-3	2.0	4.0	1	1	
18	SDC	SDP-4	2.0	4.0	1	1	
19	PEC	PE-1	4.0	6.0	1	1	SPECIALIZATION
20	PEC	PE-2	3.0	3.0	1	1	SPECIALIZATION
21	PEC	PE-3	3.5	5.5	1	1	SPECIALIZATION
22	PEC	PE-4	3.0	3.0	1	1	SPECIALIZATION
23	PEC	PE-5	3.0	3.0	1	1	SPECIALIZATION
24	PRI	PRI-CORE	16.0	16.0	4	4	PROJECT
25	OEC	OE-1	3.0	3.0	1	1	
26	OEC	OE-2	3.0	3.0	1	1	
27	OEC	OE-3	3.0	3.0	1	1	
28	VAC	VAC-SPORTS	0.0	0.0	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	VAC	VAC-CERT	0.0	0.0	4	4	
30	AUC	AUC-CORE	0.0	0.0	4	4	
31	AUC	AUC-CAREER	0.0	0.0	1	1	

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- 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 professional elective credits must be from same chosen specialization.
- Must take up Innovation Project-1 and Innovation Project-2.

8. Honors through Innovation with No Add-on**a) Credit Requirement****Total Credit Required: 186**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	0.0	20.0	0	5	
12	HRC	HRC-CORE	0.0	0.0	0	0	
13	HIC	HIC-CORE	12.0	12.0	4	4	
14	HEC	HEC-CORE	0.0	20.0	0	5	
15	SDC	SDP-1	2.0	4.0	1	1	
16	SDC	SDP-2	2.0	4.0	1	1	
17	SDC	SDP-3	2.0	4.0	1	1	
18	SDC	SDP-4	2.0	4.0	1	1	
19	PEC	PE-1	4.0	4.0	1	1	
20	PEC	PE-2	3.0	3.0	1	1	
21	PEC	PE-3	3.5	3.5	1	1	
22	PEC	PE-4	3.0	3.0	1	1	
23	PEC	PE-5	3.0	3.0	1	1	
24	PRI	PRI-CORE	16.0	16.0	4	4	PROJECT
25	OEC	OE-1	3.0	3.0	1	1	
26	OEC	OE-2	3.0	3.0	1	1	
27	OEC	OE-3	3.0	3.0	1	1	
28	VAC	VAC-SPORTS	0.0	0.0	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	VAC	VAC-CERT	0.0	0.0	4	4	
30	AUC	AUC-CORE	0.0	0.0	4	4	
31	AUC	AUC-CAREER	0.0	0.0	1	1	

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- No History of Backlogs.
- No History of Betterment.
- Minimum One Web of Science Journal Publications.
- Minimum Two Design Patents & One Utility Patent.
- LLP Establishment.
- Must take up Innovation Project-1 and Innovation Project-2.

9. Honors through Research with Minor

a) Credit Requirement

Total Credit Required: 206

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	0.0	20.0	0	5	
12	HRC	HRC-CORE	12.0	12.0	4	4	
13	HIC	HIC-CORE	0.0	0.0	0	0	
14	HEC	HEC-CORE	0.0	20.0	0	5	
15	SDC	SDP-1	2.0	4.0	1	1	
16	SDC	SDP-2	2.0	4.0	1	1	
17	SDC	SDP-3	2.0	4.0	1	1	
18	SDC	SDP-4	2.0	4.0	1	1	
19	PEC	PE-1	4.0	4.0	1	1	
20	PEC	PE-2	3.0	3.0	1	1	
21	PEC	PE-3	3.5	3.5	1	1	
22	PEC	PE-4	3.0	3.0	1	1	
23	PEC	PE-5	3.0	3.0	1	1	
24	PRI	PRI-CORE	16.0	16.0	4	4	PROJECT
25	OEC	OE-1	3.0	3.0	1	1	
26	OEC	OE-2	3.0	3.0	1	1	
27	OEC	OE-3	3.0	3.0	1	1	
28	VAC	VAC-SPORTS	0.0	0.0	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	VAC	VAC-CERT	0.0	0.0	4	4	
30	AUC	AUC-CORE	0.0	0.0	4	4	
31	AUC	AUC-CAREER	0.0	0.0	1	1	
32	MIN	MIN-CORE	16.0	16.0	4	4	MINOR
33	MSDC	MIN-SDP	4.0	4.0	1	1	MINOR

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- No History of Backlogs.
- No History of Betterment.
- Minimum Three Web of Science Journal Publications.
- Minimum One Design Patent.
- Additional 20 credits must be from same chosen minor degree.
- Must take up Research Seminar, Term paper, Research Project-1 and Research Project-2.

10. Honors through Research with Double Major**a) Credit Requirement****Total Credit Required: 226**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	0.0	20.0	0	5	
12	HRC	HRC-CORE	12.0	12.0	4	4	
13	HIC	HIC-CORE	0.0	0.0	0	0	
14	HEC	HEC-CORE	0.0	20.0	0	5	
15	SDC	SDP-1	2.0	4.0	1	1	
16	SDC	SDP-2	2.0	4.0	1	1	
17	SDC	SDP-3	2.0	4.0	1	1	
18	SDC	SDP-4	2.0	4.0	1	1	
19	PEC	PE-1	4.0	4.0	1	1	
20	PEC	PE-2	3.0	3.0	1	1	
21	PEC	PE-3	3.5	5.5	1	1	
22	PEC	PE-4	3.0	3.0	1	1	
23	PEC	PE-5	3.0	3.0	1	1	
24	PRI	PRI-CORE	16.0	16.0	4	4	PROJECT
25	OEC	OE-1	3.0	3.0	1	1	
26	OEC	OE-2	3.0	3.0	1	1	
27	OEC	OE-3	3.0	3.0	1	1	
28	VAC	VAC-SPORTS	0.0	0.0	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	VAC	VAC-CERT	0.0	0.0	4	4	
30	AUC	AUC-CORE	0.0	0.0	4	4	
31	AUC	AUC-CAREER	0.0	0.0	1	1	
32	SMFC	SMFC-CORE	36.0	36.0	9	9	DOUBLE MAJOR
33	SMFC	SMFC-SDP	4.0	4.0	1	1	DOUBLE MAJOR

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- No History of Backlogs.
- No History of Betterment.
- Minimum Three Web of Science Journal Publications.
- Minimum One Design Patent.
- Additional 40 Credits must be from selected second major degree.
- Must take up Research Seminar, Term Paper, Research Project-1 and Research Project-2.

11. Honors through Research with Specialization**a) Credit Requirement****Total Credit Required: 186**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	0.0	20.0	0	5	
12	HRC	HRC-CORE	12.0	12.0	4	4	
13	HEC	HEC-CORE	0.0	20.0	0	5	
14	SDC	SDP-1	2.0	4.0	1	1	
15	SDC	SDP-2	2.0	4.0	1	1	
16	SDC	SDP-3	2.0	4.0	1	1	
17	SDC	SDP-4	2.0	4.0	1	1	
18	PEC	PE-1	4.0	6.0	1	1	SPECIALIZATION
19	PEC	PE-2	3.0	3.0	1	1	SPECIALIZATION
20	PEC	PE-3	3.5	5.5	1	1	SPECIALIZATION
21	PEC	PE-4	3.0	3.0	1	1	SPECIALIZATION
22	PEC	PE-5	3.0	3.0	1	1	SPECIALIZATION
23	PRI	PRI-CORE	16.0	16.0	4	4	PROJECT
24	OEC	OE-1	3.0	3.0	1	1	
25	OEC	OE-2	3.0	3.0	1	1	
26	OEC	OE-3	3.0	3.0	1	1	
27	VAC	VAC-SPORTS	0.0	0.0	1	1	
28	VAC	VAC-CERT	0.0	0.0	3	3	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	AUC	AUC-CORE	0.0	0.0	4	4	
30	AUC	AUC-CAREER	0.0	0.0	1	1	

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- No History of Backlogs.
- No History of Betterment.
- Minimum Three Web of Science Journal Publications.
- Minimum One Design Patent.
- All professional elective credits must be from same chosen specialization.
- Must take up Research Seminar, Term Paper, Research Project-1 and Research Project-2.

12. Honors through Research with No Add-on**a) Credit Requirement****Total Credit Required: 186**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	0.0	20.0	0	5	
12	HRC	HRC-CORE	12.0	12.0	4	4	
13	HIC	HIC-CORE	0.0	0.0	0	0	
14	HEC	HEC-CORE	0.0	20.0	0	5	
15	SDC	SDP-1	2.0	4.0	1	1	
16	SDC	SDP-2	2.0	4.0	1	1	
17	SDC	SDP-3	2.0	4.0	1	1	
18	SDC	SDP-4	2.0	4.0	1	1	
19	PEC	PE-1	4.0	4.0	1	1	
20	PEC	PE-2	3.0	3.0	1	1	
21	PEC	PE-3	3.5	3.5	1	1	
22	PEC	PE-4	3.0	3.0	1	1	
23	PEC	PE-5	3.0	3.0	1	1	
24	PRI	PRI-CORE	16.0	16.0	4	4	PROJECT
25	OEC	OE-1	3.0	3.0	1	1	
26	OEC	OE-2	3.0	3.0	1	1	
27	OEC	OE-3	3.0	3.0	1	1	
28	VAC	VAC-SPORTS	0.0	0.0	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	VAC	VAC-CERT	0.0	0.0	4	4	
30	AUC	AUC-CORE	0.0	0.0	4	4	
31	AUC	AUC-CAREER	0.0	0.0	1	1	

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- No History of Backlogs.
- No History of Betterment.
- Minimum Three Web of Science Journal Publications.
- Minimum One Design Patent.
- Must take up Research Seminar, Term Paper, Research Project-1 and Research Project-2.

13. Honors with Minor**a) Credit Requirement****Total Credit Required: 206**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	12.0	20.0	3	5	
12	HRC	HRC-CORE	0.0	0.0	0	0	
13	HIC	HIC-CORE	0.0	0.0	0	0	
14	HEC	HEC-CORE	0.0	0.0	0	0	
15	SDC	SDP-1	2.0	2.0	1	1	
16	SDC	SDP-2	2.0	2.0	1	1	
17	SDC	SDP-3	2.0	2.0	1	1	
18	SDC	SDP-4	2.0	2.0	1	1	
19	PEC	PE-1	4.0	4.0	1	1	
20	PEC	PE-2	3.0	3.0	1	1	
21	PEC	PE-3	3.5	3.5	1	1	
22	PEC	PE-4	3.0	3.0	1	1	
23	PEC	PE-5	3.0	3.0	1	1	
24	PRI	PRI-CORE	16.0	16.0	4	4	
25	OEC	OE-1	3.0	3.0	1	1	
26	OEC	OE-2	3.0	3.0	1	1	
27	OEC	OE-3	3.0	3.0	1	1	
28	VAC	VAC-SPORTS	0.0	0.0	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	VAC	VAC-CERT	0.0	0.0	4	4	
30	AUC	AUC-CORE	0.0	0.0	4	4	
31	AUC	AUC-CAREER	0.0	0.0	1	1	
32	MIN	MIN-CORE	16.0	16.0	4	4	MINOR
33	MSDC	MIN-SDP	4.0	4.0	1	1	MINOR

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- No History of Backlogs.
- No History of Betterment.
- Minimum one Scopus Journal Publication.
- Additional 20 credits must be from same chosen minor degree.

14. Honors with Double Major**a) Credit Requirement****Total Credit Required: 226**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	12.0	20.0	3	5	
12	HRC	HRC-CORE	0.0	0.0	0	0	
13	HIC	HIC-CORE	0.0	0.0	0	0	
14	HEC	HEC-CORE	0.0	0.0	0	0	
15	SDC	SDP-1	2.0	2.0	1	1	
16	SDC	SDP-2	2.0	2.0	1	1	
17	SDC	SDP-3	2.0	2.0	1	1	
18	SDC	SDP-4	2.0	2.0	1	1	
19	PEC	PE-1	4.0	6.0	1	1	
20	PEC	PE-2	3.0	3.0	1	1	
21	PEC	PE-3	3.5	5.5	1	1	
22	PEC	PE-4	3.0	3.0	1	1	
23	PEC	PE-5	3.0	3.0	1	1	
24	PRI	PRI-CORE	16.0	16.0	4	4	
25	OEC	OE-1	3.0	3.0	1	1	
26	OEC	OE-2	3.0	3.0	1	1	
27	OEC	OE-3	3.0	3.0	1	1	
28	VAC	VAC-SPORTS	0.0	0.0	1	1	

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
29	VAC	VAC-CERT	0.0	0.0	4	4	
30	AUC	AUC-CORE	0.0	0.0	4	4	
31	AUC	AUC-CAREER	0.0	0.0	1	1	
32	SMFC	SMFC-CORE	36.0	36.0	9	9	DOUBLE MAJOR
33	SMFC	SMFC-SDP	4.0	4.0	1	1	DOUBLE MAJOR

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- No History of Backlogs.
- No History of Betterment.
- Minimum one Scopus Journal Publication.
- Additional 40 Credits must be from selected second major degree.

15. Honors with Specialization**a) Credit Requirement****Total Credit Required: 186**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	12.0	20.0	3	5	
12	SDC	SDP-1	2.0	2.0	1	1	
13	SDC	SDP-2	2.0	2.0	1	1	
14	SDC	SDP-3	2.0	2.0	1	1	
15	SDC	SDP-4	2.0	2.0	1	1	
16	PEC	PE-1	4.0	6.0	1	1	SPECIALIZATION
17	PEC	PE-2	3.0	3.0	1	1	SPECIALIZATION
18	PEC	PE-3	3.5	5.5	1	1	SPECIALIZATION
19	PEC	PE-4	3.0	3.0	1	1	SPECIALIZATION
20	PEC	PE-5	3.0	3.0	1	1	SPECIALIZATION
21	PRI	PRI-CORE	16.0	16.0	4	4	
22	OEC	OE-1	3.0	3.0	1	1	
23	OEC	OE-2	3.0	3.0	1	1	
24	OEC	OE-3	3.0	3.0	1	1	
25	VAC	VAC-SPORTS	0.0	0.0	1	1	
26	VAC	VAC-CERT	0.0	0.0	3	3	
27	AUC	AUC-CORE	0.0	0.0	4	4	
28	AUC	AUC-CAREER	0.0	0.0	1	1	

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- No History of Backlogs.
- No History of Betterment.
- Minimum one Scopus Journal Publication.
- All professional elective credits must be from same chosen specialization.

16. Honors with No Add-on**a) Credit Requirement****Total Credit Required: 186**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	56.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	HFC	HFC-CORE	12.0	20.0	3	5	
12	SDC	SDP-1	2.0	2.0	1	1	
13	SDC	SDP-2	2.0	2.0	1	1	
14	SDC	SDP-3	2.0	2.0	1	1	
15	SDC	SDP-4	2.0	2.0	1	1	
16	PEC	PE-1	4.0	4.0	1	1	
17	PEC	PE-2	3.0	3.0	1	1	
18	PEC	PE-3	3.5	3.5	1	1	
19	PEC	PE-4	3.0	3.0	1	1	
20	PEC	PE-5	3.0	3.0	1	1	
21	PRI	PRI-CORE	16.0	16.0	4	4	
22	OEC	OE-1	3.0	3.0	1	1	
23	OEC	OE-2	3.0	3.0	1	1	
24	OEC	OE-3	3.0	3.0	1	1	
25	VAC	VAC-SPORTS	0.0	0.0	1	1	
26	VAC	VAC-CERT	0.0	0.0	3	3	
27	AUC	AUC-CORE	0.0	0.0	4	4	
28	AUC	AUC-CAREER	0.0	0.0	1	1	

b) Outcome Requirement

- Minimum CGPA 8.25.
- Additional 20 credits through extra courses from the Honors category, courses in advanced or experiential mode, or a combination of both.
- No History of Backlogs.
- No History of Betterment.
- Minimum one Scopus Journal Publication.

17. No Flexibility with Minor**a) Credit Requirement****Total Credit Required: 186**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	40.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	SDC	SDP-1	2.0	2.0	1	1	
12	SDC	SDP-2	2.0	2.0	1	1	
13	SDC	SDP-3	2.0	2.0	1	1	
14	SDC	SDP-4	2.0	2.0	1	1	
15	PEC	PE-1	4.0	4.0	1	1	
16	PEC	PE-2	3.0	3.0	1	1	
17	PEC	PE-3	3.5	3.5	1	1	
18	PEC	PE-4	3.0	3.0	1	1	
19	PEC	PE-5	3.0	3.0	1	1	
20	PRI	PRI-CORE	16.0	16.0	4	4	
21	OEC	OE-1	3.0	3.0	1	1	
22	OEC	OE-2	3.0	3.0	1	1	
23	OEC	OE-3	3.0	3.0	1	1	
24	VAC	VAC-SPORTS	0.0	0.0	1	1	
25	VAC	VAC-CERT	0.0	0.0	3	3	
26	AUC	AUC-CORE	0.0	0.0	4	4	
27	MIN	MIN-CORE	16.0	16.0	4	4	MINOR
28	MSDC	MIN-SDP	4.0	4.0	1	1	MINOR

b) Outcome Requirement

- Minimum CGPA 6.75.
- Additional 20 credits must be from same chosen minor degree.

18. No Flexibility with Double Major**a) Credit Requirement****Total Credit Required: 206**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	40.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	SDC	SDP-1	2.0	2.0	1	1	
12	SDC	SDP-2	2.0	2.0	1	1	
13	SDC	SDP-3	2.0	2.0	1	1	
14	SDC	SDP-4	2.0	2.0	1	1	
15	PEC	PE-1	4.0	4.0	1	1	
16	PEC	PE-2	3.0	3.0	1	1	
17	PEC	PE-3	3.5	3.5	1	1	
18	PEC	PE-4	3.0	3.0	1	1	
19	PEC	PE-5	3.0	3.0	1	1	
20	PRI	PRI-CORE	16.0	16.0	4	4	
21	OEC	OE-1	3.0	3.0	1	1	
22	OEC	OE-2	3.0	3.0	1	1	
23	OEC	OE-3	3.0	3.0	1	1	
24	VAC	VAC-SPORTS	0.0	0.0	1	1	
25	VAC	VAC-CERT	0.0	0.0	3	3	
26	AUC	AUC-CORE	0.0	0.0	4	4	
27	SMFC	SMFC-CORE	36.0	36.0	9	9	DOUBLE MAJOR
28	SMFC	SMFC-SDP	4.0	4.0	1	1	DOUBLE MAJOR

b) Outcome Requirement

- Minimum CGPA 7.75.
- Additional 40 Credits must be from selected second major degree.

19. No Flexibility with Specialization**a) Credit Requirement****Total Credit Required: 166**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	40.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	SDC	SDP-1	2.0	2.0	1	1	
12	SDC	SDP-2	2.0	2.0	1	1	
13	SDC	SDP-3	2.0	2.0	1	1	
14	SDC	SDP-4	2.0	2.0	1	1	
15	PEC	PE-1	4.0	4.0	1	1	SPECIALIZATION
16	PEC	PE-2	3.0	3.0	1	1	SPECIALIZATION
17	PEC	PE-3	3.5	3.5	1	1	SPECIALIZATION
18	PEC	PE-4	3.0	3.0	1	1	SPECIALIZATION
19	PEC	PE-5	3.0	3.0	1	1	SPECIALIZATION
20	PRI	PRI-CORE	16.0	16.0	4	4	
21	OEC	OE-1	3.0	3.0	1	1	
22	OEC	OE-2	3.0	3.0	1	1	
23	OEC	OE-3	3.0	3.0	1	1	
24	VAC	VAC-SPORTS	0.0	0.0	1	1	
25	VAC	VAC-CERT	0.0	0.0	3	3	
26	AUC	AUC-CORE	0.0	0.0	4	4	

b) Outcome Requirement

- Minimum CGPA 6.75.
- All professional elective credits must be from same chosen specialization.

20. No Flexibility with No Add-on**a) Credit Requirement****Total Credit Required: 166**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	10.0	10.0	6	6	
2	HAS	HAS-FLE	3.0	3.0	1	1	
3	HAS	HAS-MGE	3.0	3.0	1	1	
4	BSC	BSC-CORE	16.0	16.0	4	4	
5	BSC	BSC-SE-1	4.0	8.0	1	1	
6	BSC	BSC-SE-2	4.0	8.0	1	1	
7	ESC	ESC-CORE	30.5	30.5	8	8	
8	PCC	PCC-CORE	40.0	40.0	10	10	
9	FCC	FC-1	3.0	3.0	1	1	
10	FCC	FC-2	3.0	3.0	1	1	
11	SDC	SDP-1	2.0	2.0	1	1	
12	SDC	SDP-2	2.0	2.0	1	1	
13	SDC	SDP-3	2.0	2.0	1	1	
14	SDC	SDP-4	2.0	2.0	1	1	
15	PEC	PE-1	4.0	4.0	1	1	
16	PEC	PE-2	3.0	3.0	1	1	
17	PEC	PE-3	3.5	3.5	1	1	
18	PEC	PE-4	3.0	3.0	1	1	
19	PEC	PE-5	3.0	3.0	1	1	
20	PRI	PRI-CORE	16.0	16.0	4	4	
21	OEC	OE-1	3.0	3.0	1	1	
22	OEC	OE-2	3.0	3.0	1	1	
23	OEC	OE-3	3.0	3.0	1	1	
24	VAC	VAC-SPORTS	0.0	0.0	1	1	
25	VAC	VAC-CERT	0.0	0.0	3	3	
26	AUC	AUC-CORE	0.0	0.0	4	4	

b) Outcome Requirement

- Minimum CGPA 5.25.

Program Structure

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	HAS	HAS-CORE	25UC1203	DESIGN THINKING FOR INNOVATION	R	DTI	0	0	4	0	2	4	
2	HAS	HAS-CORE	25UC1204	COMMUNICATION SKILLS FOR ENGINEERS	R	CSE	0	0	4	0	2	4	
3	HAS	HAS-CORE	25UC1102	LANGUAGE SKILLS FOR ENGINEERS	R	LSE	0	0	4	0	2	4	
4	HAS	HAS-CORE	25UC0026	HUMAN VALUES, GENDER EQUALITY AND PROFESSIONAL ETHICS	R	UHV	2	0	0	0	2	2	
5	HAS	HAS-CORE	25UC0021	SOCIAL IMMERSIVE LEARNING	R	SIL-1	0	0	2	0	1	2	
6	HAS	HAS-CORE	25UC0022	SOCIAL IMMERSIVE LEARNING	R	SIL-2	0	0	2	0	1	2	
7	HAS	HAS-FLE	25FL3064	KOREAN LANGUAGE	R	KLK	3	0	0	0	3	3	
8	HAS	HAS-FLE	25FL3054	FRENCH LANGUAGE	R	FLG	3	0	0	0	3	3	
9	HAS	HAS-FLE	25FL3055	GERMAN LANGUAGE	R	GLG	3	0	0	0	3	3	
10	HAS	HAS-FLE	25FL3058	JAPANESE LANGUAGE	R	JLG	3	0	0	0	3	3	
11	HAS	HAS-MGE	25MB4068	FINANCIAL MANAGEMENT FOR ENGINEERS	R	FMFE	3	0	0	0	3	3	
12	HAS	HAS-MGE	25MB4053	MANAGING PERSONAL FINANCE	R	MPF	3	0	0	0	3	3	
13	HAS	HAS-MGE	25MB4055	ORGANIZATION MANAGEMENT	R	OMG	3	0	0	0	3	3	
14	HAS	HAS-MGE	25MB4231	DIGITAL MARKETING	R	DMK	3	0	0	0	3	3	
15	HAS	HAS-MGE	25MB4054	BASICS OF MARKETING FOR ENGINEERS	R	BME	3	0	0	0	3	3	
16	HAS	HAS-MGE	25MB4056	PARADIGMS IN MANAGEMENT THOUGHT	R	PMT	3	0	0	0	3	3	
17	HAS	HAS-MGE	25MB4058	SIX SIGMA YELLOW BELT	R	SSYB	3	0	0	0	3	3	
18	HAS	HAS-MGE	25MB4060	FINTECH:FINANCE INDUSTRY TRANSFORMATION AND REGULATION	R	FINT	3	0	0	0	3	3	
19	HAS	HAS-MGE	25MB4070	SUSTAINABILITY LEADERSHIP AND STRATEGIC IMPACT	R	SLSI	3	0	0	0	3	3	
20	HAS	HAS-MGE	25MB4071	RESOURCE SAFETY AND QUALITY MANAGEMENT	R	RSQM	3	0	0	0	3	3	
21	HAS	HAS-MGE	25MB4072	INVESTEMENT, PORTFOLIO THEORY AND BEHAVIOURAL FINANCE	R	IPTBF	3	0	2	0	4	5	
22	HAS	HAS-MGE	25MB4073	INNOVATION MANAGEMENT	R	IM	3	0	0	0	3	3	
23	BSC	BSC-CORE	25MT2019	PROBABILITY AND STATISTICS	R	PNS	2	2	0	0	4	4	
24	BSC	BSC-CORE	25MT2004	MATHEMATICAL OPTMIZATION	R	MTO	2	2	0	0	4	4	
25	BSC	BSC-CORE	25MT1001	LINEAR ALGEBRA AND CALCULUS FOR ENGINEERS	R	LCE	2	2	0	0	4	4	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
26	BSC	BSC-CORE	25MT1002	DISCRETE MATHEMATICS	R	DMS	2	2	0	0	4	4	
27	BSC	BSC-SE-1	25CY1001	ENGINEERING CHEMISTRY	R	SCE2	3	0	2	0	4	5	
28	BSC	BSC-SE-2	25PH1005	ENGINEERING PHYSICS	R	SCE1	3	0	2	0	4	5	
29	ESC	ESC-CORE	25SC1101	PROBLEM SOLVING THROUGH C	R	PSTC	3	0	2	4	5	9	
30	ESC	ESC-CORE	25EC1101	BASIC ELECTRICAL AND ELECTRONIC CIRCUITS	R	BEEC	3	0	2	0	4	5	
31	ESC	ESC-CORE	25EC1102	DIGITAL SYSTEM DESIGN	R	DSD	3	0	2	0	4	5	
32	ESC	ESC-CORE	25SC1203	DATA STRUCTURES	R	DST	3	0	2	4	5	9	
33	ESC	ESC-CORE	25SC2007	PYTHON PROGRAMMING	R	PP	2	0	2	0	3	4	
34	ESC	ESC-CORE	25ME1103	DESIGN TOOLS WORKSHOP	R	DTW	0	0	4	0	2	4	DTI(1) Rule:1
35	ESC	ESC-CORE	25SC2006	OBJECT ORIENTED PROGRAMMING	R	OOP	3	0	2	2	4.5	7	
36	ESC	ESC-CORE	25EC1203	FUNDAMENTALS OF IOT AND SENSORS	R	FIS	2	0	2	0	3	4	
37	PCC	PCC-CORE	25CS2101	OPERATING SYSTEMS	R	OST	3	0	2	0	4	5	
38	PCC	PCC-CORE	25CS2204	CLOUD INFRASTRUCTURE AND SERVICES	R	CIS	3	0	2	2	4.5	7	
39	PCC	PCC-CORE	25CS2203	DESIGN AND ANALYSIS OF ALGORITHMS	R	DAA	3	0	2	2	4.5	7	
40	PCC	PCC-CORE	25AD2001	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	R	AIML	3	0	2	0	4	5	
41	PCC	PCC-CORE	25AD2103	DATABASE MANAGEMENT SYSTEMS	R	DBMS	3	0	2	0	4	5	
42	PCC	PCC-CORE	25EC1204	COMPUTER ORGANIZATION AND ARCHITECTURE	R	COA	3	0	0	0	3	3	
43	PCC	PCC-CORE	25AD2204	APPLIED MACHINE LEARNING	R	AML	3	0	2	0	4	5	
44	PCC	PCC-CORE	25AD3105	DEEP LEARNING	R	DL	3	0	2	0	4	5	
45	PCC	PCC-CORE	25AD2102	DATA SCIENCE AND VISUALIZATION	R	DSV	3	0	2	0	4	5	
46	PCC	PCC-CORE	25AD3206	BIG DATA ANALYTICS	R	BDA	3	0	2	0	4	5	
47	FCC	FC-1	25CS2264F	GAME SYSTEMS DESIGN AND DEVELOPMENT	F	GSDD	2	0	2	0	3	4	
48	FCC	FC-1	25BT2233F	GENETICS	F	GN	2	1	0	0	3	3	
49	FCC	FC-1	25EC2223F	FUNDAMENTALS OF ROBOTICS	R	FR	2	0	2	0	3	4	
50	FCC	FC-1	25CS2237F	QUANTUM COMPUTING	F	QC	2	0	2	0	3	4	
51	FCC	FC-1	25CS2224F	CRYPT ANALYSIS AND CYBER DEFENCE	F	CACD	2	0	2	0	3	4	
52	HFC	HFC-CORE	25IN2101	IOT SYSTEM DESIGN	R	IOTSD	3	0	2	0	4	5	

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53	HFC	HFC-CORE	25EC2210	NETWORK PROTOCOLS AND SECURITY	R	NPS	3	0	2	0	4	5	
54	HFC	HFC-CORE	25CS06HF	ADVANCED DATA STRUCTURES	R	ADS	3	0	2	0	4	5	
55	HFC	HFC-CORE	25AD02HF	GENERATIVE AI	R	GAI	3	0	2	0	4	5	
56	HFC	HFC-CORE	25CS2253HF	PARALLEL AND DISTRIBUTED COMPUTING	R	PDC	3	0	2	0	4	5	
57	HFC	HFC-CORE	25CS04HF	AUTOMATA THEORY AND FORMAL LANGUAGES	R	AFL	3	0	2	0	4	5	
58	HFC	HFC-CORE	25CS05HF	GAME DEVELOPMENT AND UX DESIGN	R	GDU	3	0	2	0	4	5	
59	HFC	HFC-CORE	25AD03HF	GRAPH NEURAL NETWORKS	R	GNN	3	0	2	0	4	5	
60	HFC	HFC-CORE	25AD04HF	ARTIFICIAL NEURAL NETWORKS	R	ANN	3	0	2	0	4	5	
61	HFC	HFC-CORE	25AD05HF	META LEARNING	R	MEL	3	0	2	0	4	5	
62	HFC	HFC-CORE	25AD06HF	AGENTIC AI	R	AAI	3	0	2	0	4	5	
63	HFC	HFC-CORE	25CS08HF	CV USING OPENCV	R	CVO	3	0	2	0	4	5	
64	HFC	HFC-CORE	25AD07HF	LARGE LANGUAGE MODELS	R	LLM	3	0	2	0	4	5	
65	HFC	HFC-CORE	25AD08HF	EXPLAINABLE AI	R	EAI	3	0	2	0	4	5	
66	HFC	HFC-CORE	25AD09HF	SOCIAL AND DIGITAL MEDIA ANALYTICS	R	SDM	3	0	2	0	4	5	
67	HFC	HFC-CORE	25CS09HF	AGILE SOFTWARE ENGINEERING	R	ASE	3	0	2	0	4	5	
68	HFC	HFC-CORE	25ACI3507HF	REINFORCEMENT LEARNING	R	RL	3	0	2	0	4	5	
69	HFC	HFC-CORE	25CS07HF	MERN STACK	R	MSH	3	0	2	0	4	5	
70	HRC	HRC-CORE	25IE01RF	INDEPENDENT STUDY & RESEARCH	R	ISR	2	0	2	0	3	4	
71	HRC	HRC-CORE	25IE02RF	RESEARCH METHODOLOGY, ETHICS & SCIENTIFIC WRITING	R	RMESW	2	0	2	0	3	4	
72	HRC	HRC-CORE	25IE03RF	RESEARCH SEMINAR	R	RS	2	0	2	0	3	4	
73	HRC	HRC-CORE	25IE04RF	TERM PAPER	R	TP	2	0	2	0	3	4	
74	HIC	HIC-CORE	25DT01IF	ENTREPRENEURAL TECHNOLOGY DEVELOPMENT AND PROTOTYPING	E	ETDP	2	0	2	0	3	4	
75	HIC	HIC-CORE	25DT02IF	PROBLEM DEFINITION AND VALIDATION	E	PDV	2	0	2	0	3	4	
76	HIC	HIC-CORE	25DT03IF	PRODUCT DESIGN AND PROTOTYPE VALIDATION	E	PDPV	2	0	2	0	3	4	
77	HIC	HIC-CORE	25DT04IF	SCALABLE SOLUTION DEVELOPMENT	E	SSD	2	0	2	0	3	4	
78	HEC	HEC-CORE	25CS01EF	PYTHON FULL STACK DEVELOPMENT	E	PFSD	3	0	2	0	4	5	

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79	HEC	HEC-CORE	25CS02EF	OPEN SOURCE ENGINEERING	E	OSE	3	0	2	0	4	5	
80	HEC	HEC-CORE	25CS03EF	VISUAL PROGRAMMING	E	VPG	3	0	2	0	4	5	
81	HEC	HEC-CORE	25CS04EF	MOBILE APPLICATION DEVELOPMENT	E	MAD	3	0	2	0	4	5	
82	HEC	HEC-CORE	25CS05EF	SCALABLE ARCHITECTURES FOR SOFTWARE DESIGN	E	SASD	3	0	2	0	4	5	
83	HEC	HEC-CORE	25CS07EF	AUTONOMOUS PLANNING & NAVIGATION	E	APN	3	0	2	0	4	5	
84	HEC	HEC-CORE	25CS08EF	PERCEPTION & COMPUTER VISION IN AUTONOMOUS SYSTEMS	E	PCVAS	3	0	2	0	4	5	
85	HEC	HEC-CORE	25CS09EF	VEHICULAR NETWORKS AND SECURED COMMUNICATION	E	VNSC	3	0	2	0	4	5	
86	HEC	HEC-CORE	25CS10EF	SYSTEM INTEGRATION AND VALIDATION OF AUTONOMOUS SYSTEMS	E	SIVAS	3	0	2	0	4	5	
87	HEC	HEC-CORE	25DLA3101EF	BLOCKCHAIN SYSTEMS AND DISTRIBUTED LEDGER FOUNDATIONS	R	BSDLF	3	0	2	0	4	5	
88	HEC	HEC-CORE	25DLA3505EF	PRIVACY, COMPLIANCE AND DECENTRALISED SECURITY ENGINEERING	R	PCDSE	3	0	2	0	4	5	
89	SDC	SDP-1	25SDCS01	FRONT END DEVELOPMENT FRAMEWORKS	R	FEDF	1	0	0	4	2	5	
90	SDC	SDP-2	25SDCS02	FULL STACK APPLICATION DEVELOPMENT	R	FSAD	1	0	0	4	2	5	
91	SDC	SDP-3	25SDAD03	MACHINE LEARNING OPERATIONS	R	MLOPSD	3	0	2	0	4	5	
92	SDC	SDP-4	25SDCS04	WEB3 WITH BLOCKCHAIN	R	WEB3	1	0	0	4	2	5	
93	PEC	PE-1	25CEC3101	CLOUD INFRASTRUCTURE AND SERVICES	R	CIS	3	0	2	0	4	5	
94	PEC	PE-1	25GDU3101A	PROGRAMMING FOR GAME DEVELOPMENT	A	PGD	4	1	2	0	6	7	
95	PEC	PE-1	25GDU3101E	PROGRAMMING FOR GAME DEVELOPMENT	E	PGD	4	1	2	0	6	7	
96	PEC	PE-1	25GDU3101	PROGRAMMING FOR GAME DEVELOPMENT	R	PGD	3	0	2	0	4	5	
97	PEC	PE-1	25SCI3101A	SPATIAL DATA VISUALIZATION	A	SDV	4	1	2	0	6	7	
98	PEC	PE-1	25SCI3101E	SPATIAL DATA VISUALIZATION	E	SDV	4	1	2	0	6	7	
99	PEC	PE-1	25SCI3101	SPATIAL DATA VISUALIZATION	R	SDV	3	0	2	0	4	5	
100	PEC	PE-1	25DSE3101A	DATA ANALYTICS & VISUALIZATION	A	DAV	4	1	2	0	6	7	
101	PEC	PE-1	25DSE3101E	DATA ANALYTICS & VISUALIZATION	E	DAV	4	1	2	0	6	7	
102	PEC	PE-1	25DSE3101	DATA ANALYTICS & VISUALIZATION	R	DAV	3	0	2	0	4	5	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
103	PEC	PE-1	25DLS3101A	STREAMING DATA ARCHITECTURES & FRAMEWORKS	A	SDAF	4	1	2	0	6	7	
104	PEC	PE-1	25DLS3101E	STREAMING DATA ARCHITECTURES & FRAMEWORKS	E	SDAF	4	1	2	0	6	7	
105	PEC	PE-1	25DLS3101	STREAMING DATA ARCHITECTURES & FRAMEWORKS	R	SDAF	3	0	2	0	4	5	
106	PEC	PE-1	25AEC3101A	EDGE AI HARDWARE ARCHITECTURES & ACCELERATION	A	EHA	4	1	2	0	6	7	
107	PEC	PE-1	25AEC3101E	EDGE AI HARDWARE ARCHITECTURES & ACCELERATION	E	EHA	4	1	2	0	6	7	
108	PEC	PE-1	25AEC3101	EDGE AI HARDWARE ARCHITECTURES & ACCELERATION	R	EHA	3	0	2	0	4	5	
109	PEC	PE-1	25AAS3101A	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	A	ADAS	4	1	2	0	6	7	
110	PEC	PE-1	25AAS3101E	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	E	ADAS	4	1	2	0	6	7	
111	PEC	PE-1	25AAS3101	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	R	ADAS	3	0	2	0	4	5	
112	PEC	PE-1	25ACI3101A	GENERATIVE ADVERSARIAL NETWORKS	A	GANWS	4	1	2	0	6	7	
113	PEC	PE-1	25ACI3101E	GENERATIVE ADVERSARIAL NETWORKS	E	GANWS	4	1	2	0	6	7	
114	PEC	PE-1	25ACI3101	GENERATIVE ADVERSARIAL NETWORKS	R	GANWS	3	0	2	0	4	5	
115	PEC	PE-1	25AVI3101A	DEEP LEARNING	A	DL	4	1	2	0	6	7	
116	PEC	PE-1	25AVI3101E	DEEP LEARNING	E	DL	4	1	2	0	6	7	
117	PEC	PE-1	25AVI3101	DEEP LEARNING	R	DL	3	0	2	0	4	5	
118	PEC	PE-1	25ADE3101A	EDGE COMPUTING FUNDAMENTALS	A	ECF	4	1	2	0	6	7	
119	PEC	PE-1	25ADE3101E	EDGE COMPUTING FUNDAMENTALS	E	ECF	4	1	2	0	6	7	
120	PEC	PE-1	25ADE3101	EDGE COMPUTING FUNDAMENTALS	R	ECF	3	0	2	0	4	5	
121	PEC	PE-1	25ALT3101A	APPLIED MACHINE LEARNING FOR TEXT ANALYSIS	A	AMLFTA	4	1	2	0	6	7	
122	PEC	PE-1	25ALT3101E	APPLIED MACHINE LEARNING FOR TEXT ANALYSIS	E	AMLFTA	4	1	2	0	6	7	
123	PEC	PE-1	25ALT3101	APPLIED MACHINE LEARNING FOR TEXT ANALYSIS	R	AMLFTA	3	0	2	0	4	5	
124	PEC	PE-1	25HDA3101A	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	A	ISDPDD	4	1	2	0	6	7	
125	PEC	PE-1	25HDA3101E	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	E	ISDPDD	4	1	2	0	6	7	
126	PEC	PE-1	25HDA3101	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	R	ISDPDD	3	0	2	0	4	5	

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127	PEC	PE-1	25GMI3101A	PRINCIPLES OF DEEP NEURAL COMPUTATION	A	PDNC	4	1	2	0	6	7	
128	PEC	PE-1	25GMI3101E	PRINCIPLES OF DEEP NEURAL COMPUTATION	E	PDNC	4	1	2	0	6	7	
129	PEC	PE-1	25GMI3101	PRINCIPLES OF DEEP NEURAL COMPUTATION	R	PDNC	3	0	2	0	4	5	
130	PEC	PE-1	25BEW3101A	INTRODUCTION TO BLOCKCHAIN TECHNOLOGY, CRYPTOCURRENCIES AND TOKENS	A	IBCTCCT	4	1	2	0	6	7	
131	PEC	PE-1	25BEW3101E	INTRODUCTION TO BLOCKCHAIN TECHNOLOGY, CRYPTOCURRENCIES AND TOKENS	E	IBCTCCT	4	1	2	0	6	7	
132	PEC	PE-1	25BEW3101	INTRODUCTION TO BLOCKCHAIN TECHNOLOGY, CRYPTOCURRENCIES AND TOKENS	R	IBCTCCT	3	0	2	0	4	5	
133	PEC	PE-1	25CNE3101A	FOUNDATIONS OF CLOUD NATIVE COMPUTING	A	FCNC	4	1	2	0	6	7	
134	PEC	PE-1	25CNE3101E	FOUNDATIONS OF CLOUD NATIVE COMPUTING	E	FCNC	4	1	2	0	6	7	
135	PEC	PE-1	25CNE3101	FOUNDATIONS OF CLOUD NATIVE COMPUTING	R	FCNC	3	0	2	0	4	5	
136	PEC	PE-1	25CID3101A	CLOUD INFRASTRUCTURE ENGINEERING	A	CIE	4	1	2	0	6	7	
137	PEC	PE-1	25CID3101E	CLOUD INFRASTRUCTURE ENGINEERING	E	CIE	4	1	2	0	6	7	
138	PEC	PE-1	25CID3101	CLOUD INFRASTRUCTURE ENGINEERING	R	CIE	3	0	2	0	4	5	
139	PEC	PE-1	25CNS3101A	INTRODUCTION TO CLOUD NATIVE COMPUTING	A	ITCNC	4	1	2	0	6	7	
140	PEC	PE-1	25CNS3101E	INTRODUCTION TO CLOUD NATIVE COMPUTING	E	ITCNC	4	1	2	0	6	7	
141	PEC	PE-1	25CNS3101	INTRODUCTION TO CLOUD NATIVE COMPUTING	R	ITCNC	3	0	2	0	4	5	
142	PEC	PE-1	25CSC3101A	FUNDAMENTALS OF CLOUD-BASED SCIENTIFIC COMPUTING	A	FCS	4	1	2	0	6	7	
143	PEC	PE-1	25CSC3101E	FUNDAMENTALS OF CLOUD-BASED SCIENTIFIC COMPUTING	E	FCS	4	1	2	0	6	7	
144	PEC	PE-1	25CSC3101	FUNDAMENTALS OF CLOUD-BASED SCIENTIFIC COMPUTING	R	FCS	3	0	2	0	4	5	
145	PEC	PE-1	25CPD3101A	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	A	FMAD	4	1	2	0	6	7	
146	PEC	PE-1	25CPD3101E	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	E	FMAD	4	1	2	0	6	7	
147	PEC	PE-1	25CPD3101	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	R	FMAD	3	0	2	0	4	5	
148	PEC	PE-1	25CSB3101A	CRYPT ANALYSIS & CYBER DEFENSE	A	CACD	4	1	2	0	6	7	

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149	PEC	PE-1	25CSB3101E	CRYPT ANALYSIS & CYBER DEFENSE	E	CACD	4	1	2	0	6	7	
150	PEC	PE-1	25CSB3101	CRYPT ANALYSIS & CYBER DEFENSE	R	CACD	3	0	2	0	4	5	
151	PEC	PE-1	25DEA3101A	FUNDAMENTALS OF DATA ENGINEERING	A	FDE	4	1	2	0	6	7	
152	PEC	PE-1	25DEA3101E	FUNDAMENTALS OF DATA ENGINEERING	E	FDE	4	1	2	0	6	7	
153	PEC	PE-1	25DEA3101	FUNDAMENTALS OF DATA ENGINEERING	R	FDE	3	0	2	0	4	5	
154	PEC	PE-1	25DSB3101A	DATA ANALYTICS AND VISUALIZATION	A	DAV	4	1	2	0	6	7	
155	PEC	PE-1	25DSB3101E	DATA ANALYTICS AND VISUALIZATION	E	DAV	4	1	2	0	6	7	
156	PEC	PE-1	25DSB3101	DATA ANALYTICS AND VISUALIZATION	R	DAV	3	0	2	0	4	5	
157	PEC	PE-1	25DLA3101A	BLOCKCHAIN SYSTEMS AND DISTRIBUTED LEDGER FOUNDATIONS	A	SNTSA	4	1	2	0	6	7	
158	PEC	PE-1	25DLA3101E	BLOCKCHAIN SYSTEMS AND DISTRIBUTED LEDGER FOUNDATIONS	E	SNTSA	4	1	2	0	6	7	
159	PEC	PE-1	25DLA3101	BLOCKCHAIN SYSTEMS AND DISTRIBUTED LEDGER FOUNDATIONS	R	SNTSA	3	0	2	0	4	5	
160	PEC	PE-1	25HSS3101A	INTRODUCTION TO HARDWARE-SOFTWARE CO-DESIGN	A	ITHSCD	4	1	2	0	6	7	
161	PEC	PE-1	25HSS3101E	INTRODUCTION TO HARDWARE-SOFTWARE CO-DESIGN	E	ITHSCD	4	1	2	0	6	7	
162	PEC	PE-1	25HSS3101	INTRODUCTION TO HARDWARE-SOFTWARE CO-DESIGN	R	ITHSCD	3	0	2	0	4	5	
163	PEC	PE-1	25SMD3101A	SOFTWARE VERIFICATION & VALIDATION	A	SVV	4	1	2	0	6	7	
164	PEC	PE-1	25SMD3101E	SOFTWARE VERIFICATION & VALIDATION	E	SVV	4	1	2	0	6	7	
165	PEC	PE-1	25SMD3101	SOFTWARE VERIFICATION & VALIDATION	R	SVV	3	0	2	0	4	5	
166	PEC	PE-1	25AAS3102A	AI AND CONTROLS FOR AUTONOMUS FUTURE TRANSPORT	A	AICAFT	4	1	2	0	6	7	
167	PEC	PE-1	25AAS3102E	AI AND CONTROLS FOR AUTONOMUS FUTURE TRANSPORT	E	AICAFT	4	1	2	0	6	7	
168	PEC	PE-1	25AAS3102	AI AND CONTROLS FOR AUTONOMUS FUTURE TRANSPORT	R	AICAFT	3	0	2	0	4	5	
169	PEC	PE-1	25AAS3112A	ECU DESIGN FOR AUTONOMOUS SYSTEMS	A	EDAS	4	1	2	0	6	7	
170	PEC	PE-1	25AAS3112E	ECU DESIGN FOR AUTONOMOUS SYSTEMS	E	EDAS	4	1	2	0	6	7	

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171	PEC	PE-1	25AAS3112	ECU DESIGN FOR AUTONOMOUS SYSTEMS	R	EDAS	3	0	2	0	4	5	
172	PEC	PE-1	25IGD3101A	GAME DEVELOPMENT WITH UNREAL ENGINE (C++)	A	GDUE	4	1	2	0	6	7	
173	PEC	PE-1	25IGD3101E	GAME DEVELOPMENT WITH UNREAL ENGINE (C++)	E	GDUE	4	1	2	0	6	7	
174	PEC	PE-1	25IGD3101	GAME DEVELOPMENT WITH UNREAL ENGINE (C++)	R	GDUE	3	0	2	0	4	5	
175	PEC	PE-1	25IGD3102A	GAME DEVELOPMENT WITH UNITY ENGINE (C#)	A	GDUN	4	1	2	0	6	7	
176	PEC	PE-1	25IGD3102E	GAME DEVELOPMENT WITH UNITY ENGINE (C#)	E	GDUN	4	1	2	0	6	7	
177	PEC	PE-1	25IGD3102	GAME DEVELOPMENT WITH UNITY ENGINE (C#)	R	GDUN	3	0	2	0	4	5	
178	PEC	PE-1	25CND3101A	CLOUD-NATIVE APPLICATION DEVELOPMENT & CONTAINER ORCHESTRATION	A	CNAD	4	1	2	0	6	7	
179	PEC	PE-1	25CND3101E	CLOUD-NATIVE APPLICATION DEVELOPMENT & CONTAINER ORCHESTRATION	E	CNAD	4	1	2	0	6	7	
180	PEC	PE-1	25CND3101	CLOUD-NATIVE APPLICATION DEVELOPMENT & CONTAINER ORCHESTRATION	R	CNAD	3	0	2	0	4	5	
181	PEC	PE-1	25GSD3101A	GREEN SOFTWARE ENGINEERING	A	GSE	4	1	2	0	6	7	
182	PEC	PE-1	25GSD3101E	GREEN SOFTWARE ENGINEERING	E	GSE	4	1	2	0	6	7	
183	PEC	PE-1	25GSD3101	GREEN SOFTWARE ENGINEERING	R	GSE	3	0	2	0	4	5	
184	PEC	PE-1	25HCA3101A	MULTI-MODAL INFORMATION PROCESSING	A	MMIP	4	1	2	0	6	7	
185	PEC	PE-1	25HCA3101E	MULTI-MODAL INFORMATION PROCESSING	E	MMIP	4	1	2	0	6	7	
186	PEC	PE-1	25HCA3101	MULTI-MODAL INFORMATION PROCESSING	R	MMIP	3	0	2	0	4	5	
187	PEC	PE-1	25CTI3102A	MALWARE ANALYSIS & REVERSE ENGINEERING	A	MARE	4	1	2	0	6	7	
188	PEC	PE-1	25CTI3102E	MALWARE ANALYSIS & REVERSE ENGINEERING	E	MARE	4	1	2	0	6	7	
189	PEC	PE-1	25CTI3102	MALWARE ANALYSIS & REVERSE ENGINEERING	R	MARE	3	0	2	0	4	5	
190	PEC	PE-1	25CTI3101A	DIGITAL FORENSICS & INCIDENT RESPONSE	A	DFIR	4	1	2	0	6	7	
191	PEC	PE-1	25CTI3101E	DIGITAL FORENSICS & INCIDENT RESPONSE	E	DFIR	4	1	2	0	6	7	
192	PEC	PE-1	25CTI3101	DIGITAL FORENSICS & INCIDENT RESPONSE	R	DFIR	3	0	2	0	4	5	

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193	PEC	PE-1	25ABT3101A	BIOSENSORS AND BIOELECTRONICS	A	BSBE	4	1	2	0	6	7	
194	PEC	PE-1	25ABT3101E	BIOSENSORS AND BIOELECTRONICS	E	BSBE	4	1	2	0	6	7	
195	PEC	PE-1	25ABT3101	BIOSENSORS AND BIOELECTRONICS	R	BSBE	3	0	2	0	4	5	
196	PEC	PE-1	25CAC3101A	GPU PROGRAMMING & HARDWARE ACCELERATION FOR AI & HPC	A	GPAH	4	1	2	0	6	7	
197	PEC	PE-1	25CAC3101E	GPU PROGRAMMING & HARDWARE ACCELERATION FOR AI & HPC	E	GPAH	4	1	2	0	6	7	
198	PEC	PE-1	25CAC3101	GPU PROGRAMMING & HARDWARE ACCELERATION FOR AI & HPC	R	GPAH	3	0	2	0	4	5	
199	PEC	PE-1	25AEA3101A	AUTOMOTIVE SENSOR AND APPLICATIONS	A	ASA	4	1	2	0	6	7	
200	PEC	PE-1	25AEA3101E	AUTOMOTIVE SENSOR AND APPLICATIONS	E	ASA	4	1	2	0	6	7	
201	PEC	PE-1	25AEA3101	AUTOMOTIVE SENSOR AND APPLICATIONS	R	ASA	3	0	2	0	4	5	
202	PEC	PE-1	25WLT3101A	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	A	4GW	4	1	2	0	6	7	
203	PEC	PE-1	25WLT3101E	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	E	4GW	4	1	2	0	6	7	
204	PEC	PE-1	25WLT3101	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	R	4GW	3	0	2	0	4	5	
205	PEC	PE-1	25AEE3101A	AUTOMOBILE ENGINEERING	A	AEG	4	1	2	0	6	7	
206	PEC	PE-1	25AEE3101E	AUTOMOBILE ENGINEERING	E	AEG	4	1	2	0	6	7	
207	PEC	PE-1	25AEE3101	AUTOMOBILE ENGINEERING	R	AEG	3	0	2	0	4	5	
208	PEC	PE-1	25WRE3101A	ADVANCED FOUNDATION ENGINEERING	A	AFE	4	1	2	0	6	7	
209	PEC	PE-1	25WRE3101E	ADVANCED FOUNDATION ENGINEERING	E	AFE	4	1	2	0	6	7	
210	PEC	PE-1	25WRE3101	ADVANCED FOUNDATION ENGINEERING	R	AFE	3	0	2	0	4	5	
211	PEC	PE-1	25BIS3101A	MOLECULAR MODELLING AND DRUG DESIGN	A	MMDD	4	1	2	0	6	7	
212	PEC	PE-1	25BIS3101E	MOLECULAR MODELLING AND DRUG DESIGN	E	MMDD	4	1	2	0	6	7	
213	PEC	PE-1	25BIS3101	MOLECULAR MODELLING AND DRUG DESIGN	R	MMDD	3	0	2	0	4	5	
214	PEC	PE-1	25VLS3101A	ANALOG VLSI DESIGN	A	AVD	4	1	2	0	6	7	
215	PEC	PE-1	25VLS3101E	ANALOG VLSI DESIGN	E	AVD	4	1	2	0	6	7	
216	PEC	PE-1	25VLS3101	ANALOG VLSI DESIGN	R	AVD	3	0	2	0	4	5	
217	PEC	PE-1	25STE3101A	ADVANCED CONCRETE TECHNOLOGY	A	ACT	4	1	2	0	6	7	

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218	PEC	PE-1	25STE3101E	ADVANCED CONCRETE TECHNOLOGY	E	ACT	4	1	2	0	6	7	
219	PEC	PE-1	25STE3101	ADVANCED CONCRETE TECHNOLOGY	R	ACT	3	0	2	0	4	5	
220	PEC	PE-1	25CPS3101A	IOT SENSING AND ACTUATING DEVICES	A	ISAD	4	1	2	0	6	7	
221	PEC	PE-1	25CPS3101E	IOT SENSING AND ACTUATING DEVICES	E	ISAD	4	1	2	0	6	7	
222	PEC	PE-1	25CPS3101	IOT SENSING AND ACTUATING DEVICES	R	ISAD	3	0	2	0	4	5	
223	PEC	PE-1	25SGT3101A	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	A	DERSG	3	1	2	0	5	6	
224	PEC	PE-1	25SGT3101E	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	E	DERSG	4	1	2	0	6	7	
225	PEC	PE-1	25SGT3101	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	R	DERSG	3	0	2	0	4	5	
226	PEC	PE-1	25DCM3101A	TCP/IP AND OTHER PROTOCOL SUITE	A	TCP	4	1	2	0	6	7	
227	PEC	PE-1	25DCM3101E	TCP/IP AND OTHER PROTOCOL SUITE	E	TCP	4	1	2	0	6	7	
228	PEC	PE-1	25DCM3101	TCP/IP AND OTHER PROTOCOL SUITE	R	TCP	3	0	2	0	4	5	
229	PEC	PE-1	25EDS3101A	ADVANCED EMBEDDED SYSTEMS	A	AES	4	1	2	0	6	7	
230	PEC	PE-1	25EDS3101E	ADVANCED EMBEDDED SYSTEMS	E	AES	4	1	2	0	6	7	
231	PEC	PE-1	25EDS3101	ADVANCED EMBEDDED SYSTEMS	R	AES	3	0	2	0	4	5	
232	PEC	PE-1	25EME3101A	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	A	PTDEV	4	1	2	0	6	7	
233	PEC	PE-1	25EME3101E	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	E	PTDEV	4	1	2	0	6	7	
234	PEC	PE-1	25EME3101	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	R	PTDEV	3	0	2	0	4	5	
235	PEC	PE-1	25RAN3102A	ADVANCED ROBOTICS	A	AR	4	1	2	0	6	7	
236	PEC	PE-1	25RAN3102E	ADVANCED ROBOTICS	E	AR	4	1	2	0	6	7	
237	PEC	PE-1	25RAN3102	ADVANCED ROBOTICS	R	AR	3	0	2	0	4	5	
238	PEC	PE-1	25RAN3101A	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	A	RMPDC	4	1	2	0	6	7	
239	PEC	PE-1	25RAN3101E	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	E	RMPDC	4	1	2	0	6	7	
240	PEC	PE-1	25RAN3101	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	R	RMPDC	3	0	2	0	4	5	
241	PEC	PE-1	25EGD3101A	ADVANCED STRENGTH OF MATERIALS	A	ASM	4	1	2	0	6	7	

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242	PEC	PE-1	25EGD3101E	ADVANCED STRENGTH OF MATERIALS	E	ASM	4	1	2	0	6	7	
243	PEC	PE-1	25EGD3101	ADVANCED STRENGTH OF MATERIALS	R	ASM	3	0	2	0	4	5	
244	PEC	PE-1	25QTS3101A	QUANTUM COMPUTATION : CIRCUITS, ALGORITHMS & FAULT TOLERANCE	A	QCCAFT	4	1	2	0	6	7	
245	PEC	PE-1	25QTS3101E	QUANTUM COMPUTATION : CIRCUITS, ALGORITHMS & FAULT TOLERANCE	E	QCCAFT	4	1	2	0	6	7	
246	PEC	PE-1	25QTS3101	QUANTUM COMPUTATION : CIRCUITS, ALGORITHMS & FAULT TOLERANCE	R	QCCAFT	3	0	2	0	4	5	
247	PEC	PE-1	25MBT3101A	STEM CELL TECHNOLOGY	A	SCT	4	1	2	0	6	7	
248	PEC	PE-1	25MBT3101E	STEM CELL TECHNOLOGY	E	SCT	4	1	2	0	6	7	
249	PEC	PE-1	25MBT3101	STEM CELL TECHNOLOGY	R	SCT	3	0	2	0	4	5	
250	PEC	PE-1	25BMI3101A	BIOMEDICAL SIGNAL AND IMAGE PROCESSING	A	BSIP	4	1	2	0	6	7	
251	PEC	PE-1	25BMI3101E	BIOMEDICAL SIGNAL AND IMAGE PROCESSING	E	BSIP	4	1	2	0	6	7	
252	PEC	PE-1	25BMI3101	BIOMEDICAL SIGNAL AND IMAGE PROCESSING	R	BSIP	3	0	2	0	4	5	
253	PEC	PE-1	25GAM3101A	NATURAL LANGUAGE PROCESSING AND APPLICATIONS	A	NLPA	4	1	2	0	6	7	
254	PEC	PE-1	25GAM3101E	NATURAL LANGUAGE PROCESSING AND APPLICATIONS	E	NLPA	4	1	2	0	6	7	
255	PEC	PE-1	25GAM3101	NATURAL LANGUAGE PROCESSING AND APPLICATIONS	R	NLPA	3	0	2	0	4	5	
256	PEC	PE-1	25RFM3101A	MICROWAVE ENGINEERING	A	ME	4	1	2	0	6	7	
257	PEC	PE-1	25RFM3101E	MICROWAVE ENGINEERING	E	ME	4	1	2	0	6	7	
258	PEC	PE-1	25RFM3101	MICROWAVE ENGINEERING	R	ME	3	0	2	0	4	5	
259	PEC	PE-1	25QCS3101A	QUANTUM HARDWARE AND CONTROL SYSTEMS	A	QHCS	4	1	2	0	6	7	
260	PEC	PE-1	25QCS3101E	QUANTUM HARDWARE AND CONTROL SYSTEMS	E	QHCS	4	1	2	0	6	7	
261	PEC	PE-1	25QCS3101	QUANTUM HARDWARE AND CONTROL SYSTEMS	R	QHCS	3	0	2	0	4	5	
262	PEC	PE-1	25SDM3101A	SENTIMENT ANALYSIS	A	SA	4	1	2	0	6	7	
263	PEC	PE-1	25SDM3101E	SENTIMENT ANALYSIS	E	SA	4	1	2	0	6	7	
264	PEC	PE-1	25SDM3101	SENTIMENT ANALYSIS	R	SA	3	0	2	0	4	5	
265	PEC	PE-1	25AVI3102A	AI DRIVEN VIDEO PROCESSING	A	AIDVP	4	1	2	0	6	7	

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266	PEC	PE-1	25AVI3102E	AI DRIVEN VIDEO PROCESSING	E	AIDVP	4	1	2	0	6	7	
267	PEC	PE-1	25AVI3102	AI DRIVEN VIDEO PROCESSING	R	AIDVP	3	0	2	0	4	5	
268	PEC	PE-1	25GET3101A	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	A	SPMET	4	1	2	0	6	7	
269	PEC	PE-1	25GET3101E	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	E	SPMET	4	1	2	0	6	7	
270	PEC	PE-1	25GET3101	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	R	SPMET	3	0	2	0	4	5	
271	PEC	PE-1	25ILA3101A	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	A	IIIoT	4	1	2	0	6	7	
272	PEC	PE-1	25ILA3101E	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	E	IIIoT	4	1	2	0	6	7	
273	PEC	PE-1	25ILA3101	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	R	IIIoT	3	0	2	0	4	5	
274	PEC	PE-1	25IBT3101A	PHARMACEUTICAL BIOTECHNOLOGY	A	PBT	4	1	2	0	6	7	
275	PEC	PE-1	25IBT3101E	PHARMACEUTICAL BIOTECHNOLOGY	E	PBT	4	1	2	0	6	7	
276	PEC	PE-1	25IBT3101	PHARMACEUTICAL BIOTECHNOLOGY	R	PBT	3	0	2	0	4	5	
277	PEC	PE-1	25NTO3102A	NANOSCALE ENGINEERING FOR CLEAN ENERGY	A	NEC	4	1	2	0	6	7	
278	PEC	PE-1	25NTO3102E	NANOSCALE ENGINEERING FOR CLEAN ENERGY	E	NEC	4	1	2	0	6	7	
279	PEC	PE-1	25NTO3102	NANOSCALE ENGINEERING FOR CLEAN ENERGY	R	NEC	3	0	2	0	4	5	
280	PEC	PE-1	25NTO3101A	THIN FILM TECHNOLOGIES FOR NANOELECTRONICS	A	TTN	4	1	2	0	6	7	
281	PEC	PE-1	25NTO3101E	THIN FILM TECHNOLOGIES FOR NANOELECTRONICS	E	TTN	4	1	2	0	6	7	
282	PEC	PE-1	25NTO3101	THIN FILM TECHNOLOGIES FOR NANOELECTRONICS	R	TTN	3	0	2	0	4	5	
283	PEC	PE-1	25IOT3101A	INDUSTRIAL INTERNET OF THINGS	A	IIIoT	4	1	2	0	6	7	
284	PEC	PE-1	25IOT3101E	INDUSTRIAL INTERNET OF THINGS	E	IIIoT	4	1	2	0	6	7	
285	PEC	PE-1	25IOT3101	INDUSTRIAL INTERNET OF THINGS	R	IIIoT	3	0	2	0	4	5	
286	PEC	PE-1	25SMF3101A	AI AND IOT IN MANUFACTURING	A	AIM	4	1	2	0	6	7	
287	PEC	PE-1	25SMF3101E	AI AND IOT IN MANUFACTURING	E	AIM	4	1	2	0	6	7	
288	PEC	PE-1	25SMF3101	AI AND IOT IN MANUFACTURING	R	AIM	3	0	2	0	4	5	
289	PEC	PE-2	25SMF3202	FLEXIBLE MANUFACTURING SYSTEMS	R	FMS	3	0	0	0	3	3	

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290	PEC	PE-2	25SMF3203	PRECISION AND MICRO MANUFACTURING	R	PMM	3	0	0	0	3	3	
291	PEC	PE-2	25IOT3202	EDGE COMPUTING	R	EC	3	0	0	0	3	3	
292	PEC	PE-2	25IOT3203	PRECISION AGRICULTURE	R	PA	3	0	0	0	3	3	
293	PEC	PE-2	25IOT3204	SMART FARMING	R	SF	3	0	0	0	3	3	
294	PEC	PE-2	25MBT3203	NANOBIOTECHNOLOGY	R	TE	3	0	0	0	3	3	
295	PEC	PE-2	25MBT3202	VIROLOGY	R	VR	3	0	0	0	3	3	
296	PEC	PE-2	25IBT3202	PHARMACOVIGILANCE AND SAFETY	R	PCS	3	0	0	0	3	3	
297	PEC	PE-2	25NTO3204	NANOPHOTONICS AND BIOPHOTONICS	R	NAB	3	0	0	0	3	3	
298	PEC	PE-2	25IBT3203	BIOPROCESS ECONOMICS AND PLANT DESIGN	R	BEPD	3	0	0	0	3	3	
299	PEC	PE-2	25NTO3203	NANOTECHNOLOGY AND NANOSENSORS	R	NAN	3	0	0	0	3	3	
300	PEC	PE-2	25HDA3202	BIO MEDICAL INFORMATICS	R	BMI	3	0	0	0	3	3	
301	PEC	PE-2	25HDA3203	GENETIC PROGRAMMING	R	GP	3	0	0	0	3	3	
302	PEC	PE-2	25ILA3202	INDUSTRIAL AUTOMATION AND ROBOTICS	R	IAR	3	0	0	0	3	3	
303	PEC	PE-2	25ILA3203	EDGE COMPUTING FOR INDUSTRY 4.0	R	ECI	3	0	0	0	3	3	
304	PEC	PE-2	25GET3202	WIND AND ENERGY STORAGE TECHNOLOGIES	R	WEST	3	0	0	0	3	3	
305	PEC	PE-2	25GET3203	ENERGY ECONOMICS AND POLICY	R	EEP	3	0	0	0	3	3	
306	PEC	PE-2	25SDM3202	OPINION MINING AND RECOMMENDER SYSTEMS	R	OMRS	3	0	0	0	3	3	
307	PEC	PE-2	25BEW3211	BLOCKCHAIN NETWORK ARCHITECTURE & CONSENSUS MECHANISMS	R	BNAC	3	0	0	0	3	3	
308	PEC	PE-2	25QCS3202	QUANTUM OPTICS	R	QO	3	0	0	0	3	3	
309	PEC	PE-2	25RFM3202	ADVANCED ANTENNA DESIGN FOR WIRELESS AND 5G APPLICATIONS	R	AADW	3	0	0	0	3	3	
310	PEC	PE-2	25GAM3202	DEEP LEARNING FOR COMPUTER VISION APPLICATIONS	R	DLCVA	3	0	0	0	3	3	
311	PEC	PE-2	25BMI3202	ADVANCED BIOMEDICAL SIGNAL PROCESSING	R	ABSP	3	0	0	0	3	3	
312	PEC	PE-2	25AEE3203	REFRIGERATION & AIR CONDITIONING	R	RAC	3	0	0	0	3	3	
313	PEC	PE-2	25QTS3202	QUANTUM CRYPTOGRAPHY & QUANTUM COMMUNICATION	R	QCQC	3	0	0	0	3	3	
314	PEC	PE-2	25BEW3110	SMART CONTRACT DEVELOPMENT & TESTING	R	SCDT	3	0	0	0	3	3	

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315	PEC	PE-2	25EGD3202	CREEP, FATIGUE AND FRACTURE MECHANICS	R	CFFM	3	0	0	0	3	3	
316	PEC	PE-2	25EGD3203	THEORY OF ELASTICITY AND PLASTICITY	R	KDARS	3	0	0	0	3	3	
317	PEC	PE-2	25STE3202	ADVANCED STRUCTURAL ANALYSIS	R	ASA	3	0	0	0	3	3	
318	PEC	PE-2	25RAN3203	ROBOT MANIPULATION AND WHEELED MOBILE ROBOTS	R	RMWR	3	0	0	0	3	3	
319	PEC	PE-2	25RAN3202	AUTONOMOUS VEHICLES AND AUTOMOTIVE ELECTRONICS	R	AVAE	3	0	0	0	3	3	
320	PEC	PE-2	25EME3202	COMMUNICATION PROTOCOLS AND TESTING OF ELECTRIC VEHICLE	R	CPTEV	3	0	0	0	3	3	
321	PEC	PE-2	25EME3203	AUTONOMOUS VEHICLES AND AUTOMOTIVE ELECTRONICS	R	AVAE	3	0	0	0	3	3	
322	PEC	PE-2	25EDS3202	EMBEDDED SYSTEMS FOR IOT	R	ESIOT	3	0	0	0	3	3	
323	PEC	PE-2	25DCM3202	CLOUD COMPUTING AND NETWORKS SECURITY	R	CCNS	3	0	0	0	3	3	
324	PEC	PE-2	25CPS3202	INTERNET OF THINGS ARCHITECTURES AND PROTOCOLS	R	IOTAP	3	0	0	0	3	3	
325	PEC	PE-2	25SGT3203	MICROGRID DYNAMICS AND CONTROL	R	MDC	3	0	0	0	3	3	
326	PEC	PE-2	25SGT3202	DISTRIBUTION SYSTEM PRACTICES	R	DSP	3	0	0	0	3	3	
327	PEC	PE-2	25WRE3202	INTELLIGENT TRANSPORTATION SYSTEMS	R	ITS	3	0	0	0	3	3	
328	PEC	PE-2	25BIS3203	PYTHON AND R PROGRAMMING	R	P&RP	3	0	0	0	3	3	
329	PEC	PE-2	25VLS3202	TESTING AND VERIFICATION OF VLSI CIRCUITS	R	TVVC	3	0	0	0	3	3	
330	PEC	PE-2	25BIS3202	BIOMEDICAL INFORMATICS	R	BMI	3	0	0	0	3	3	
331	PEC	PE-2	25AAS3202	INTRODUCTION TO INTELLIGENT DRONES	R	IID	3	0	0	0	3	3	
332	PEC	PE-2	25AEE3202	AUTOTRONICS AND SAFETY	R	AESS	3	0	0	0	3	3	
333	PEC	PE-2	25AEA3203	AUTOMOTIVE POLLUTION AND ITS CONTROL	R	APC	3	0	0	0	3	3	
334	PEC	PE-2	25AEA3202	AUTOTRONICS	R	AT	3	0	0	0	3	3	
335	PEC	PE-2	25WLT3202	MODERN SATELLITE COMMUNICATION SYSTEMS	R	MSCS	3	0	0	0	3	3	
336	PEC	PE-2	25ABT3202	IOT APPLICATIONS IN PRECISION AGRICULTURE	R	IOTAPA	3	0	0	0	3	3	
337	PEC	PE-2	25ABT3203	MACHINE LEARNING FOR PRECISION AGRICULTURE	R	MLPA	3	0	0	0	3	3	
338	PEC	PE-2	25AEC3201	SECURE & SCALABLE EDGE AI NETWORKING	R	SEAN	3	0	0	0	3	3	

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339	PEC	PE-2	25CTI3203	ETHICAL HACKING & OFFENSIVE SECURITY	R	EHOS	3	0	0	0	3	3	
340	PEC	PE-2	25CTI3204	VULNERABILITY ASSESSMENT & PENETRATION TESTING	R	VAPT	3	0	0	0	3	3	
341	PEC	PE-2	25CAC3202	PARALLEL & FUNCTIONAL PROGRAMMING FOR SCIENTIFIC APPLICATIONS	R	PFPS	3	0	0	0	3	3	
342	PEC	PE-2	25HCA3202	NATURAL LANGUAGE PROCESSING	R	NLP	3	0	0	0	3	3	
343	PEC	PE-2	25HCA3203	COMPUTER VISION & OBJECT DETECTION	R	CVOD	3	0	0	0	3	3	
344	PEC	PE-2	25HCA3204	COMPUTATIONAL PARALINGUISTICS	R	CPL	3	0	0	0	3	3	
345	PEC	PE-2	25GSD3202	GREEN ALGORITHMS AND SUSTAINABLE APP DESIGN	R	GAD	3	0	0	0	3	3	
346	PEC	PE-2	25CND3202	CLOUD-NATIVE ARCHITECTURE & INFRASTRUCTURE AS CODE	R	CNAI	3	0	0	0	3	3	
347	PEC	PE-2	25SDM3203	META SOCIAL MEDIA ANALYTICS	R	MSMA	3	0	0	0	3	3	
348	PEC	PE-2	25IGD3203	MULTIPLAYER GAME DEVELOPMENT AND NETWORKING	R	MGDN	3	0	0	0	3	3	
349	PEC	PE-2	25IGD3204	GAME DEVOPS AND CLOUD DEPLOYMENT	R	GDCD	3	0	0	0	3	3	
350	PEC	PE-2	25AAS3203	AI AND IOT FOR AUTONOMOUS VEHICLE	R	AIAV	3	0	0	0	3	3	
351	PEC	PE-2	25AAS3205	AUTONOMOUS VEHICLE ECU DESIGN WITH AUTOSAR	R	AVECUDA	3	0	0	0	3	3	
352	PEC	PE-2	25AAS3213	PERCEPTION ENGINEERING FOR AUTONOMY	R	PEA	3	0	0	0	3	3	
353	PEC	PE-2	25HSS3202	FUNDAMENTALS OF COMPUTER SECURITY	R	FOCS	3	0	0	0	3	3	
354	PEC	PE-2	25SMD3202	DESIGN PATTERNS & CLEAN CODING TECHNIQUES	R	DPCT	3	0	0	2	3.5	5	
355	PEC	PE-2	25HDA3204	PYTHON FOR GENOMIC DATA SCIENCE	R	PFGDS	3	0	0	0	3	3	
356	PEC	PE-2	25DLA3202	MACHINE LEARNING FOR FINANCIAL RISK & BEHAVIORAL INTELLIGENCE	R	MLFRBI	3	0	0	0	3	3	
357	PEC	PE-2	25DLA3203	BLOCKCHAIN TECHNOLOGY FOR DIGITAL TRANSFORMATION	R	BTDI	3	0	0	0	3	3	
358	PEC	PE-2	25DSB3202	DATA WAREHOUSING AND MINING	R	DWHM	3	0	0	0	3	3	
359	PEC	PE-2	25ADE3202	AI AT THE EDGE	R	AIAE	3	0	0	0	3	3	
360	PEC	PE-2	25DEA3202	DATA EXPLORATION AND PREPARATION	R	DEP	3	0	0	0	3	3	
361	PEC	PE-2	25CSB3202	NETWORK AND INFRASTRUCTURE SECURITY	R	NS	3	0	0	0	3	3	

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362	PEC	PE-2	25CSB3203	INTRODUCTION TO BLOCKCHAIN AND CRYPTO CURRENCIES	R	IBCC	3	0	0	0	3	3	
363	PEC	PE-2	25CPD3202	REACT NATIVE FOR ANDROID AND IOS DEVELOPMENT	R	RNA	3	0	0	0	3	3	
364	PEC	PE-2	25CPD3203	FRAMEWORK BASED CROSS PLATFORM APP DEVELOPMENT	R	FBCPD	3	0	0	0	3	3	
365	PEC	PE-2	25CSC3202	DEVELOPMENT OF SCIENTIFIC APPLICATIONS USING CLOUD-BASED TECHNOLOGY	R	DSA	3	0	0	0	3	3	
366	PEC	PE-2	25CSC3203	DISTRIBUTED SCIENTIFIC COMPUTING IN THE CLOUD	R	DSCC	3	0	0	0	3	3	
367	PEC	PE-2	25CNS3202	FUNDAMENTALS OF CLOUD SECURITY	R	FOCS	2	0	2	0	3	4	
368	PEC	PE-2	25CID3202	ENTERPRISE CLOUD COMPUTING: TECHNOLOGY, ARCHITECTURE, APPLICATIONS	R	ECT	3	0	0	0	3	3	
369	PEC	PE-2	25CID3203	ARCHITECTING HIGHLY AVAILABLE AND SCALABLE CLOUD ENVIRONMENTS	R	AHASCE	3	0	0	0	3	3	
370	PEC	PE-2	25CEC3202	ADVANCED OPERATING SYSTEMS	R	AOS	3	0	0	0	3	3	
371	PEC	PE-2	25CEC3203	FUNCTIONAL AND CONCURRENT PROGRAMMING	R	FCP	3	0	0	0	3	3	
372	PEC	PE-2	25CEC3204	CLOUD DEVOPS	R	CD	3	0	0	0	3	3	
373	PEC	PE-2	25CNE3202	CLOUD NATIVE APPLICATION DEVELOPMENT	R	CNAD	3	0	0	0	3	3	
374	PEC	PE-2	25CNE3203	CLOUD NATIVE DESIGN PROCESS	R	CNDP	3	0	0	0	3	3	
375	PEC	PE-2	25BEW3202	SMART CONTRACTS	R	SC	3	0	0	0	3	3	
376	PEC	PE-2	25ALT3202	DEEP LEARNING FOR NATURAL LANGUAGE PROCESSING	R	DLFNL	3	0	0	0	3	3	
377	PEC	PE-2	25GMI3202	ENGINEERING LARGE LANGUAGE MODEL SYSTEMS	R	ELLS	3	0	0	0	3	3	
378	PEC	PE-2	25AVI3202	COMPUTER VISION	R	CV	3	0	0	0	3	3	
379	PEC	PE-2	25ACI3202	EXPLAINABLE AI AND COMMUNICATIONS	R	EAIC	3	0	0	0	3	3	
380	PEC	PE-2	25DLS3202	DESIGNING REAL-TIME DATA PIPELINES	R	RTDP	3	0	0	0	3	3	
381	PEC	PE-2	25DSE3202	DATA EXPLORATION & PREPARATION	R	DEP	3	0	0	0	3	3	
382	PEC	PE-2	25DSE3203	DATA WAREHOUSING& BUSINESS INTELLIGENCE	R	DWBI	3	0	0	0	3	3	
383	PEC	PE-2	25SCI3202	SPATIAL COMPUTING FOR MULTIPLAYER GAMES	R	SCMG	3	0	0	0	3	3	
384	PEC	PE-2	25GDU3202	UX DESIGN	R	UXD	3	0	0	0	3	3	

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385	PEC	PE-3	25GDU3303A	AR AND VR APPLICATION DEVELOPMENT	A	AR&VR	4	1	0	2	5.5	7	
386	PEC	PE-3	25GDU3303E	AR AND VR APPLICATION DEVELOPMENT	E	AR&VR	4	1	0	2	5.5	7	
387	PEC	PE-3	25GDU3303	AR AND VR APPLICATION DEVELOPMENT	R	AR&VR	3	0	0	2	3.5	5	
388	PEC	PE-3	25CEC3305A	CLOUD AND SERVERLESS COMPUTING	A	CSC	4	1	0	2	5.5	7	
389	PEC	PE-3	25CEC3305E	CLOUD AND SERVERLESS COMPUTING	E	CSC	4	1	0	2	5.5	7	
390	PEC	PE-3	25CEC3305	CLOUD AND SERVERLESS COMPUTING	R	CSC	3	0	0	2	3.5	5	
391	PEC	PE-3	25SCI3303A	SPATIAL COMPUTING PLATFORMS AND DEVELOPMENT	A	SCPD	4	1	0	2	5.5	7	
392	PEC	PE-3	25SCI3303E	SPATIAL COMPUTING PLATFORMS AND DEVELOPMENT	E	SCPD	4	1	0	2	5.5	7	
393	PEC	PE-3	25SCI3303	SPATIAL COMPUTING PLATFORMS AND DEVELOPMENT	R	SCPD	3	0	0	2	3.5	5	
394	PEC	PE-3	25DSE3304A	BIG DATA ENGINEERING	A	BDE	4	1	0	2	5.5	7	
395	PEC	PE-3	25DSE3304E	BIG DATA ENGINEERING	E	BDE	4	1	0	2	5.5	7	
396	PEC	PE-3	25DSE3304	BIG DATA ENGINEERING	R	BDE	3	0	0	2	3.5	5	
397	PEC	PE-3	25DSE3305A	BUSINESS ANALYTICS	A	BA	4	1	0	2	5.5	7	
398	PEC	PE-3	25DSE3305E	BUSINESS ANALYTICS	E	BA	4	1	0	2	5.5	7	
399	PEC	PE-3	25DSE3305	BUSINESS ANALYTICS	R	BA	3	0	0	2	3.5	5	
400	PEC	PE-3	25DLS3303A	DATA LAKES & STREAM-ORIENTED STORAGE SYSTEMS	A	DLSS	4	1	0	2	5.5	7	
401	PEC	PE-3	25DLS3303E	DATA LAKES & STREAM-ORIENTED STORAGE SYSTEMS	E	DLSS	4	1	0	2	5.5	7	
402	PEC	PE-3	25DLS3303	DATA LAKES & STREAM-ORIENTED STORAGE SYSTEMS	R	DLSS	3	0	0	2	3.5	5	
403	PEC	PE-3	25AEC3303A	SERVICE MESH & OBSERVABILITY FOR EDGE AI	A	SMOA	4	1	0	2	5.5	7	
404	PEC	PE-3	25AEC3303E	SERVICE MESH & OBSERVABILITY FOR EDGE AI	E	SMOA	4	1	0	2	5.5	7	
405	PEC	PE-3	25AEC3303	SERVICE MESH & OBSERVABILITY FOR EDGE AI	R	SMOA	3	0	0	2	3.5	5	
406	PEC	PE-3	25ACI3303A	FUZZY LOGIC WITH SET THEORY	A	FLST	4	1	0	2	5.5	7	
407	PEC	PE-3	25ACI3303E	FUZZY LOGIC WITH SET THEORY	E	FLST	4	1	0	2	5.5	7	
408	PEC	PE-3	25ACI3303	FUZZY LOGIC WITH SET THEORY	R	FLST	3	0	0	2	3.5	5	
409	PEC	PE-3	25AVI3303A	OBJECT DETECTION	A	OD	4	1	0	2	5.5	7	

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410	PEC	PE-3	25AVI3303E	OBJECT DETECTION	E	OD	4	1	0	2	5.5	7	
411	PEC	PE-3	25AVI3303	OBJECT DETECTION	R	OD	3	0	0	2	3.5	5	
412	PEC	PE-3	25GMI3303A	REINFORCEMENT LEARNING	A	RL	4	1	0	2	5.5	7	
413	PEC	PE-3	25GMI3303E	REINFORCEMENT LEARNING	E	RL	4	1	0	2	5.5	7	
414	PEC	PE-3	25GMI3303	REINFORCEMENT LEARNING	R	RL	3	0	0	2	3.5	5	
415	PEC	PE-3	25ADE3303A	EDGE AI ARCHITECTURES AND APPLICATIONS	A	EAIAA	4	1	0	2	5.5	7	
416	PEC	PE-3	25ADE3303E	EDGE AI ARCHITECTURES AND APPLICATIONS	E	EAIAA	4	1	0	2	5.5	7	
417	PEC	PE-3	25ADE3303	EDGE AI ARCHITECTURES AND APPLICATIONS	R	EAIAA	3	0	0	2	3.5	5	
418	PEC	PE-3	25ALT3303A	CONVERSATIONAL AI AND CHATBOT DEVELOPMENT	A	CAICBD	4	1	0	2	5.5	7	
419	PEC	PE-3	25ALT3303E	CONVERSATIONAL AI AND CHATBOT DEVELOPMENT	E	CAICBD	4	1	0	2	5.5	7	
420	PEC	PE-3	25ALT3303	CONVERSATIONAL AI AND CHATBOT DEVELOPMENT	R	CAICBD	3	0	0	2	3.5	5	
421	PEC	PE-3	25BEW3303A	DECENTRALIZED APPLICATIONS AND DECENTRALIZED WEB	A	DADW	4	1	0	2	5.5	7	
422	PEC	PE-3	25BEW3303E	DECENTRALIZED APPLICATIONS AND DECENTRALIZED WEB	E	DADW	4	1	0	2	5.5	7	
423	PEC	PE-3	25BEW3303	DECENTRALIZED APPLICATIONS AND DECENTRALIZED WEB	R	DADW	3	0	0	2	3.5	5	
424	PEC	PE-3	25CNE3304A	SOFTWARE ENGINEERING FOR CLOUD COMPUTING	A	SEC	4	1	0	2	5.5	7	
425	PEC	PE-3	25CNE3304E	SOFTWARE ENGINEERING FOR CLOUD COMPUTING	E	SEC	4	1	0	2	5.5	7	
426	PEC	PE-3	25CNE3304	SOFTWARE ENGINEERING FOR CLOUD COMPUTING	R	SEC	3	0	0	2	3.5	5	
427	PEC	PE-3	25CID3304A	CLOUD INFRASTRUCTURE ARCHITECTURE AND ENGINEERING	A	CIA	4	1	0	2	5.5	7	
428	PEC	PE-3	25CID3304E	CLOUD INFRASTRUCTURE ARCHITECTURE AND ENGINEERING	E	CIA	4	1	0	2	5.5	7	
429	PEC	PE-3	25CID3304	CLOUD INFRASTRUCTURE ARCHITECTURE AND ENGINEERING	R	CIA	3	0	0	2	3.5	5	
430	PEC	PE-3	25CNS3303A	CONTAINER SECURITY	A	CTSY	4	1	0	2	5.5	7	
431	PEC	PE-3	25CNS3303E	CONTAINER SECURITY	E	CTSY	4	1	0	2	5.5	7	
432	PEC	PE-3	25CNS3303	CONTAINER SECURITY	R	CTSY	3	0	0	2	3.5	5	
433	PEC	PE-3	25CSC3304A	CLOUD BASED HIGH PERFORMANCE COMPUTING	A	CHC	4	1	0	2	5.5	7	

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434	PEC	PE-3	25CSC3304E	CLOUD BASED HIGH PERFORMANCE COMPUTING	E	CHC	4	1	0	2	5.5	7	
435	PEC	PE-3	25CSC3304	CLOUD BASED HIGH PERFORMANCE COMPUTING	R	CHC	3	0	0	2	3.5	5	
436	PEC	PE-3	25CPD3304A	SECURE MOBILE APPLICATION DEVELOPMENT	A	SMAD	4	1	0	2	5.5	7	
437	PEC	PE-3	25CPD3304E	SECURE MOBILE APPLICATION DEVELOPMENT	E	SMAD	4	1	0	2	5.5	7	
438	PEC	PE-3	25CPD3304	SECURE MOBILE APPLICATION DEVELOPMENT	R	SMAD	3	0	0	2	3.5	5	
439	PEC	PE-3	25CSB3304A	DIGITAL FORENSICS	A	DF	4	1	0	2	5.5	7	
440	PEC	PE-3	25CSB3304E	DIGITAL FORENSICS	E	DF	4	1	0	2	5.5	7	
441	PEC	PE-3	25CSB3304	DIGITAL FORENSICS	R	DF	3	0	0	2	3.5	5	
442	PEC	PE-3	25DEA3303A	BIG DATA TECHNOLOGIES	A	BDT	4	1	0	2	5.5	7	
443	PEC	PE-3	25DEA3303E	BIG DATA TECHNOLOGIES	E	BDT	4	1	0	2	5.5	7	
444	PEC	PE-3	25DEA3303	BIG DATA TECHNOLOGIES	R	BDT	3	0	0	2	3.5	5	
445	PEC	PE-3	25DLA3304A	MULTI AGENT SYSTEMS	A	MAS	4	1	0	2	5.5	7	
446	PEC	PE-3	25DLA3304E	MULTI AGENT SYSTEMS	E	MAS	4	1	0	2	5.5	7	
447	PEC	PE-3	25DLA3304	MULTI AGENT SYSTEMS	R	MAS	3	0	0	2	3.5	5	
448	PEC	PE-3	25DSB3303A	BIG DATA ANALYTICS	A	BDA	4	1	0	2	5.5	7	
449	PEC	PE-3	25DSB3303E	BIG DATA ANALYTICS	E	BDA	4	1	0	2	5.5	7	
450	PEC	PE-3	25DSB3303	BIG DATA ANALYTICS	R	BDA	3	0	0	2	3.5	5	
451	PEC	PE-3	25IOT3305A	DEEP LEARNING	A	DL	4	1	0	2	5.5	7	
452	PEC	PE-3	25IOT3305E	DEEP LEARNING	E	DL	4	1	0	2	5.5	7	
453	PEC	PE-3	25IOT3305	DEEP LEARNING	R	DL	3	0	0	2	3.5	5	
454	PEC	PE-3	25HDA3305A	COMPUTATIONAL NEUROSCIENCE	A	CNSE	4	1	0	2	5.5	7	
455	PEC	PE-3	25HDA3305E	COMPUTATIONAL NEUROSCIENCE	E	CNSE	4	1	0	2	5.5	7	
456	PEC	PE-3	25HDA3305	COMPUTATIONAL NEUROSCIENCE	R	CNSE	3	0	0	2	3.5	5	
457	PEC	PE-3	25SDM3304A	SOCIAL MEDIA MARKETING ANALYTICS	A	SMMA	4	1	0	2	5.5	7	
458	PEC	PE-3	25SDM3304E	SOCIAL MEDIA MARKETING ANALYTICS	E	SMMA	4	1	0	2	5.5	7	
459	PEC	PE-3	25SDM3304	SOCIAL MEDIA MARKETING ANALYTICS	R	SMMA	3	0	0	2	3.5	5	
460	PEC	PE-3	25SMD3303A	CONTINUOUS DELIVERY & DEVOPS	A	CDD	4	1	0	2	5.5	7	

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461	PEC	PE-3	25SMD3303E	CONTINUOUS DELIVERY & DEVOPS	E	CDD	4	1	0	2	5.5	7	
462	PEC	PE-3	25SMD3303	CONTINUOUS DELIVERY & DEVOPS	R	CDD	3	0	0	2	3.5	5	
463	PEC	PE-3	25HSS3303A	HARDWARE SECURITY MECHANISMS	A	HSM	4	1	0	2	5.5	7	
464	PEC	PE-3	25HSS3303E	HARDWARE SECURITY MECHANISMS	E	HSM	4	1	0	2	5.5	7	
465	PEC	PE-3	25HSS3303	HARDWARE SECURITY MECHANISMS	R	HSM	3	0	0	2	3.5	5	
466	PEC	PE-3	25AAS3304A	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	A	ADLAS	4	1	0	2	5.5	7	
467	PEC	PE-3	25AAS3304E	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	E	ADLAS	4	1	0	2	5.5	7	
468	PEC	PE-3	25AAS3304	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	R	ADLAS	3	0	0	2	3.5	5	
469	PEC	PE-3	25AAS3309A	AUTONOMOUS ELECTRIC MOBILITY - SYSTEMS AND APPLICATIONS	A	AAAV	4	1	0	2	5.5	7	
470	PEC	PE-3	25AAS3309E	AUTONOMOUS ELECTRIC MOBILITY - SYSTEMS AND APPLICATIONS	E	AAAV	4	1	0	2	5.5	7	
471	PEC	PE-3	25AAS3309	AUTONOMOUS ELECTRIC MOBILITY - SYSTEMS AND APPLICATIONS	R	AAAV	3	0	0	2	3.5	5	
472	PEC	PE-3	25AAS3314A	AI FOR AUTONOMOUS NAVIGATION, CONTROL & EDGE INTELLIGENCE	A	ANCE	4	1	0	2	5.5	7	
473	PEC	PE-3	25AAS3314E	AI FOR AUTONOMOUS NAVIGATION, CONTROL & EDGE INTELLIGENCE	E	ANCE	4	1	0	2	5.5	7	
474	PEC	PE-3	25AAS3314	AI FOR AUTONOMOUS NAVIGATION, CONTROL & EDGE INTELLIGENCE	R	ANCE	3	0	0	2	3.5	5	
475	PEC	PE-3	25IGD3305A	3D GAME PROGRAMMING AND PHYSICS SIMULATION	A	3DPS	4	1	0	2	5.5	7	
476	PEC	PE-3	25IGD3305E	3D GAME PROGRAMMING AND PHYSICS SIMULATION	E	3DPS	4	1	0	2	5.5	7	
477	PEC	PE-3	25IGD3305	3D GAME PROGRAMMING AND PHYSICS SIMULATION	R	3DPS	3	0	0	2	3.5	5	
478	PEC	PE-3	25IGD3306A	PROCEDURAL WORLD BUILDING	A	PWB	4	1	0	2	5.5	7	
479	PEC	PE-3	25IGD3306E	PROCEDURAL WORLD BUILDING	E	PWB	4	1	0	2	5.5	7	
480	PEC	PE-3	25IGD3306	PROCEDURAL WORLD BUILDING	R	PWB	3	0	0	2	3.5	5	
481	PEC	PE-3	25DLA3303A	SMART CONTRACTS & WEB3 APPLICATION ENGINEERING	A	SCW3	4	1	0	2	5.5	7	
482	PEC	PE-3	25DLA3303E	SMART CONTRACTS & WEB3 APPLICATION ENGINEERING	E	SCW3	4	1	0	2	5.5	7	
483	PEC	PE-3	25DLA3303	SMART CONTRACTS & WEB3 APPLICATION ENGINEERING	R	SCW3	3	0	0	2	3.5	5	
484	PEC	PE-3	25CND3303A	ADVANCED DEVOPS, OBSERVABILITY & RELIABILITY ENGINEERING	A	DORS	4	1	0	2	5.5	7	

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485	PEC	PE-3	25CND3303E	ADVANCED DEVOPS, OBSERVABILITY & RELIABILITY ENGINEERING	E	DORS	4	1	0	2	5.5	7	
486	PEC	PE-3	25CND3303	ADVANCED DEVOPS, OBSERVABILITY & RELIABILITY ENGINEERING	R	DORS	3	0	0	2	3.5	5	
487	PEC	PE-3	25GSD3303A	SUSTAINABLE CLOUD AND EDGE COMPUTING	A	SCE	4	1	0	2	5.5	7	
488	PEC	PE-3	25GSD3303E	SUSTAINABLE CLOUD AND EDGE COMPUTING	E	SCE	4	1	0	2	5.5	7	
489	PEC	PE-3	25GSD3303	SUSTAINABLE CLOUD AND EDGE COMPUTING	R	SCE	3	0	0	2	3.5	5	
490	PEC	PE-3	25HCA3305A	LARGE LANGUAGE MODELS & CONVERSATIONAL AI	A	LLMC	4	1	0	2	5.5	7	
491	PEC	PE-3	25HCA3305E	LARGE LANGUAGE MODELS & CONVERSATIONAL AI	E	LLMC	4	1	0	2	5.5	7	
492	PEC	PE-3	25HCA3305	LARGE LANGUAGE MODELS & CONVERSATIONAL AI	R	LLMC	3	0	0	2	3.5	5	
493	PEC	PE-3	25HCA3306A	IMAGE PROCESSING & SCENE UNDERSTANDING	A	IPSU	4	1	0	2	5.5	7	
494	PEC	PE-3	25HCA3306E	IMAGE PROCESSING & SCENE UNDERSTANDING	E	IPSU	4	1	0	2	5.5	7	
495	PEC	PE-3	25HCA3306	IMAGE PROCESSING & SCENE UNDERSTANDING	R	IPSU	3	0	0	2	3.5	5	
496	PEC	PE-3	25CAC3303A	ADVANCED COMPUTER ARCHITECTURES FOR HARDWARE ACCELERATION	A	ACHA	4	1	0	2	5.5	7	
497	PEC	PE-3	25CAC3303E	ADVANCED COMPUTER ARCHITECTURES FOR HARDWARE ACCELERATION	E	ACHA	4	1	0	2	5.5	7	
498	PEC	PE-3	25CAC3303	ADVANCED COMPUTER ARCHITECTURES FOR HARDWARE ACCELERATION	R	ACHA	3	0	0	2	3.5	5	
499	PEC	PE-3	25HCA3307A	SPEECH PROCESSING	A	SP	4	1	0	2	5.5	7	
500	PEC	PE-3	25HCA3307E	SPEECH PROCESSING	E	SP	4	1	0	2	5.5	7	
501	PEC	PE-3	25HCA3307	SPEECH PROCESSING	R	SP	3	0	0	2	3.5	5	
502	PEC	PE-3	25CAC3304A	QUANTUM PROGRAMMING FUNDAMENTALS	A	QPF	4	1	0	2	5.5	7	
503	PEC	PE-3	25CAC3304E	QUANTUM PROGRAMMING FUNDAMENTALS	E	QPF	4	1	0	2	5.5	7	
504	PEC	PE-3	25CAC3304	QUANTUM PROGRAMMING FUNDAMENTALS	R	QPF	3	0	0	2	3.5	5	
505	PEC	PE-3	25CTI3305A	BLUE TEAM OPERATIONS & SIEM	A	BTOS	4	1	0	2	5.5	7	
506	PEC	PE-3	25CTI3305E	BLUE TEAM OPERATIONS & SIEM	E	BTOS	4	1	0	2	5.5	7	

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507	PEC	PE-3	25CTI3305	BLUE TEAM OPERATIONS & SIEM	R	BTOS	3	0	0	2	3.5	5	
508	PEC	PE-3	25CTI3306A	SOC MANAGEMENT	A	SOC	4	1	0	2	5.5	7	
509	PEC	PE-3	25CTI3306E	SOC MANAGEMENT	E	SOC	4	1	0	2	5.5	7	
510	PEC	PE-3	25CTI3306	SOC MANAGEMENT	R	SOC	3	0	0	2	3.5	5	
511	PEC	PE-3	25ABT3304A	IMAGE PROCESSING FOR AGRICULTURAL APPLICATIONS	A	IPAA	4	1	0	2	5.5	7	
512	PEC	PE-3	25ABT3304E	IMAGE PROCESSING FOR AGRICULTURAL APPLICATIONS	E	IPAA	4	1	0	2	5.5	7	
513	PEC	PE-3	25ABT3304	IMAGE PROCESSING FOR AGRICULTURAL APPLICATIONS	R	IPAA	3	0	0	2	3.5	5	
514	PEC	PE-3	25WLT3303A	5G NR-WIRELESS TECHNOLOGIES	A	5GWT	4	1	0	2	5.5	7	
515	PEC	PE-3	25WLT3303E	5G NR-WIRELESS TECHNOLOGIES	E	5GWT	4	1	0	2	5.5	7	
516	PEC	PE-3	25WLT3303	5G NR-WIRELESS TECHNOLOGIES	R	5GWT	3	0	0	2	3.5	5	
517	PEC	PE-3	25AEA3304A	ALTERNATE DRIVES, TRACTION AND CONTROLS	A	ADTC	4	1	0	2	5.5	7	
518	PEC	PE-3	25AEA3304E	ALTERNATE DRIVES, TRACTION AND CONTROLS	E	ADTC	4	1	0	2	5.5	7	
519	PEC	PE-3	25AEA3304	ALTERNATE DRIVES, TRACTION AND CONTROLS	R	ADTC	3	0	0	2	3.5	5	
520	PEC	PE-3	25WRE3303A	GROUND IMPROVEMENT TECHNIQUES	A	GIT	4	1	0	2	5.5	7	
521	PEC	PE-3	25WRE3303E	GROUND IMPROVEMENT TECHNIQUES	E	GIT	4	1	0	2	5.5	7	
522	PEC	PE-3	25WRE3303	GROUND IMPROVEMENT TECHNIQUES	R	GIT	3	0	0	2	3.5	5	
523	PEC	PE-3	25AEE3304A	THERMAL MANAGEMENT OF ELECTRIC AND ELECTRONIC SYSTEMS	A	TMEES	4	1	0	2	5.5	7	
524	PEC	PE-3	25AEE3304E	THERMAL MANAGEMENT OF ELECTRIC AND ELECTRONIC SYSTEMS	E	TMEES	4	1	0	2	5.5	7	
525	PEC	PE-3	25AEE3304	THERMAL MANAGEMENT OF ELECTRIC AND ELECTRONIC SYSTEMS	R	TMEES	3	0	0	2	3.5	5	
526	PEC	PE-3	25BIS3304A	STRUCTURAL BIOLOGY	A	SB	4	1	0	2	5.5	7	
527	PEC	PE-3	25BIS3304E	STRUCTURAL BIOLOGY	E	SB	4	1	0	2	5.5	7	
528	PEC	PE-3	25BIS3304	STRUCTURAL BIOLOGY	R	SB	3	0	0	2	3.5	5	
529	PEC	PE-3	25VLS3303A	VLSI PHYSICAL DESIGN AUTOMATION	A	VPDA	4	1	0	2	5.5	7	
530	PEC	PE-3	25VLS3303E	VLSI PHYSICAL DESIGN AUTOMATION	E	VPDA	4	1	0	2	5.5	7	

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531	PEC	PE-3	25VLS3303	VLSI PHYSICAL DESIGN AUTOMATION	R	VPDA	3	0	0	2	3.5	5	
532	PEC	PE-3	25SGT3304A	ENERGY MANAGEMENT SYSTEMS AND SCADA	A	EMS&SCADA	4	1	0	2	5.5	7	
533	PEC	PE-3	25SGT3304E	ENERGY MANAGEMENT SYSTEMS AND SCADA	E	EMS&SCADA	4	1	0	2	5.5	7	
534	PEC	PE-3	25SGT3304	ENERGY MANAGEMENT SYSTEMS AND SCADA	R	EMS&SCADA	3	0	0	2	3.5	5	
535	PEC	PE-3	25STE3303A	PRESTRESSED CONCRETE	A	PSC	4	1	0	2	5.5	7	
536	PEC	PE-3	25STE3303E	PRESTRESSED CONCRETE	E	PSC	4	1	0	2	5.5	7	
537	PEC	PE-3	25STE3303	PRESTRESSED CONCRETE	R	PSC	3	0	0	2	3.5	5	
538	PEC	PE-3	25CPS3303A	CYBER PHYSICAL SYSTEMS	A	CPS	4	1	0	2	5.5	7	
539	PEC	PE-3	25CPS3303E	CYBER PHYSICAL SYSTEMS	E	CPS	4	1	0	2	5.5	7	
540	PEC	PE-3	25CPS3303	CYBER PHYSICAL SYSTEMS	R	CPS	3	0	0	2	3.5	5	
541	PEC	PE-3	25DCM3303A	VOIP AND BROADBAND NETWORKS	A	VOIP	4	1	0	2	5.5	7	
542	PEC	PE-3	25DCM3303E	VOIP AND BROADBAND NETWORKS	E	VOIP	4	1	0	2	5.5	7	
543	PEC	PE-3	25DCM3303	VOIP AND BROADBAND NETWORKS	R	VOIP	3	0	0	2	3.5	5	
544	PEC	PE-3	25RAN3304A	AUTONOMOUS MOBILE ROBOT SYSTEMS	A	AMRS	4	1	0	2	5.5	7	
545	PEC	PE-3	25RAN3304E	AUTONOMOUS MOBILE ROBOT SYSTEMS	E	AMRS	4	1	0	2	5.5	7	
546	PEC	PE-3	25RAN3304	AUTONOMOUS MOBILE ROBOT SYSTEMS	R	AMRS	3	0	0	2	3.5	5	
547	PEC	PE-3	25EDS3303A	EMBEDDED AND REAL-TIME SYSTEMS	A	ERTS	4	1	0	2	5.5	7	
548	PEC	PE-3	25EDS3303E	EMBEDDED AND REAL-TIME SYSTEMS	E	ERTS	4	1	0	2	5.5	7	
549	PEC	PE-3	25EDS3303	EMBEDDED AND REAL-TIME SYSTEMS	R	ERTS	3	0	0	2	3.5	5	
550	PEC	PE-3	25EME3304A	CHARGING STATIONS FOR ELECTRIC VEHICLES	A	CSEV	4	1	0	2	5.5	7	
551	PEC	PE-3	25EME3304E	CHARGING STATIONS FOR ELECTRIC VEHICLES	E	CSEV	4	1	0	2	5.5	7	
552	PEC	PE-3	25EME3304	CHARGING STATIONS FOR ELECTRIC VEHICLES	R	CSEV	3	0	0	2	3.5	5	
553	PEC	PE-3	25EGD3304A	MODELING, ANALYSIS AND DESIGN OF ROBOTIC SYSTEMS	A	MADRS	4	1	0	2	5.5	7	
554	PEC	PE-3	25EGD3304E	MODELING, ANALYSIS AND DESIGN OF ROBOTIC SYSTEMS	E	MADRS	4	1	0	2	5.5	7	
555	PEC	PE-3	25EGD3304	MODELING, ANALYSIS AND DESIGN OF ROBOTIC SYSTEMS	R	MADRS	3	0	0	2	3.5	5	

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556	PEC	PE-3	25QTS3303A	QUANTUM SENSING & METROLOGY	A	QSM	4	1	0	2	5.5	7	
557	PEC	PE-3	25QTS3303E	QUANTUM SENSING & METROLOGY	E	QSM	4	1	0	2	5.5	7	
558	PEC	PE-3	25QTS3303	QUANTUM SENSING & METROLOGY	R	QSM	3	0	0	2	3.5	5	
559	PEC	PE-3	25BMI3303A	MATERIALS FOR BIO-MEDICAL APPLICATIONS	A	MBMA	4	1	0	2	5.5	7	
560	PEC	PE-3	25BMI3303E	MATERIALS FOR BIO-MEDICAL APPLICATIONS	E	MBMA	4	1	0	2	5.5	7	
561	PEC	PE-3	25BMI3303	MATERIALS FOR BIO-MEDICAL APPLICATIONS	R	MBMA	3	0	0	2	3.5	5	
562	PEC	PE-3	25GAM3303A	GENERATIVE AI ARCHITECTURES	A	GAA	4	1	0	2	5.5	7	
563	PEC	PE-3	25GAM3303E	GENERATIVE AI ARCHITECTURES	E	GAA	4	1	0	2	5.5	7	
564	PEC	PE-3	25GAM3303	GENERATIVE AI ARCHITECTURES	R	GAA	3	0	0	2	3.5	5	
565	PEC	PE-3	25RFM3303A	MODERN RADAR SYSTEMS & NAVIGATIONAL AIDS	A	MRSN	4	1	0	2	5.5	7	
566	PEC	PE-3	25RFM3303E	MODERN RADAR SYSTEMS & NAVIGATIONAL AIDS	E	MRSN	4	1	0	2	5.5	7	
567	PEC	PE-3	25RFM3303	MODERN RADAR SYSTEMS & NAVIGATIONAL AIDS	R	MRSN	3	0	0	2	3.5	5	
568	PEC	PE-3	25QCS3303A	QUANTUM SENSING	A	QS	4	1	0	2	5.5	7	
569	PEC	PE-3	25QCS3303E	QUANTUM SENSING	E	QS	4	1	0	2	5.5	7	
570	PEC	PE-3	25QCS3303	QUANTUM SENSING	R	QS	3	0	0	2	3.5	5	
571	PEC	PE-3	25BEW3312A	WEB3 APPLICATION DEVELOPMENT & INTEGRATION	A	WADI	4	1	0	2	5.5	7	
572	PEC	PE-3	25BEW3312E	WEB3 APPLICATION DEVELOPMENT & INTEGRATION	E	WADI	4	1	0	2	5.5	7	
573	PEC	PE-3	25BEW3312	WEB3 APPLICATION DEVELOPMENT & INTEGRATION	R	WADI	3	0	0	2	3.5	5	
574	PEC	PE-3	25GET3304A	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	A	GIRES	4	1	0	2	5.5	7	
575	PEC	PE-3	25GET3304E	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	E	GIRES	4	1	0	2	5.5	7	
576	PEC	PE-3	25GET3304	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	R	GIRES	3	0	0	2	3.5	5	
577	PEC	PE-3	25ILA3304A	INDUSTRIAL DRIVES AND CONTROL	A	ID&C	4	1	0	2	5.5	7	
578	PEC	PE-3	25ILA3304E	INDUSTRIAL DRIVES AND CONTROL	E	ID&C	4	1	0	2	5.5	7	
579	PEC	PE-3	25ILA3304	INDUSTRIAL DRIVES AND CONTROL	R	ID&C	3	0	0	2	3.5	5	
580	PEC	PE-3	25NTO3305A	NANOMATERIALS FOR BIO-MEDICAL APPLICATIONS	A	NBA	4	1	0	2	5.5	7	

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581	PEC	PE-3	25NTO3305E	NANOMATERIALS FOR BIO-MEDICAL APPLICATIONS	E	NBA	4	1	0	2	5.5	7	
582	PEC	PE-3	25NTO3305	NANOMATERIALS FOR BIO-MEDICAL APPLICATIONS	R	NBA	3	0	0	2	3.5	5	
583	PEC	PE-3	25NTO3306A	NANOROBOTICS FOR ADVANCED APPLICATIONS	A	NAA	4	1	0	2	5.5	7	
584	PEC	PE-3	25NTO3306E	NANOROBOTICS FOR ADVANCED APPLICATIONS	E	NAA	4	1	0	2	5.5	7	
585	PEC	PE-3	25NTO3306	NANOROBOTICS FOR ADVANCED APPLICATIONS	R	NAA	3	0	0	2	3.5	5	
586	PEC	PE-3	25IBT3304A	ENZYME ENGINEERING	A	EE	4	1	0	2	5.5	7	
587	PEC	PE-3	25IBT3304E	ENZYME ENGINEERING	E	EE	4	1	0	2	5.5	7	
588	PEC	PE-3	25IBT3304	ENZYME ENGINEERING	R	EE	3	0	0	2	3.5	5	
589	PEC	PE-3	25MBT3304A	HEALTHCARE BIOTECHNOLOGY	A	HBT	4	1	0	2	5.5	7	
590	PEC	PE-3	25MBT3304E	HEALTHCARE BIOTECHNOLOGY	E	HBT	4	1	0	2	5.5	7	
591	PEC	PE-3	25MBT3304	HEALTHCARE BIOTECHNOLOGY	R	HBT	3	0	0	2	3.5	5	
592	PEC	PE-3	25SMF3304A	ADDITIVE AND HYBRID MANUFACTURING	A	AHM	4	1	0	2	5.5	7	
593	PEC	PE-3	25SMF3304E	ADDITIVE AND HYBRID MANUFACTURING	E	AHM	4	1	0	2	5.5	7	
594	PEC	PE-3	25SMF3304	ADDITIVE AND HYBRID MANUFACTURING	R	AHM	3	0	0	2	3.5	5	
595	PEC	PE-4	25SMF3405	DIGITAL MANUFACTURING	R	DM	3	0	0	0	3	3	
596	PEC	PE-4	25SMF3406	PRECISION INNOVATION & ENTREPRENEURSHIP	R	PIE	3	0	0	0	3	3	
597	PEC	PE-4	25IOT3407	APPLIED MACHINE LEARNING FOR AGRICULTURE	R	AMLA	3	0	0	0	3	3	
598	PEC	PE-4	25IBT3405	BIOPROCESS VALIDATION AND CGMP	R	BVCGMP	3	0	2	0	4	5	
599	PEC	PE-4	25IBT3406	FOOD TECHNOLOGY	R	FT	3	0	0	0	3	3	
600	PEC	PE-4	25SGT3405	SMART GRID COMMUNICATION AND CYBERSECURITY	R	SGCCS	3	0	0	0	3	3	
601	PEC	PE-4	25NTO3407	COMPUTATIONAL DATA SCIENCE FOR NANOTECHNOLOGY	R	CDN	3	0	0	0	3	3	
602	PEC	PE-4	25NTO3408	INDUSTRIAL NANOTECHNOLOGY	R	INT	3	0	0	0	3	3	
603	PEC	PE-4	25ILA3405	INDUSTRIAL COMMUNICATION PROTOCOLS AND CYBER SECURITY	R	ICPCS	3	0	0	0	3	3	
604	PEC	PE-4	25ILA3406	DIGITAL MANUFACTURING AND DESIGN	R	DMD	3	0	0	0	3	3	
605	PEC	PE-4	25GET3405	ENERGY MANAGEMENT AND GREEN BUILDING	R	EMGB	3	0	0	0	3	3	

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606	PEC	PE-4	25GET3406	HYDROGEN FUEL CELL TECHNOLOGY	R	HFCT	3	0	0	0	3	3	
607	PEC	PE-4	25BEW3413	DECENTRALIZED FINANCE (DEFI) SYSTEMS ENGINEERING	R	DFSE	3	0	0	0	3	3	
608	PEC	PE-4	25BEW3414	POST-QUANTUM CRYPTOGRAPHY FOR BLOCKCHAIN	R	PQCB	3	0	0	0	3	3	
609	PEC	PE-4	25SDM3405	DIGITAL MEDIA ANALYTICS	R	DMA	3	0	0	0	3	3	
610	PEC	PE-4	25QCS3404	QUANTUM RADAR	R	QR	3	0	0	0	3	3	
611	PEC	PE-4	25RFM3404	RF AND MILLIMETER-WAVE CIRCUIT DESIGN	R	RMWCD	3	0	0	0	3	3	
612	PEC	PE-4	25GAM3404	DESIGN OF LARGE LANGUAGE MODELS	R	DLLM	3	0	0	0	3	3	
613	PEC	PE-4	25BMI3404	NANOTECHNOLOGY AND NANOSENSORS	R	NTN	3	0	0	0	3	3	
614	PEC	PE-4	25MBT3406	NEUROBIOLOGY	R	NB	3	0	0	0	3	3	
615	PEC	PE-4	25MBT3405	CANCER BIOLOGY	R	CB	3	0	0	0	3	3	
616	PEC	PE-4	25QTS3404	QUANTUM MATERIALS & TOPOLOGICAL MATTER	R	QMTM	3	0	0	0	3	3	
617	PEC	PE-4	25EGD3405	SUSTAINABLE DESIGN AND SOCIAL INNOVATION IN ENGINEERING DESIGN	R	SDSIED	3	0	0	0	3	3	
618	PEC	PE-4	25EGD3406	ADVANCED VIBRATIONS	R	AV	3	0	0	0	3	3	
619	PEC	PE-4	25EME3405	INTRODUCTION TO BATTERY-MANAGEMENT SYSTEMS	R	IBMS	3	0	0	0	3	3	
620	PEC	PE-4	25EME3406	BATTERY STATE ESTIMATION ALGORITHMS FOR ELECTRIC VEHICLE	R	BSAEV	3	0	0	0	3	3	
621	PEC	PE-4	25EDS3404	CLOUD ARCHITECTURE IN IOT	R	CAIOT	3	0	0	0	3	3	
622	PEC	PE-4	25RAN3406	HUMAN MACHINE INTERFACE AND BRAIN MACHINE INTERFACE	R	HMIBMI	3	0	0	0	3	3	
623	PEC	PE-4	25RAN3405	ARTIFICIAL INTELLIGENCE FOR ROBOTICS	R	AIR	3	0	0	0	3	3	
624	PEC	PE-4	25SGT3406	SMART METERS AND SMART CITIES	R	SMSC	3	0	0	0	3	3	
625	PEC	PE-4	25DCM3404	5G MOBILE AND IEEE STANDARDS	R	5GMI	3	0	0	0	3	3	
626	PEC	PE-4	25CPS3404	FOUNDATIONS OF HYBRID AND EMBEDDED SYSTEMS	R	DVP	3	0	0	0	3	3	
627	PEC	PE-4	25VLS3404	MIXED SIGNAL IC DESIGN	R	MSID	3	0	0	0	3	3	
628	PEC	PE-4	25STE3404	SUSTAINABLE CONSTRUCTION TECHNOLOGY	R	SCT	3	0	0	0	3	3	
629	PEC	PE-4	25AEE3406	VEHICLE DYNAMICS	R	VDS	3	0	0	0	3	3	

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630	PEC	PE-4	25BIS3405	APPLIED BIOINFORMATICS	R	ABI	3	0	0	0	3	3	
631	PEC	PE-4	25BIS3406	NGS SEQUENCING AND DATA ANALYSIS	R	NGSDA	3	0	0	0	3	3	
632	PEC	PE-4	25AEE3405	SPECIAL PURPOSE VEHICLES	R	SPV	3	0	0	0	3	3	
633	PEC	PE-4	25WRE3404	RIVER ENGINEERING	R	REG	3	0	0	0	3	3	
634	PEC	PE-4	25AEA3406	AUTOMOTIVE ELECTRICAL AND ELECTRONIC SYSTEMS	R	AEES	3	0	0	0	3	3	
635	PEC	PE-4	25AEA3405	VEHICLE CONTROL SYSTEMS	R	VCS	3	0	0	0	3	3	
636	PEC	PE-4	25ABT3405	BIOINSTRUMENTATION	R	BIIS	3	0	0	0	3	3	
637	PEC	PE-4	25ABT3406	DATA ACQUISITION AND COMMUNICATION SYSTEMS FOR AGRICULTURE	R	DACSA	3	0	0	0	3	3	
638	PEC	PE-4	25AAS3410	CYBERSECURITY IN AUTONOMOUS VEHICLE	R	CAV	3	0	0	0	3	3	
639	PEC	PE-4	25CTI3407	CLOUD SECURITY	R	CS	3	0	0	0	3	3	
640	PEC	PE-4	25CTI3408	DEVSECOPS & INFRASTRUCTURE SECURITY	R	DSI	3	0	0	0	3	3	
641	PEC	PE-4	25IOT3406	DATA VISUALIZATION TECHNIQUES	R	DVT	3	0	0	0	3	3	
642	PEC	PE-4	25CAC3405	CLOUD ARCHITECTURES FOR HPC & AI WORKLOADS	R	CHAW	3	0	0	0	3	3	
643	PEC	PE-4	25CAC3406	QUANTUM ALGORITHMS FOR AI & OPTIMIZATION	R	QAAO	3	0	0	0	3	3	
644	PEC	PE-4	25HDA3407	INTRODUCTION TO GENOMIC TECHNOLOGIES	R	IGT	3	0	0	0	3	3	
645	PEC	PE-4	25GMI3404	GENERATIVE AI, AGENTIC AI & RETRIEVAL AUGMENTED GENERATION	R	GAAR	3	0	0	0	3	3	
646	PEC	PE-4	25HCA3408	VISION TRANSFORMERS & GENERATIVE MODELS FOR VISION	R	VTGM	3	0	0	0	3	3	
647	PEC	PE-4	25GSD3404	HARDWARE FOR SUSTAINABLE DIGITAL INFRASTRUCTURE	R	HSDI	3	0	0	0	3	3	
648	PEC	PE-4	25CND3404	CLOUD-NATIVE MLOPS & A1-DRIVEN APPLICATION DEPLOYMENT	R	CNMA	3	0	0	0	3	3	
649	PEC	PE-4	25DLA3404	TOKENOMICS, DIGITAL ASSETS & CRYPTO INFRASTRUCTURE	R	TDCI	3	0	0	0	3	3	
650	PEC	PE-4	25IGD3407	IMMERSIVE GAME DEVELOPMENT	R	IGD	3	0	0	0	3	3	
651	PEC	PE-4	25IGD3408	SPATIAL COMPUTING FOR INTERACTIVE SYSTEMS	R	SCIS	3	0	0	0	3	3	
652	PEC	PE-4	25AAS3405	EXPERT SYSTEMS	R	ES	3	0	0	0	3	3	
653	PEC	PE-4	25AAS3406	SELF-DRIVING CARS	R	SDC	3	0	0	0	3	3	

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654	PEC	PE-4	25AAS3415	REAL-TIME NETWORKS, COMMUNICATION & SECURITY FOR AUTONOMOUS SYSTEMS	R	RTNCSAS	3	0	0	0	3	3	
655	PEC	PE-4	25SMD3404	SOFTWARE PROJECT MANAGEMENT	R	SPM	3	0	0	0	3	3	
656	PEC	PE-4	25SMD3405	SOFTWARE ARCHITECTURE & DESIGN	R	SAD	3	0	0	0	3	3	
657	PEC	PE-4	25HSS3404	SOFTWARE SECURITY PRINCIPLES	R	SSP	3	0	0	0	3	3	
658	PEC	PE-4	25SDM3406	ETHICAL SOCIAL MEDIA	R	ESM	3	0	0	0	3	3	
659	PEC	PE-4	25HSS3405	SECURE CO-DESIGN METHODOLOGIES	R	SCDM	3	0	0	0	3	3	
660	PEC	PE-4	25HSS3406	HARDWARE TROJAN DETECTION AND PREVENTION	R	HTDAP	3	0	0	0	3	3	
661	PEC	PE-4	25HDA3406	NGS SEQUENCING AND DATA ANALYSIS	R	NGSDA	3	0	0	0	3	3	
662	PEC	PE-4	25DSB3404	BIG DATA OPTIMIZATION	R	BDO	3	0	0	0	3	3	
663	PEC	PE-4	25DSB3407	DATA ANALYTICS ON CLOUD	R	DAC	3	0	0	0	3	3	
664	PEC	PE-4	25DSB3408	DIGITAL MEDIA ANALYTICS	R	DMA	3	0	0	0	3	3	
665	PEC	PE-4	25DLA3405	BLOCKCHAIN ANALYTICS	R	BCA	3	0	0	0	3	3	
666	PEC	PE-4	25DLA3406	CRYPTOCURRENCY AND BLOCKCHAIN TECHNOLOGY	R	CBT	3	0	0	0	3	3	
667	PEC	PE-4	25DEA3404	DATA WAREHOUSING AND BUSINESS INTELLIGENCE	R	DWBI	3	0	0	0	3	3	
668	PEC	PE-4	25ADE3404	EDGE AI AND 5G	R	EAI5G	3	0	0	0	3	3	
669	PEC	PE-4	25ADE3405	EDGE AI SECURITY AND PROTECTION	R	EAI5P	3	0	0	0	3	3	
670	PEC	PE-4	25CSB3405	DATABASE SYSTEM AND SECURITY	R	DSS	3	0	0	0	3	3	
671	PEC	PE-4	25CSB3406	PROGRAMMING FOR SMART CONTRACTS	R	PSC	3	0	0	0	3	3	
672	PEC	PE-4	25CSB3407	CLOUD SECURITY	R	CS	3	0	0	0	3	3	
673	PEC	PE-4	25CPD3406	META REACT NATIVE SPECIALIZATION	R	MRNS	3	0	0	0	3	3	
674	PEC	PE-4	25CPD3405	UX DESIGN	R	UXD	3	0	0	0	3	3	
675	PEC	PE-4	25CSC3405	CLOUD-BASED GRID COMPUTING	R	CGC	3	0	0	0	3	3	
676	PEC	PE-4	25CSC3406	CLOUD COMPUTING FOR SCIENTIFIC DISCOVERY	R	CCFSD	3	0	0	0	3	3	
677	PEC	PE-4	25CNS3404	MICROSERVICES SECURITY	R	MSS	3	0	0	0	3	3	
678	PEC	PE-4	25CNS3405	INFRASTRUCTURE AS CODE SECURITY	R	ISACS	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
679	PEC	PE-4	25CNS3406	IDENTITY AND ACCESS MANAGEMENT IN CLOUD NATIVE ENVIRONMENTS	R	IAMCNE	3	0	0	0	3	3	
680	PEC	PE-4	25CNS3407	NETWORK SECURITY IN CLOUD NATIVE ARCHITECTURES	R	NSCNA	3	0	0	0	3	3	
681	PEC	PE-4	25CID3405	RELIABLE CLOUD INFRASTRUCTURE: DESIGN AND PROCESS	R	RID	3	0	0	0	3	3	
682	PEC	PE-4	25CID3406	HYBRID CLOUD INTEGRATION AND MANAGEMENT	R	HCIM	3	0	0	0	3	3	
683	PEC	PE-4	25CEC3406	ADVANCED COMPUTER ARCHITECTURE	R	ACA	3	0	0	0	3	3	
684	PEC	PE-4	25CEC3407	PARALLEL ALGORITHMS	R	PA	3	0	0	0	3	3	
685	PEC	PE-4	25CEC3408	CLOUD SECURITY	R	CS	3	0	0	0	3	3	
686	PEC	PE-4	25CEC3409	ARCHITECTING CLOUD SOLUTIONS*	R	ACS	3	0	0	0	3	3	
687	PEC	PE-4	25CNE3405	SERVERLESS COMPUTING AND EVENT-DRIVEN ARCHITECTURES	R	SCEDA	3	0	0	0	3	3	
688	PEC	PE-4	25CNE3406	CLOUD NATIVE SOFTWARE ARCHITECTURES	R	CNSA	3	0	0	0	3	3	
689	PEC	PE-4	25BEW3404	BLOCKCHAIN PLATFORMS AND PROTOCOLS	R	BCFP	3	0	0	0	3	3	
690	PEC	PE-4	25BEW3405	BLOCKCHAIN SECURITY	R	BCF	3	0	0	0	3	3	
691	PEC	PE-4	25BEW3406	ORACLES AND DATA FEEDS	R	ODF	3	0	0	0	3	3	
692	PEC	PE-4	25ALT3404	TEXT UNDERSTANDING	R	TUS	3	0	0	0	3	3	
693	PEC	PE-4	25ALT3405	NATURAL LANGUAGE PROCESSING	R	NLP	3	0	0	0	3	3	
694	PEC	PE-4	25ALT3506	LANGUAGE UNDERSTANDING WITH PRE-TRAINED MODELS	R	LUWPTM	3	0	0	0	3	3	
695	PEC	PE-4	25AVI3404	VISUAL RECOGNITION AND SCENE UNDERSTANDING	R	VRASU	3	0	0	0	3	3	
696	PEC	PE-4	25AVI3405	VISUAL RECOGNITION AND SCENE UNDERSTANDING	R	VRSU	3	0	0	0	3	3	
697	PEC	PE-4	25ACI3404	HEURISTIC ALGORITHMS	R	HA	3	0	0	0	3	3	
698	PEC	PE-4	25ACI3405	SWARM INTELLIGENCE APPROACHES	R	SIA	3	0	0	0	3	3	
699	PEC	PE-4	25AEC3404	SERVERLESS & COST-OPTIMIZED AI AT THE EDGE	R	SCAE	3	0	0	0	3	3	
700	PEC	PE-4	25DLS3404	REAL-TIME ANALYTICS & COMPLEX EVENT PROCESSING	R	RTAC	3	0	0	0	3	3	
701	PEC	PE-4	25DSE3406	AI-DRIVEN DATA ENGINEERING	R	AIDE	3	0	0	0	3	3	
702	PEC	PE-4	25DSE3407	DATA GOVERNANCE ON CLOUD	R	DGC	3	0	0	0	3	3	

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703	PEC	PE-4	25SCI3404	SPATIAL AND SOCIAL IMPLICATIONS OF IMMERSIVE TECHNOLOGIES	R	SSIIT	3	0	0	0	3	3	
704	PEC	PE-4	25SCI3405	SPATIAL AUDIO DESIGN FOR GAMES	R	SADG	3	0	0	0	3	3	
705	PEC	PE-4	25GDU3404	COMPUTER GRAPHICS	R	CG	3	0	0	0	3	3	
706	PEC	PE-4	25GDU3405	3D MODELLING & ANIMATION	R	3DMA	3	0	0	0	3	3	
707	PEC	PE-5	25GDU3506	PRINCIPLES OF GAME DESIGN	R	PRGD	3	0	0	0	3	3	
708	PEC	PE-5	25GDU3507	BUSINESS OF GAMES & ENTREPRENEURSHIP	R	BGE	3	0	0	0	3	3	
709	PEC	PE-5	25SCI3506	SPATIAL USER INTERFACE DESIGN	R	SUID	3	0	0	0	3	3	
710	PEC	PE-5	25SCI3507	INTRODUCTION TO SPATIAL COMPUTING	R	ITSC	3	0	0	0	3	3	
711	PEC	PE-5	25DSE3508	DATA ANALYTICS ON CLOUD	R	DAC	3	0	0	0	3	3	
712	PEC	PE-5	25DSE3509	GRAPH & WEB ANALYTICS	R	GWA	3	0	0	0	3	3	
713	PEC	PE-5	25DLS3505	STREAMING ANALYTICS FOR IOT AND EDGE ENVIRONMENTS	R	SAIE	3	0	0	0	3	3	
714	PEC	PE-5	25AEC3505	EDGE AI ORCHESTRATION & LIFECYCLE MANAGEMENT	R	EAOM	3	0	0	0	3	3	
715	PEC	PE-5	25ACI3506	DATA MANIPULATION	R	DM	3	0	0	0	3	3	
716	PEC	PE-5	25ACI3507	REINFORCEMENT LEARNING	R	RIL	3	0	0	0	3	3	
717	PEC	PE-5	25ACI3508	EVOLUTIONARY COMPUTATION	R	ECP	3	0	0	0	3	3	
718	PEC	PE-5	25AVI3506	HUMAN COMPUTER INTERACTION	R	HCI	3	0	0	0	3	3	
719	PEC	PE-5	25AVI3507	HUMAN COMPUTER INTERACTION	R	HCI	3	0	0	0	3	3	
720	PEC	PE-5	25AVI3508	OBJECT LOCALIZATION	R	OL	3	0	0	0	3	3	
721	PEC	PE-5	25ALT3507	LARGE LANGUAGE MODEL FOR SPEECH PROCESSING	R	LLMFSP	3	0	0	0	3	3	
722	PEC	PE-5	25BEW3507	BLOCKCHAIN SCALABILITY AND LAYER 2 SOLUTIONS	R	BCSALS	3	0	0	0	3	3	
723	PEC	PE-5	25BEW3508	REGULATORY LANDSCAPE AND COMPLIANCE	R	RLAC	3	0	0	0	3	3	
724	PEC	PE-5	25BEW3509	FUTURE TRENDS IN BLOCKCHAIN AND WEB3	R	FTBCAW	3	0	0	0	3	3	
725	PEC	PE-5	25CNE3507	CLOUD NATIVE NETWORKING AND STORAGE SYSTEMS	R	CNNSS	3	0	0	0	3	3	
726	PEC	PE-5	25CNE3508	CLOUD INFRASTRUCTURE AND VIRTUALIZATION	R	CIAV	3	0	0	0	3	3	
727	PEC	PE-5	25CEC3510	EDGE COMPUTING	R	EC	3	0	0	0	3	3	
728	PEC	PE-5	25CEC3511	HIGH PERFORMANCE COMPUTING	R	HPC	3	0	0	0	3	3	

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729	PEC	PE-5	25CEC3512	DESIGN OF DISTRIBUTED APPLICATIONS ON CLOUD (DDA)	R	DDAC	3	0	0	0	3	3	
730	PEC	PE-5	25CEC3513	CLOUD NETWORKING	R	CN	3	0	0	0	3	3	
731	PEC	PE-5	25CID3507	CLOUD ENGINEERING	R	CE	3	0	0	0	3	3	
732	PEC	PE-5	25CID3508	CLOUD DATA MANAGEMENT AND STORAGE SOLUTIONS	R	CDMSS	3	0	0	0	3	3	
733	PEC	PE-5	25CNS3508	MONITORING AND LOGGING FOR CLOUD NATIVE SECURITY	R	MLCNS	3	0	0	0	3	3	
734	PEC	PE-5	25CNS3509	COMPLIANCE AND GOVERNANCE IN CLOUD NATIVE ENVIRONMENTS	R	CGCNE	3	0	0	0	3	3	
735	PEC	PE-5	25CNS3510	SERVERLESS SECURITY	R	SLSY	3	0	0	0	3	3	
736	PEC	PE-5	25CNS3512	FUTURE TRENDS IN CLOUD NATIVE SECURITY	R	FTCNS	3	0	0	0	3	3	
737	PEC	PE-5	25CSC3507	CLOUD-BASED SCALABLE COMPUTING AND BIG DATA ANALYTICS	R	CSCBD	3	0	0	0	3	3	
738	PEC	PE-5	25CSC3508	PARALLEL COMPUTING FOR SCIENTISTS USING CLOUD PLATFORMS	R	PCSCP	3	0	0	0	3	3	
739	PEC	PE-5	25CPD3507	ADVANCED MOBILE APPLICATION DEVELOPMENT	R	AMAD	3	0	0	0	3	3	
740	PEC	PE-5	25CPD3508	CROSS PLATFORM USER INTERFACE DESIGN	R	CPED	3	0	0	0	3	3	
741	PEC	PE-5	25CPS3507	EDGE COMPUTING	R	EC	3	0	0	0	3	3	
742	PEC	PE-5	25CSB3508	SECURE SOFTWARE ENGINEERING	R	SSE	3	0	0	0	3	3	
743	PEC	PE-5	25CSB3509	WEB SECURITY	R	WS	3	0	0	0	3	3	
744	PEC	PE-5	25CSB3510	SECURITY GOVERNANCE & MANAGEMENT	R	SGM	3	0	0	0	3	3	
745	PEC	PE-5	25ADE3506	EDGE AI DEVELOPMENT FRAMEWORKS AND TOOLS	R	EAIIDFT	3	0	0	0	3	3	
746	PEC	PE-5	25ADE3507	EDGE AI ANALYTICS AND DATA MANAGEMENT	R	EAIADM	3	0	0	0	3	3	
747	PEC	PE-5	25ADE3508	EDGE AI AND SUSTAINABILITY	R	EAIAS	3	0	0	0	3	3	
748	PEC	PE-5	25SMD3507	CROSS-PLATFORM USER INTERFACE DESIGN	R	CPUIF	3	0	0	0	3	3	
749	PEC	PE-5	25DEA3505	MACHINE LEARNING ENGINEERING FOR BIG DATA	R	MLEBD	3	0	0	0	3	3	
750	PEC	PE-5	25DLA3507	DISTRIBUTED LEDGER ARCHITECTURE FOR AUTOMATION	R	DLAA	3	0	0	0	3	3	
751	PEC	PE-5	25DSB3509	ADVANCED DATABASES	R	AD	3	0	0	0	3	3	
752	PEC	PE-5	25DSB3510	BUSINESS ANALYTICS	R	BA	3	0	0	0	3	3	

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753	PEC	PE-5	25SMD3506	SOFTWARE RELIABILITY	R	SR	3	0	0	0	3	3	
754	PEC	PE-5	25HDA3511	EPI GENETIC CONTROL FOR GENE EXPRESSION	R	ECBI	3	0	0	0	3	3	
755	PEC	PE-5	25HDA3510	GENOMIC DATASCIENCE AND CLUSTERING	R	GDSC	3	0	0	0	3	3	
756	PEC	PE-5	25HSS3507	SIDE-CHANNEL ATTACKS AND COUNTER MEASURES	R	SCACM	3	0	0	0	3	3	
757	PEC	PE-5	25HSS3508	FORMAL METHODS FOR HARDWARE-SOFTWARE SECURITY	R	FMHSS	3	0	0	0	3	3	
758	PEC	PE-5	25HSS3509	TRUSTED PLATFORM MODULES AND SECURE ELEMENTS	R	TPMASE	3	0	0	0	3	3	
759	PEC	PE-5	25DSB3511	GRAPH & WEB ANALYTICS	R	GWA	3	0	0	0	3	3	
760	PEC	PE-5	25DSB3512	DATA GOVERNANCE ON CLOUD	R	DGC	3	0	0	0	3	3	
761	PEC	PE-5	25DLA3508	PERMISSIONED DISTRIBUTED LEDGER	R	PDL	3	0	0	0	3	3	
762	PEC	PE-5	25SDM3508	SEARCH ENGINE OPTIMIZATION	R	SEO	3	0	0	0	3	3	
763	PEC	PE-5	25AAS3507	LOCALIZATION & PROGRAMMING REAL-TIME AUTONOMOUS SYSTEMS	R	LPRAS	3	0	0	0	3	3	
764	PEC	PE-5	25AAS3508	REINFORCEMENT LEARNING FOR AUTONOMOUS SYSTEM	R	RLA	3	0	0	0	3	3	
765	PEC	PE-5	25AAS3511	AI DRIVEN ECU DESIGN FOR AUTONOMOUS VEHICLES	R	AEDATT	3	0	0	0	3	3	
766	PEC	PE-5	25AAS3516	CYBER-PHYSICAL SECURITY IN AUTONOMOUS PLATFORMS	R	CPSAP	3	0	0	0	3	3	
767	PEC	PE-5	25IGD3509	GAME AI AND AUTONOMOUS AGENTS	R	GAIA	3	0	0	0	3	3	
768	PEC	PE-5	25IGD3510	GENERATIVE AI IN GAME DESIGN	R	GAID	3	0	0	0	3	3	
769	PEC	PE-5	25DLA3505	PRIVACY, COMPLIANCE & DECENTRALIZED SECURITY ENGINEERING	R	PCDS	3	0	0	0	3	3	
770	PEC	PE-5	25HSS3511	HARDWARE-SOFTWARE CO-DESIGN	R	HSCCS	3	0	0	0	3	3	
771	PEC	PE-5	25HSS3512	FUTURE TRENDS IN HARDWARE-SOFTWARE CO-DESIGN FOR SECURITY	R	FTHSCS	3	0	0	0	3	3	
772	PEC	PE-5	25IOT3508	BIG DATA ANALYTICS	R	BDA	3	0	0	0	3	3	
773	PEC	PE-5	25CND3505	HIGH-PERFORMANCE & SECURE CLOUD-NATIVE SYSTEMS	R	HPCS	3	0	0	0	3	3	
774	PEC	PE-5	25GSD3505	SMART INFRASTRUCTURE FOR GREEN DATA CENTERS	R	SIGD	3	0	0	0	3	3	
775	PEC	PE-5	25GMI3505	MULTI-MODAL INTELLIGENCE	R	MMI	3	0	0	0	3	3	
776	PEC	PE-5	25HDA3509	MOLECULAR MODELLING AND DRUG DESIGN	R	MMOD	3	0	0	0	3	3	

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777	PEC	PE-5	25HCA3509	AI ETHICS, FAIRNESS & RESPONSIBLE DEPLOYMENT	R	AIFD	3	0	0	0	3	3	
778	PEC	PE-5	25HCA3510	HUMAN-AI INTERACTION & USER-CENTERED DESIGN	R	HAI	3	0	0	0	3	3	
779	PEC	PE-5	25CAC3507	MLOPS & SCIENTIFIC WORKFLOW AUTOMATION IN CLOUD	R	MSWC	3	0	0	0	3	3	
780	PEC	PE-5	25CAC3508	HYBRID QUANTUM-CLASSICAL CLOUD SYSTEMS	R	HQCC	3	0	0	0	3	3	
781	PEC	PE-5	25CTI3509	QUANTUM CRYPTOGRAPHY & POST-QUANTUM SECURITY	R	QCPS	3	0	0	0	3	3	
782	PEC	PE-5	25CTI3510	APPLIED CRYPTOGRAPHY FOR CYBERSECURITY	R	ACC	3	0	0	0	3	3	
783	PEC	PE-5	25WLT3505	MACHINE LEARNING FOR WIRELESS COMMUNICATION	R	MLWC	3	0	0	0	3	3	
784	PEC	PE-5	25ABT3507	MICROFLUIDICS FOR AGRICULTURAL APPLICATIONS	R	MAP	3	0	0	0	3	3	
785	PEC	PE-5	25ABT3508	BIOINFORMATICS FOR AGRICULTURE	R	BIA	3	0	0	0	3	3	
786	PEC	PE-5	25WLT3404	OPTICAL WIRELESS COMMUNICATIONS	R	OWC	3	0	0	0	3	3	
787	PEC	PE-5	25AEA3507	SOFT COMPUTING TECHNIQUES FOR AUTOMOTIVE APPLICATIONS	R	SCTAA	3	0	0	0	3	3	
788	PEC	PE-5	25AEA3508	AUTOMOTIVE NETWORKING AND PROTOCOLS	R	ANP	3	0	0	0	3	3	
789	PEC	PE-5	25WRE3505	ENVIRONMENTAL IMPACT ASSESSMENT AND LIFE CYCLE ANALYSIS	R	EIALCA	3	0	0	0	3	3	
790	PEC	PE-5	25AEE3507	AUTONOMOUS VEHICLES	R	AVS	3	0	0	0	3	3	
791	PEC	PE-5	25VLS3505	SYSTEM-ON-CHIP	R	SOC	3	0	0	0	3	3	
792	PEC	PE-5	25AEE3508	ALTERNATE ENERGY SOURCES FOR AUTOMOBILES	R	AESA	3	0	0	0	3	3	
793	PEC	PE-5	25BIS3507	SYSTEMS BIOLOGY	R	SSB	3	0	0	0	3	3	
794	PEC	PE-5	25BIS3508	DATA BASE MANAGEMENT SYSTEM FOR BIOLOGIST	R	DBMS	3	0	0	0	3	3	
795	PEC	PE-5	25BMI3505	BIOSENSING AND BIOELECTRONICS	R	BSBE	3	0	0	0	3	3	
796	PEC	PE-5	25STE3505	CONSTRUCTION PLANNING AND SCHEDULING	R	CPS	3	0	0	0	3	3	
797	PEC	PE-5	25CPS3505	CLOUD COMPUTING FOR IOT ENGINEERS	R	CCIOTE	3	0	0	0	3	3	
798	PEC	PE-5	25CPS3506	WIRELESS SENSOR NETWORKS	R	WSN	3	0	0	0	3	3	
799	PEC	PE-5	25SGT3508	SMART GRID PROTECTION	R	SGP	3	0	0	0	3	3	
800	PEC	PE-5	25SGT3507	INTERNET OF THINGS AND SMART GRID ANALYTICS	R	IOT&SGA	3	0	0	0	3	3	

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801	PEC	PE-5	25DCM3505	IP MULTIMEDIA SUB-SYSTEM AND EMERGING TECHNOLOGIES	R	IMSET	3	0	0	0	3	3	
802	PEC	PE-5	25RAN3507	COMPUTER VISION AND APPLICATIONS	R	CVA	3	0	0	0	3	3	
803	PEC	PE-5	25EDS3505	EDGE COMPUTING AND DATA ANALYTICS IN IOT	R	ECDAI	3	0	0	0	3	3	
804	PEC	PE-5	25EME3507	AI AND IOT FOR ELECTRIC VEHICLE	R	AIEV	3	0	0	0	3	3	
805	PEC	PE-5	25EME3508	EV SYSTEM AND WIRING DESIGN	R	ESWS	3	0	0	0	3	3	
806	PEC	PE-5	25EGD3507	MECHANICS OF COMPOSITE MATERIALS	R	MOCM	3	0	0	0	3	3	
807	PEC	PE-5	25EGD3508	HYBRID AND ELECTRIC VEHICLE DESIGN	R	HEVD	3	0	0	0	3	3	
808	PEC	PE-5	25QTS3505	QUANTUM AI & MACHINE LEARNING	R	QAIML	3	0	0	0	3	3	
809	PEC	PE-5	25GAM3505	AI PRODUCT DEVELOPMENT AND MANAGEMENT	R	APDM	3	0	0	0	3	3	
810	PEC	PE-5	25RFM3505	SATELLITE DESIGN	R	SD	3	0	0	0	3	3	
811	PEC	PE-5	25QCS3506	QUANTUM INFORMATION THEORY	R	QIT	3	0	0	0	3	3	
812	PEC	PE-5	25QCS3505	QUANTUM SATELLITE COMMUNICATIONS	R	QSC	3	0	0	0	3	3	
813	PEC	PE-5	25SDM3507	INTELLIGENT SOCIAL MEDIA MONITORING SYSTEMS	R	ISMMS	3	0	0	0	3	3	
814	PEC	PE-5	25BEW3515	DECENTRALIZED STORAGE, IDENTITY & MIDDLEWARE SYSTEMS	R	DSIM	3	0	0	0	3	3	
815	PEC	PE-5	25BEW3516	QUANTUM ALGORITHMS FOR BLOCKCHAIN DATA ANALYSIS	R	QABA	3	0	0	0	3	3	
816	PEC	PE-5	25GET3507	AI AND IOT FOR GREEN ENERGY INTEGRATION	R	AIGEI	3	0	0	0	3	3	
817	PEC	PE-5	25GET3508	POWER ELECTRONICS FOR RENEWABLE ENERGY SYSTEMS	R	PERES	3	0	0	0	3	3	
818	PEC	PE-5	25NTO3510	MICRO/NANO FLUIDIC SYSTEMS FOR SENSORS	R	MFS	3	0	0	0	3	3	
819	PEC	PE-5	25NTO3509	BIOSENSING AND BIOELECTRONICS	R	BAB	3	0	0	0	3	3	
820	PEC	PE-5	25ILA3507	SMART SENSORS AND SENSOR NETWORKING	R	SSSN	3	0	0	0	3	3	
821	PEC	PE-5	25ILA3508	PLC PROGRAMMING AND CONTROL	R	PLCPC	3	0	0	0	3	3	
822	PEC	PE-5	25IBT3507	MICROBIAL TECHNOLOGY	R	MBT	3	0	0	0	3	3	
823	PEC	PE-5	25IBT3508	METABOLIC ENGINEERING	R	MBE	3	0	0	0	3	3	
824	PEC	PE-5	25MBT3508	TISSUE ENGINEERING	R	NBT	3	0	0	0	3	3	
825	PEC	PE-5	25MBT3507	BIOELECTRONICS AND BIOSENSORS	R	BB	3	0	0	0	3	3	

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826	PEC	PE-5	25SMF3507	SUSTAINABLE MANUFACTURING	R	SM	3	0	0	0	3	3	
827	PEC	PE-5	25SMF3508	MACHINE TO MACHINE COMMUNICATION	R	MMC	3	0	0	0	3	3	
828	PRI	PRI-CORE	25IE4048	ENGINEERING PROJECT	R	EPJ	0	0	8	16	8	12	
829	PRI	PRI-CORE	25IE4054	ENGINEERING CAPSTONE PROJECT - 2	R	ECP-2	0	0	8	16	8	12	
830	PRI	PRI-CORE	25IE3041	TECHNICAL INTERNSHIP	R	TIP	0	0	0	4	0	4	
831	PRI	PRI-CORE	25IE2040	SOCIAL INTERNSHIP	R	SIP	0	0	0	4	0	4	
832	PRI	PRI-CORE	25IE4053	ENGINEERING CAPSTONE PROJECT - 1	R	ECP-1	0	0	8	16	8	12	
833	PRI	PRI-CORE	25IE4051	INTERNSHIP-1	R	INT-1	0	0	8	16	8	12	
834	PRI	PRI-CORE	25IE4052	INTERNSHIP-2	R	INT-2	0	0	8	16	8	12	
835	PRI	PRI-CORE	25IE4042	INTERNSHIP	R	INT	0	0	8	16	8	12	
836	PRI	PRI-CORE	25IE4055	INNOVATION PROJECT-1	R	IP-1	0	0	8	16	8	12	
837	PRI	PRI-CORE	25IE4056	INNOVATION PROJECT-2	R	IP-2	0	0	8	16	8	12	
838	PRI	PRI-CORE	25IE4057	RESEARCH PROJECT-1	R	RP-1	0	0	8	16	8	12	
839	PRI	PRI-CORE	25IE4058	RESEARCH PROJECT-2	R	RP-2	0	0	8	16	8	12	
840	OEC	OE-1	OEAG1001	AGRICULTURE CROP PRODUCTION	R	ACP	3	0	0	0	3	3	
841	OEC	OE-1	OEBA1001	INTERNATIONAL RELATIONS	R	IR	3	0	0	0	3	3	
842	OEC	OE-1	OEPY1001	ADVANCED ORGANIC CHEMISTRY	R	AOC	3	0	0	0	3	3	
843	OEC	OE-1	OEBB1001	FINANCE FOR ENGINEERS	R	FE	3	0	0	0	3	3	
844	OEC	OE-1	OEBT1001	IPR AND PATENT LAWS	R	IPRPL	3	0	0	0	3	3	
845	OEC	OE-1	OEBT1002	ENVIRONMENTAL BIOTECHNOLOGY	R	EB	3	0	0	0	3	3	
846	OEC	OE-1	OECE1001	SOLID AND HAZARDOUS WASTE MANAGEMENT	R	SHWM	3	0	0	0	3	3	
847	OEC	OE-1	OECE1002	ENVIRONMENTAL POLLUTION CONTROL METHODS	R	EPCM	3	0	0	0	3	3	
848	OEC	OE-1	OECE1003	INDUSTRIAL WASTE WATER TREATMENT	R	IWWT	3	0	0	0	3	3	
849	OEC	OE-1	OEBB1002M	FINANCIAL MATHEMATICS & RISK ANALYTICS	R	FMRA	3	0	2	0	4	5	
850	OEC	OE-1	OECM1001	ACCOUNTING FOR ENGINEERS	R	AE	3	0	0	0	3	3	
851	OEC	OE-1	OECs1001	FUNDAMENTALS OF DBMS	R	FDBMS	3	0	0	0	3	3	
852	OEC	OE-1	OECs1002	SUSTAINABILITY AND ENVIRONMENTAL AWARENESS IN THE DIGITAL ERA	R	SEADE	3	0	0	0	3	3	

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853	OEC	OE-1	OEC1001	FUNDAMENTALS OF SOFTWARE ENGINEERING	R	FSE	3	0	0	0	3	3	
854	OEC	OE-1	OEEC1002	ML FOR ENGINEERING AND SCIENTIFIC APPLICATIONS	R	MLESA	3	0	0	0	3	3	
855	OEC	OE-1	OEEC1003	DATA SCIENCE: DL AND NN	R	DSDLNN	3	0	0	0	3	3	
856	OEC	OE-1	OEEC1001	IMAGE PROCESSING	R	IP	3	0	0	0	3	3	
857	OEC	OE-1	OEEE1001	RENEWABLE ENERGY RESOURCES	R	RER	3	0	0	0	3	3	
858	OEC	OE-1	OEEE1002M	SELF-DRIVING CARS	R	SDC	3	0	0	0	3	3	
859	OEC	OE-1	OEF1001	ART & IDEAS	R	AI	3	0	0	0	3	3	
860	OEC	OE-1	OEGN1001	NATIONAL CADET CORPS - 1	R	NCC-1	2	0	4	0	4	6	
861	OEC	OE-1	OEGN1002	NATIONAL SERVICE SCHEME - 1	R	NSS-1	2	0	4	0	4	6	
862	OEC	OE-1	OEME1001	MECHATRONICS	R	MT	3	0	0	0	3	3	
863	OEC	OE-1	OEME1002	OPERATIONS RESEARCH	R	OR	3	0	0	0	3	3	
864	OEC	OE-1	OEME1003	INDUSTRIAL AUTOMATION AND CONTROL	R	IAC	3	0	0	0	3	3	
865	OEC	OE-1	OEAR1001	ARCHITECTURAL JOURNALISM	R	AJ	3	0	0	0	3	3	
866	OEC	OE-2	OEME2007	TOTAL QUALITY MANAGEMENT	R	TQM	3	0	0	0	3	3	
867	OEC	OE-2	OEGN2007	NATIONAL SERVICE SCHEME - 2	R	NSS-2	2	0	4	0	4	6	
868	OEC	OE-2	OEGN2006	NATIONAL CADET CORPS - 2	R	NCC-2	2	0	4	0	4	6	
869	OEC	OE-2	OEF2006	PHOTOGRAPHY TECHNIQUES	R	PT	3	0	0	0	3	3	
870	OEC	OE-2	OEEE2007M	ENERGY PRODUCTION, DISTRIBUTION & SAFETY	R	EPDS	3	0	0	0	3	3	
871	OEC	OE-2	OEEE2006	ENERGY ESTIMATION & AUDIT	R	EEA	3	0	0	0	3	3	
872	OEC	OE-2	OEME2006	ROBOTICS	R	RT	3	0	0	0	3	3	
873	OEC	OE-2	OEEC2007	SATELLITE SUB-SYSTEMS	R	SSS	3	0	0	0	3	3	
874	OEC	OE-2	OEEC2008	INTRODUCTION TO MEMS	R	IM	3	0	0	0	3	3	
875	OEC	OE-2	OEEC2009	ENERGY HARVESTING TECHNOLOGIES FOR IOT	R	EHTIOT	3	0	0	0	3	3	
876	OEC	OE-2	OEEC2006	NANO ELECTRONICS	R	NE	3	0	0	0	3	3	
877	OEC	OE-2	OECI2006	FOUNDATIONS OF INFORMATION SYSTEMS	R	FIS	3	0	0	0	3	3	
878	OEC	OE-2	OEC2007	DESIGNING RESILIENT AND SUSTAINABLE URBAN SYSTEMS	R	DRSUS	3	0	0	0	3	3	
879	OEC	OE-2	OEC2006	FUNDAMENTALS OF CYBER SECURITY AND CLOUD COMPUTING	R	FCSCC	3	0	0	0	3	3	

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880	OEC	OE-2	OECM2006	COST ACCOUNTING	R	CA	3	0	0	0	3	3	
881	OEC	OE-2	OEBB2007M	FOUNDATIONS OF FINANCIAL SYSTEMS & MARKETS	R	FFSM	3	0	2	0	4	5	
882	OEC	OE-2	OECE2006	REMOTE SENSING & GIS	R	RSGIS	3	0	0	0	3	3	
883	OEC	OE-2	OECE2007	DISASTER MANAGEMENT	R	DM	3	0	0	0	3	3	
884	OEC	OE-2	OECE2008	WATER MANAGEMENT	R	WM	3	0	0	0	3	3	
885	OEC	OE-2	OECE2009	TRANSPORTATION SYSTEM MANAGEMENT	R	TSM	3	0	0	0	3	3	
886	OEC	OE-2	OEBT2006	COMPUTER AIDED DRUG DESIGN	R	CADD	3	0	0	0	3	3	
887	OEC	OE-2	OEBT2007	BIOMATERIALS	R	BM	3	0	0	0	3	3	
888	OEC	OE-2	OEBB2006	MARKETING FOR ENGINEERS	R	ME	3	0	0	0	3	3	
889	OEC	OE-2	OEAG2006	INTRODUCTION TO HORTICULTURE	R	ITH	3	0	0	0	3	3	
890	OEC	OE-2	OEPY2006	REGULATORY AFFAIRS	R	RA	3	0	0	0	3	3	
891	OEC	OE-2	OEBA2006	INTERNAL SECURITY	R	IS	3	0	0	0	3	3	
892	OEC	OE-3	OEBA3011	INTRODUCTION TO PUBLIC ADMINISTRATION	R	IPA	3	0	0	0	3	3	
893	OEC	OE-3	OEME3013	FUNDAMENTALS OF ROBOTICS	R	FR	3	0	0	0	3	3	
894	OEC	OE-3	OEBB3011M	ACCOUNTING, COMPLIANCE & FINANCIAL STATEMENT ANALYSIS	R	ACFSA	3	0	2	0	4	5	
895	OEC	OE-3	OEBT3011	BIOLOGY FOR ENGINEERS	R	BE	3	0	0	0	3	3	
896	OEC	OE-3	OECE3011	CONSTRUCTION MANAGEMENT	R	CM	3	0	0	0	3	3	
897	OEC	OE-3	OECE3012	GREEN BUILDING	R	GB	3	0	0	0	3	3	
898	OEC	OE-3	OECE3013	BUILDING MATERIALS	R	BM	3	0	0	0	3	3	
899	OEC	OE-3	OECE3014	TRAFFIC AND ROAD SAFETY	R	TRS	3	0	0	0	3	3	
900	OEC	OE-3	OECE3015	EXPLORING OUR RESPONSES TO CLIMATE CHANGE	R	ERCC	3	0	0	0	3	3	
901	OEC	OE-3	OECE3016	GEOGRAPHIC INFORMATION SYSTEMS	R	GIS	3	0	0	0	3	3	
902	OEC	OE-3	OEC3011	FUNDAMENTALS OF INFORMATION TECHNOLOGY	R	FIT	3	0	0	0	3	3	
903	OEC	OE-3	OEC3012	ENVIRONMENTAL IMPACTS OF THE DIGITAL LIFESTYLE	R	EIDL	3	0	0	0	3	3	
904	OEC	OE-3	OECI3011	FUNDAMENTALS OF SOFTWARE TESTING METHODOLOGIES	R	FSTM	3	0	0	0	3	3	
905	OEC	OE-3	OEEC3011	WIRELESS AD-HOC NETWORKS	R	WAHN	3	0	0	0	3	3	
906	OEC	OE-3	OEEC3012	SWAM ROBOTICS CONTROL SYSTEMS	R	SRCS	3	0	0	0	3	3	

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907	OEC	OE-3	OEEC3013	ELECTRONIC WARFARE, EMI &	R	EWEMIEMC	3	0	0	0	3	3	
908	OEC	OE-3	OEEE3011	ELECTRICAL POWER ENGINEERING	R	EPE	3	0	0	0	3	3	
909	OEC	OE-3	OEGN3011	NATIONAL CADET CORPS - 3	R	NCC-3	2	0	4	0	4	6	
910	OEC	OE-3	OEGN3012	NATIONAL SERVICE SCHEME - 3	R	NSS-3	2	0	4	0	4	6	
911	OEC	OE-3	OEME3011	HYBRID ELECTRIC VEHICLES	R	HEV	3	0	0	0	3	3	
912	OEC	OE-3	OEME3012	INDUSTRY 4.0	R	I4.0	3	0	0	0	3	3	
913	VAC	VAC-	25SP2116	YOGA	R	YOG	0	0	0	2	0	2	
914	VAC	VAC-	25SP2102	BASKETBALL	R	BKB	0	0	0	2	0	2	
915	VAC	VAC-	25SP2114	VOLLEYBALL	R	VOB	0	0	0	2	0	2	
916	VAC	VAC-	25SP2105	CHESS	R	CHS	0	0	0	2	0	2	
917	VAC	VAC-	25SP2113	THROW BALL	R	THB	0	0	0	2	0	2	
918	VAC	VAC-	25SP2110	TENNIS	R	TNS	0	0	0	2	0	2	
919	VAC	VAC-	25SP2111	TABLE TENNIS	R	TTS	0	0	0	2	0	2	
920	VAC	VAC-	25SP2108	KABADDI	R	KBD	0	0	0	2	0	2	
921	VAC	VAC-	25SP2109	KHO-KHO	R	KHO	0	0	0	2	0	2	
922	VAC	VAC-	25SP2104	CRICKET	R	CRKT	0	0	0	2	0	2	
923	VAC	VAC-	23SP2103	BADMINTON	R	BMT	0	0	0	2	0	2	
924	AUC	AUC-CORE	25UC0017	INDIAN ANCIENT KNOWLEDGE SYSTEMS : VEDIC MATHEMATICS	R	IAKS-VM	2	0	0	0	0	2	
925	AUC	AUC-CORE	25UC0032	INSIGHTS TO SUSTAINABLE DEVELOPMENT GOALS	R	SDG	2	0	0	0	0	2	
926	AUC	AUC-CORE	25UC0009	ECOLOGY AND ENVIRONMENT	R	ENE	2	0	0	0	0	2	
927	AUC	AUC-CORE	25UC0008	INDIAN CONSTITUTION	R	CON	2	0	0	0	0	2	
928	AUC	AUC-CAREER	CRTCODL2V2	CAMPUS RECRUITMENT: CODING SKILLS TRAINING - DATA STRUCTURES	R	CRT: CST-DS	0	0	0	8	0	8	
929	AUC	AUC-CAREER	CRTCODL3V3	CAMPUS RECRUITMENT: CODING SKILLS TRAINING - ALGORITHMS	R	CRT: CST-	0	0	0	8	0	8	
930	AUC	AUC-CAREER	CRTVQRL1V1	CAMPUS RECRUITMENT: VERBAL APTITUDE TRAINING	R	CRT: VAT	0	0	0	8	0	8	
931	AUC	AUC-CAREER	CRTVQRL2V2	CAMPUS RECRUITMENT: QUANTITATIVE APTITUDE TRAINING	R	CRT: QAT	0	0	0	8	0	8	
932	AUC	AUC-CAREER	CRTVQRL3V3	CAMPUS RECRUITMENT: REASONING APTITUDE TRAINING	R	CRT: RAT	0	0	0	8	0	8	
933	AUC	AUC-CAREER	CRTCSSL1V1	CAMPUS RECRUITMENT: COMMUNICATION SKILLS TRAINING	R	CRT: CST	0	0	0	8	0	8	

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934	AUC	AUC-CAREER	CRTCSSL2V2	CAMPUS RECRUITMENT: SOFT SKILLS TRAINING	R	CRT: SST	0	0	0	8	0	8	
935	AUC	AUC-CAREER	CRTTOLL1V1	CAMPUS RECRUITMENT: TOOL BASED TRAINING	R	CRT: TBT	0	0	0	8	0	8	
936	AUC	AUC-CAREER	CRTTOLL2V2	CAMPUS RECRUITMENT: TOOL BASED TRAINING	R	CRT: TBT	0	0	0	8	0	8	
937	AUC	AUC-CAREER	CRTINDL1V1	CAMPUS RECRUITMENT: INDUSTRY-SPECIFIC TRAINING	R	CRT: IST	0	0	0	8	0	8	
938	AUC	AUC-CAREER	CRTINDL2V2	CAMPUS RECRUITMENT: INDUSTRY-SPECIFIC TRAINING	R	CRT: IST	0	0	0	8	0	8	
939	AUC	AUC-CAREER	CADCORL1V1	CAREER ADVANCEMENT: TRAINING IN CORE DOMAIN	R	CAD: TICD	0	0	0	8	0	8	
940	AUC	AUC-CAREER	CADCORL2V2	CAREER ADVANCEMENT: TRAINING IN CORE DOMAIN	R	CAD: TICD	0	0	0	8	0	8	
941	AUC	AUC-CAREER	CADUPSL1V1	CAREER ADVANCEMENT: UPSC-CIVIL SERVICES EXAM TRAINING	R	CAD: UPSC	0	0	0	8	0	8	
942	AUC	AUC-CAREER	CADUPSL2V2	CAREER ADVANCEMENT: UPSC-CIVIL SERVICES EXAM TRAINING	R	CAD: UPSC	0	0	0	8	0	8	
943	AUC	AUC-CAREER	CADGATL1V1	CAREER ADVANCEMENT: GATE TRAINING	R	CAD: GATE	0	0	0	8	0	8	
944	AUC	AUC-CAREER	CADGREL1V1	CAREER ADVANCEMENT: GRE, TOEFL & IELTS TRAINING	R	CAD: GRE-	0	0	0	8	0	8	
945	AUC	AUC-CAREER	CADCATL1V1	CAREER ADVANCEMENT: CAT, GMAT TRAINING	R	CAD: CAT-	0	0	0	8	0	8	
946	AUC	AUC-CAREER	CADENTL1V1	CAREER ADVANCEMENT: ENTREPRENEURIAL CAREER PATHWAY TRAINING	R	CAD: ECPT	0	0	0	8	0	8	
947	AUC	AUC-CAREER	CRTCODL1V1	CAMPUS RECRUITMENT: LOGIC BUILDING SKILLS TRAINING	R	CRT: LBST	0	0	0	8	0	8	
948	MIN	MIN-CORE	25MRPA01	FUNDAMENTALS OF AGRONOMY	R	FOA	3	0	2	0	4	5	
949	MIN	MIN-CORE	25MRPA02	INTRODUCTORY AGROMETEOROLOGY AND CLIMATE CHANGE	R	IACC	3	0	2	0	4	5	
950	MIN	MIN-CORE	25MRPA03	GEOINFORMATICS AND NANOTECHNOLOGY FOR PRECISION FARMING	R	GNPF	3	0	2	0	4	5	
951	MIN	MIN-CORE	25MRPA04	PROTECTED CULTIVATION AND POST-HARVEST TECHNOLOGIES	R	PCPHT	3	0	2	0	4	5	
952	MIN	MIN-CORE	25MRWS02	SOIL AND WATER CONSERVATION ENGINEERING	R	SWCE	3	0	2	0	4	5	
953	MIN	MIN-CORE	25MRWS04	RAINFED AGRICULTURE AND WATERSHED MANAGEMENT	R	RAWM	3	0	2	0	4	5	
954	MIN	MIN-CORE	25MRID01	INTRODUCTION TO INTERIOR DESIGN	R	IID	3	0	2	0	4	5	
955	MIN	MIN-CORE	25MRID02	SPACE PLANNING AND LAYOUT	R	SPL	3	0	2	0	4	5	

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956	MIN	MIN-CORE	25MRID03	INTERIOR MATERIAL AND FINISHES	R	IMF	3	0	2	0	4	5	
957	MIN	MIN-CORE	25MRID04	FURNITURE AND ACCESSORIES DESIGN	R	FAD	3	0	2	0	4	5	
958	MIN	MIN-CORE	25MRAP01M	INTRODUCTION TO ANTHROPOLOGY	M	ITA	4	0	0	0	4	4	
959	MIN	MIN-CORE	25MRAP02M	CULTURAL EVOLUTION	M	CET	4	0	0	0	4	4	
960	MIN	MIN-CORE	25MRAP03M	HUMAN ECOLOGY AND ECOLOGICAL ANTHROPOLOGY	M	HEEA	4	0	0	0	4	4	
961	MIN	MIN-CORE	25MRAP04M	FUNDAMENTALS IN ARCHEOLOGICAL ANTHROPOLOGY CHRONOLOGY	M	FAAC	4	0	0	0	4	4	
962	MIN	MIN-CORE	25MRAR01	FUNDAMENTALS OF MACRO-ECONOMICS	R	FME	4	0	0	0	4	4	
963	MIN	MIN-CORE	25MRAR02	BASICS OF ECONOMETRICS	R	BOE	4	0	0	0	4	4	
964	MIN	MIN-CORE	25MRAR03	INTERNATIONAL RELATIONS: THEORIES AND CONCEPTS	R	IRTC	4	0	0	0	4	4	
965	MIN	MIN-CORE	25MRAR04	BEHAVIOURAL ECONOMICS AND POLICY	R	BEP	4	0	0	0	4	4	
966	MIN	MIN-CORE	25MRFT01	INTRODUCTION TO FOOD SCIENCE AND TECHNOLOGY	R	IFST	3	0	2	0	4	5	
967	MIN	MIN-CORE	25MRFT02	FOOD ANALYSIS AND QUALITY ASSURANCE	R	FAQA	3	0	2	0	4	5	
968	MIN	MIN-CORE	25MRFT03	FOOD SAFETY AND REGULATIONS	R	FSR	3	1	0	0	4	4	
969	MIN	MIN-CORE	25MRFT04	FOOD ENGINEERING	R	FEG	3	0	2	0	4	5	
970	MIN	MIN-CORE	25MRBA01M	ORGANIZATIONAL BEHAVIOUR	M	OBR	4	0	0	0	4	4	
971	MIN	MIN-CORE	25MRBA02M	MARKETING MANAGEMENT	M	MMG	4	0	0	0	4	4	
972	MIN	MIN-CORE	25MRBA03M	FINANCIAL MANAGEMENT	M	FMG	4	0	0	0	4	4	
973	MIN	MIN-CORE	25MRBA04M	HUMAN RESOURCE MANAGEMENT	M	HRM	4	0	0	0	4	4	
974	MIN	MIN-CORE	25MRAC01M	AI FOR BUSINESS STRATEGY	M	ABS	4	0	0	0	4	4	
975	MIN	MIN-CORE	25MRAC02M	AI STRATEGY AND GOVERNANCE	M	ASG	4	0	0	0	4	4	
976	MIN	MIN-CORE	25MRAC03M	SUCCESSFUL AI STRATEGIES : A CEO'S PERSPECTIVES	M	SAI	4	0	0	0	4	4	
977	MIN	MIN-CORE	25MRAC04M	CRAFTING A COMPETITIVE ADVANTAGE	M	CCA	4	0	0	0	4	4	
978	MIN	MIN-CORE	25MRDM01M	FUNDAMENTALS OF DIGITAL MARKETING	M	FDM	4	0	0	0	4	4	
979	MIN	MIN-CORE	25MRDM02M	SOCIAL MEDIA MARKETING	M	SMM	4	0	0	0	4	4	
980	MIN	MIN-CORE	25MRDM03M	SERACH ENGINE OPTIMIZATION	M	SEO	4	0	0	0	4	4	

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981	MIN	MIN-CORE	25MRDM04M	ARTIFICIAL INTELLIGENCE IN MARKETING	M	AIM	4	0	0	0	4	4	
982	MIN	MIN-CORE	25MRFA01M	FOUNDATIONS AND APPLICATIONS OF FINANCIAL TECHNOLOGY	M	AFT	4	0	0	0	4	4	
983	MIN	MIN-CORE	25MRFA02M	DECENTRALISED FINANCE: THE FUTURE OF FINANCE	M	DFFF	4	0	0	0	4	4	
984	MIN	MIN-CORE	25MRFA03M	FINTECH INNOVATIONS	M	FIV	4	0	0	0	4	4	
985	MIN	MIN-CORE	25MRFA04M	USING MACHINE LEARNING IN TRADING AND FINANCE	M	ML	4	0	0	0	4	4	
986	MIN	MIN-CORE	25MRIB01M	INTERNATIONAL BUSINESS ESSENTIALS	M	IBET	4	0	0	0	4	4	
987	MIN	MIN-CORE	25MRIB02M	INTERNATIONAL BUSINESS ENVIRONMENT	M	IBEV	4	0	0	0	4	4	
988	MIN	MIN-CORE	25MRIB03M	INTERNATIONAL BUSINESS OPERATIONS	M	IBO	4	0	0	0	4	4	
989	MIN	MIN-CORE	25MRIB04M	INTERNATIONAL BUSINESS MODELS	M	IBM	4	0	0	0	4	4	
990	MIN	MIN-CORE	25MROB01M	ORGANIZATIONAL BEHAVIOUR	M	POM	4	0	0	0	4	4	
991	MIN	MIN-CORE	25MROB02M	ORGANIZATIONAL BEHAVIOUR MODELS	M	OBM	4	0	0	0	4	4	
992	MIN	MIN-CORE	25MROB03M	ORGANIZATIONAL CHANGE AND DEVELOPMENT	M	OCD	4	0	0	0	4	4	
993	MIN	MIN-CORE	25MROB04M	LEADERSHIP IN ORGANIZATION	M	LIO	4	0	0	0	4	4	
994	MIN	MIN-CORE	25MRCY01	INTRODUCTION TO CYBERLAW AND CYBERSPACE	R	ITCLCS	4	0	0	0	4	4	
995	MIN	MIN-CORE	25MRCY02	CYBERLAW AND E-COMMERCE IMPLICATIONS	R	CLECI	4	0	0	0	4	4	
996	MIN	MIN-CORE	25MRCY03	CYBERCRIMES IN INDIA	R	CCII	4	0	0	0	4	4	
997	MIN	MIN-CORE	25MRCY04	INTRODUCTION TO CYBERSECURITY, INCIDENTAL RESPONSE AND DIGITAL FORENSIC	R	ITCIRDF	4	0	0	0	4	4	
998	MIN	MIN-CORE	25MRME01M	MICROECONOMICS - THE POWER OF MARKETS	M	MEPM	4	0	0	0	4	4	
999	MIN	MIN-CORE	25MRME02M	FUNDAMENTALS OF ACCOUNTING	M	FOA	4	0	0	0	4	4	
1000	MIN	MIN-CORE	25MRME03M	FINANCIAL MANAGEMENT	M	FM	4	0	0	0	4	4	
1001	MIN	MIN-CORE	25MRME04M	FINANCIAL MARKETS	M	FM	4	0	0	0	4	4	
1002	MIN	MIN-CORE	25MRPS01M	INTRODUCTION TO PSYCHOLOGY	M	ITP	4	0	0	0	4	4	
1003	MIN	MIN-CORE	25MRPS02M	PSYCHOLOGY OF EVERYDAY	M	POE	4	0	0	0	4	4	
1004	MIN	MIN-CORE	25MRPS03M	SOCIAL COGNITION	M	SC	4	0	0	0	4	4	
1005	MIN	MIN-CORE	25MRPS04M	THE SCIENCE OF WELL-BEING FOR TEENS	M	TSOWBFT	4	0	0	0	4	4	

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1006	MIN	MIN-CORE	25MRFM01	FILM AESTHETICS	R	FAS	0	0	6	4	4	10	
1007	MIN	MIN-CORE	25MRFM02	SCREEN WRITING	R	SWT	0	0	6	4	4	10	
1008	MIN	MIN-CORE	25MRFM03	CINEMATIC LIGHTING	R	CML	0	0	6	4	4	10	
1009	MIN	MIN-CORE	25MRFM04	SOUND DESIGN	R	SDS	0	0	6	4	4	10	
1010	MIN	MIN-CORE	25MRGD01	INTRODUCTION TO GRAPHIC DESIGN	R	IGD	0	0	6	4	4	10	
1011	MIN	MIN-CORE	25MRGD02	TYPOGRAPHY	R	TPY	0	0	6	4	4	10	
1012	MIN	MIN-CORE	25MRGD03	VISUAL IDENTITY AND BRANDING	R	VIB	0	0	6	4	4	10	
1013	MIN	MIN-CORE	25MRGD04	PRINT DESIGN	R	PRDG	0	0	6	4	4	10	
1014	MIN	MIN-CORE	25MRAG01	INTRODUCTION TO GAME MATH	R	IGM	0	0	6	4	4	10	
1015	MIN	MIN-CORE	25MRAG02	DRAWING BASICS	R	DBS	0	0	6	4	4	10	
1016	MIN	MIN-CORE	25MRAG03	GRAPHIC DESIGN	R	GDS	0	0	6	4	4	10	
1017	MIN	MIN-CORE	25MRAG04	CONCEPTS OF 3D	R	C3D	0	0	6	4	4	10	
1018	MIN	MIN-CORE	25MRWS03	IRRIGATION WATER MANAGEMENT	R	IWM	3	0	2	0	4	5	
1019	MIN	MIN-CORE	25MRBN01M	INTRODUCTION TO BUSINESS ANALYTCS	M	IBA	4	0	0	0	4	4	
1020	MIN	MIN-CORE	25MRBN02M	FOUNDATIONS OF BUSINESS INTELLIGENCE	M	FBI	4	0	0	0	4	4	
1021	MIN	MIN-CORE	25MRBN03M	POWER BI FOR DATA SCIENE AND ANALYTICS	M	PBDSA	4	0	0	0	4	4	
1022	MIN	MIN-CORE	25MRBN04M	BUSINESS ANALYTICS WITH EXCEL: ELEMENTARY TO ADVANCE	M	BAWEEA	4	0	0	0	4	4	
1023	MIN	MIN-CORE	25MRIM01	APPLIED DESIGN THINKING	R	ADT	3	0	2	0	4	5	
1024	MIN	MIN-CORE	25MRIM02	BUSINESS MODEL INNOVATION	R	BMI	3	0	2	0	4	5	
1025	MIN	MIN-CORE	25MRIM03	VENTURE MANAGEMENT	R	VMT	3	0	2	0	4	5	
1026	MIN	MIN-CORE	25MRIM04	BUSINESS AND LEADERSHIP	R	BL	3	0	2	0	4	5	
1027	MIN	MIN-CORE	25MRTP01	INTRODUCTION TO TECHNOLOGICAL ENTREPRENEURSHIP	R	ITEP	3	0	2	0	4	5	
1028	MIN	MIN-CORE	25MRTP02	LEAN STARTUP LAUNCHPAD	R	LSLP	3	0	2	0	4	5	
1029	MIN	MIN-CORE	25MRTP03	ENTREPRENEURSHIP AND VENTURE CAPITAL	R	EVC	3	0	2	0	4	5	
1030	MIN	MIN-CORE	25MRTP04	BUILDING AND SUSTAINING A SUCCESSFUL ENTERPRISE	R	BSSE	3	0	2	0	4	5	
1031	MIN	MIN-CORE	25MRCL01	PRINCIPLES OF COMPANIES ACT AND CORPORATE GOVERNANCE	R	PCACG	3	0	2	0	4	5	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1032	MIN	MIN-CORE	25MRCL02	MERGERS, ACQUISITIONS AND PRIVATE EQUITY	R	MAPE	3	0	2	0	4	5	
1033	MIN	MIN-CORE	25MRCL03	INSOLVENCY AND BANKRUPTCY LAW	R	IBL	3	0	2	0	4	5	
1034	MIN	MIN-CORE	25MRCL04	COMPETITION LAW AND PRACTICE	R	CLP	3	0	2	0	4	5	
1035	MIN	MIN-CORE	25MRIP01	EMERGENCE AND DEVELOPMENT OF IPR	R	EDIPR	3	0	2	0	4	5	
1036	MIN	MIN-CORE	25MRIP02	LAW OF COPYRIGHT	R	LOCR	3	0	2	0	4	5	
1037	MIN	MIN-CORE	25MRIP03	LAW OF PATENTS	R	LOPS	3	0	2	0	4	5	
1038	MIN	MIN-CORE	25MRIP04	LAW OF TRADEMARK	R	LOTM	3	0	2	0	4	5	
1039	MIN	MIN-CORE	25MRCM01	LINEAR ALGEBRA	R	LAG	2	2	0	0	4	4	
1040	MIN	MIN-CORE	25MRCM02	ADVANCED NUMERICAL ANALYSIS	R	ANA	2	2	0	0	4	4	
1041	MIN	MIN-CORE	25MRCM03	MATHEMATICAL MODELLING	R	MML	3	0	2	0	4	5	
1042	MIN	MIN-CORE	25MRCM04	STOCHASTIC PROCESSES & OPTIMIZATION	R	SPO	2	2	0	0	4	4	
1043	MIN	MIN-CORE	25MRCM05	FUZZY MATHEMATICS AND ITS APPLICATIONS	R	FMAA	2	2	0	0	4	4	
1044	MIN	MIN-CORE	25MRPY01	BASICS OF PHARMACOLOGY	R	BOP	3	0	2	0	4	5	
1045	MIN	MIN-CORE	25MRPY02	ADVANCED PHARMACOLOGY - I	R	AP-I	3	0	2	0	4	5	
1046	MIN	MIN-CORE	25MRPY03	EXPERIMENTAL PHARMACOLOGY	R	EPC	3	0	2	0	4	5	
1047	MIN	MIN-CORE	25MRPY04	ADVANCED PHARMACOLOGY - II	R	AP-II	3	0	2	0	4	5	
1048	MIN	MIN-CORE	25MRCA01	INTRODUCTION TO CREATIVE ARTS	R	ICA	0	0	6	4	4	10	
1049	MIN	MIN-CORE	25MRCA02	DRAWING AND SKETCHING	R	DAS	0	0	6	4	4	10	
1050	MIN	MIN-CORE	25MRCA03	PAINTING	R	PNT	0	0	6	4	4	10	
1051	MIN	MIN-CORE	25MRCA04	CREATIVE WRITING	R	CWT	0	0	6	4	4	10	
1052	MSDC	MIN-SDP	25MRCA05	SCULPTURE	R	SCP	0	0	6	4	4	10	
1053	MSDC	MIN-SDP	25MRPY05	PRACTICAL PHARMACOLOGY	R	PRI	0	0	6	4	4	10	
1054	MSDC	MIN-SDP	25MRCM06	TRANSFORM TECHNIQUES FOR ENGINEERING	R	TTE	2	0	2	4	4	8	
1055	MSDC	MIN-SDP	25MRCM07	STATISTICS WITH R PROGRAMMING	R	SWRP	2	0	2	4	4	8	
1056	MSDC	MIN-SDP	25MRCM08	MATRIX COMPUTATION	R	MCT	2	0	2	4	4	8	
1057	MSDC	MIN-SDP	25MRIP05	LAW OF DESIGNS, GEOGRAPHICAL INDICATIONS AND PLANT VARIETIES	R	LODGP	0	0	6	4	4	10	
1058	MSDC	MIN-SDP	25MRCL05	COMMERCIAL CONTRACT DRAFTING	R	CCD	0	0	6	4	4	10	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1059	MSDC	MIN-SDP	25MRTP05	TECH INNOVATION PROJECT FOR ENTREPRENEURS	R	TIPFE	0	0	6	4	4	10	
1060	MSDC	MIN-SDP	25MRIM05	PROJECT INNOVATE: STRATEGIES FOR ENTREPRENEURIAL GROWTH	R	PISEG	0	0	6	4	4	10	
1061	MSDC	MIN-SDP	25MRBN05M	ADVANCED BUSINESS ANALYTCS	M	ABA	4	0	0	0	4	4	
1062	MSDC	MIN-SDP	25MRAG05	DIGITAL ART	R	DTA	0	0	6	4	4	10	
1063	MSDC	MIN-SDP	25MRBA05M	LOGISTICS AND SUPPLY CHAIN MANAGEMENT	M	LSCM	0	0	6	4	4	10	
1064	MSDC	MIN-SDP	25MRGD05	PUBLICATION DESIGN	R	PUDG	0	0	6	4	4	10	
1065	MSDC	MIN-SDP	25MRFM05	DIGITAL PHOTOGRAPHY	R	DPG	0	0	6	4	4	10	
1066	MSDC	MIN-SDP	25MRPS05M	POSITIVE PSYCHOLOGY: RESILIENCE SKILLS	M	PPRS	4	0	0	0	4	4	
1067	MSDC	MIN-SDP	25MRME05M	HOW TO FINANCE YOUR VENTURE	M	HTFYV	4	0	0	0	4	4	
1068	MSDC	MIN-SDP	25MRCY05	CYBER SECURITY: TOOLS, TECHNIQUES & COUNTERMEASURES	M	CSTTCM	4	0	0	0	4	4	
1069	MSDC	MIN-SDP	25MROB05M	TEAM BUIDLING AND COLLABORATION SKILLS FOR MANAGERS	M	TBCM	0	0	6	4	4	10	
1070	MSDC	MIN-SDP	25MRIB05M	PROFESSIONAL SKILLS FOR INTERNATIONAL BUSINESS	M	PIB	0	0	6	4	4	10	
1071	MSDC	MIN-SDP	25MRFA05M	TRADING ALGORITHMNS	M	TA	0	0	6	4	4	10	
1072	MSDC	MIN-SDP	25MRDM05M	CONTENT MARKETING	M	CM	0	0	6	4	4	10	
1073	MSDC	MIN-SDP	25MRAC05M	AI APPLICATIONS FOR BUSINESS SUCCESS	M	AIA	0	0	6	4	4	10	
1074	MSDC	MIN-SDP	25MRFT05	FOOD PACKAGING TECHNOLOGY	R	FPT	2	0	2	4	4	8	
1075	MSDC	MIN-SDP	25MRAR05	SOCIAL GEOGRAPHY AND CARTOGRAPHY	R	SGC	0	0	6	4	4	10	
1076	MSDC	MIN-SDP	25MRAP05M	SOCIAL CULTURE ANTHROPOLOGY	M	SCA	0	0	6	4	4	10	
1077	MSDC	MIN-SDP	25MRID05	DESIGN PRESENTATION AND COMMUNICATION	R	DPC	0	0	6	4	4	10	
1078	MSDC	MIN-SDP	25MRPA05	MODERN FARMING TECHNIQUES AND INNOVATIONS	R	AELP	0	0	6	4	4	10	
1079	BRIDGE	BRIDGE-	25UC0018	FUNDAMENTALS OF MATHEMATICS	R	FOM	3	0	0	0	0	3	

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	MINOR	PSYCHOLOGY
24	MINOR	MANAGERIAL ECONOMICS AND FINANCE
25	MINOR	BUSINESS ANALYTICS
26	MINOR	CYBER SECURITY LAW
27	SPECIALIZATION	AGRI-BIOTECHNOLOGY
28	SPECIALIZATION	AI & AUTONOMOUS SYSTEMS
29	SPECIALIZATION	AI FOR COMPUTATIONAL INTELLIGENCE

S#	Category	Group Name
30	SPECIALIZATION	AI SYSTEMS FOR VISUAL INTELLIGENCE
31	SPECIALIZATION	AI-DRIVEN EDGE ARCHITECTURES & APPLICATIONS
32	SPECIALIZATION	AI-DRIVEN LANGUAGE TECHNOLOGIES
33	SPECIALIZATION	AUTOMOTIVE ELECTRONICS & AUTOSAR
34	SPECIALIZATION	AUTOMOTIVE ENERGY ENGINEERING
35	SPECIALIZATION	BIOINFORMATICS
36	SPECIALIZATION	BLOCKCHAIN ENGINEERING FOR WEB3
37	SPECIALIZATION	CLOUD & EDGE COMPUTING
38	SPECIALIZATION	CLOUD INFRASTRUCTURE DESIGN & ENGINEERING?
39	SPECIALIZATION	CLOUD NATIVE SECURITY
40	SPECIALIZATION	CLOUD NATIVE SOFTWARE ENGINEERING
41	SPECIALIZATION	CLOUD-BASED SCIENTIFIC COMPUTING
42	SPECIALIZATION	CROSS PLATFORM DEVELOPMENT FRAMEWORKS
43	SPECIALIZATION	CYBER PHYSICAL SYSTEMS & IOT
44	SPECIALIZATION	CYBER SECURITY & BLOCKCHAIN TECHNOLOGY
45	SPECIALIZATION	DATA COMMUNICATIONS
46	SPECIALIZATION	DATA ENGINEERING FOR AI
47	SPECIALIZATION	DATA SCIENCE & BIG DATA ANALYTICS
48	SPECIALIZATION	DISTRIBUTED LEDGER ANALYTICS
49	SPECIALIZATION	EMBEDDED SYSTEMS
50	SPECIALIZATION	E-MOBILITY ENGINEERING
51	SPECIALIZATION	ENGINEERING DESIGN
52	SPECIALIZATION	GAME DEVELOPMENT & UX DESIGN
53	SPECIALIZATION	GREEN ENERGY TECHNOLOGIES
54	SPECIALIZATION	GENERATIVE AI & MACHINE LEARNING
55	SPECIALIZATION	HARDWARE-SOFTWARE CO-DESIGN FOR SECURITY
56	SPECIALIZATION	HEALTHCARE DATA ANALYTICS
57	SPECIALIZATION	INDUSTRIAL AUTOMATION
58	SPECIALIZATION	INDUSTRIAL BIOTECHNOLOGY
59	SPECIALIZATION	IOT ANALYTICS

S#	Category	Group Name
60	SPECIALIZATION	MEDICAL BIOTECHNOLOGY
61	SPECIALIZATION	NANO TECHNOLOGY & OPTOELECTRONICS
62	SPECIALIZATION	ROBOTICS & AUTOMATION
63	SPECIALIZATION	SMART GRID TECHNOLOGIES
64	SPECIALIZATION	SMART MANUFACTURING
65	SPECIALIZATION	SOCIAL & DIGITAL MEDIA ANALYTICS
66	SPECIALIZATION	SOFTWARE MODELLING & DEVOPS
67	SPECIALIZATION	SPATIAL COMPUTING & IMMERSIVE TECHNOLOGIES
68	SPECIALIZATION	STRUCTURAL ENGINEERING
69	SPECIALIZATION	VLSI
70	SPECIALIZATION	INFRASTRUCTURE & ENVIRONMENTAL ENGINEERING
71	SPECIALIZATION	5G -6G WIRELESS TECHNOLOGIES
72	SPECIALIZATION	GENRATIVE AI FOR AGENTIC AND MULTI-MODAL INTELLIGENCE
73	SPECIALIZATION	HUMAN-CENTRIC AI SYSTEMS
74	SPECIALIZATION	DATA SCIENCE & ENGINEERING FOR AI
75	SPECIALIZATION	DATA LAKE SYSTEMS & STREAMING ANALYTICS
76	SPECIALIZATION	CLOUD NATIVE APPLICATION ENGINEERING & DEVOPS
77	SPECIALIZATION	AI DRIVEN EDGE COMPUTING
78	SPECIALIZATION	CLOUD AI & ACCELERATED COMPUTING
79	SPECIALIZATION	CYBER THREAT INTELLIGENCE AND SECURITY OPERATIONS
80	SPECIALIZATION	INTELLIGENT GAME DEVELOPMENT & IMMERSIVE TECHNOLOGIES
81	SPECIALIZATION	GREEN & SUSTAINABLE DIGITAL SYSTEMS
82	SPECIALIZATION	BIO-MEDICAL INSTRUMENTATION
83	SPECIALIZATION	RF & MICROWAVE
84	SPECIALIZATION	QUANTUM COMMUNICATIONS
85	SPECIALIZATION	QUANTUM TECHNOLOGIES
86	PROJECT	RESEARCH PROJECT
87	PROJECT	INNOVATION PROJECT
88	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	25MRAC01M	AI FOR BUSINESS STRATEGY	M	ABS	4	0	0	0	4	4	
2	MIN	MIN-CORE	25MRAC02M	AI STRATEGY AND GOVERNANCE	M	ASG	4	0	0	0	4	4	
3	MIN	MIN-CORE	25MRAC03M	SUCCESSFUL AI STRATEGIES : A CEO'S PERSPECTIVES	M	SAI	4	0	0	0	4	4	
4	MIN	MIN-CORE	25MRAC04M	CRAFTING A COMPETITIVE ADVANTAGE	M	CCA	4	0	0	0	4	4	
5	MSDC	MIN-SDP	25MRAC05M	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	25MRAG02	DRAWING BASICS	R	DBS	0	0	6	4	4	10	
2	MIN	MIN-CORE	25MRAG03	GRAPHIC DESIGN	R	GDS	0	0	6	4	4	10	
3	MIN	MIN-CORE	25MRAG04	CONCEPTS OF 3D	R	C3D	0	0	6	4	4	10	
4	MSDC	MIN-SDP	25MRAG05	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	25MRAP01M	INTRODUCTION TO ANTHROPOLOGY	M	ITA	4	0	0	0	4	4	
2	MIN	MIN-CORE	25MRAP02M	CULTURAL EVOLUTION	M	CET	4	0	0	0	4	4	
3	MIN	MIN-CORE	25MRAP03M	HUMAN ECOLOGY AND ECOLOGICAL ANTHROPOLOGY	M	HEEA	4	0	0	0	4	4	
4	MIN	MIN-CORE	25MRAP04M	FUNDAMENTALS IN ARCHEOLOGICAL ANTHROPOLOGY CHRONOLOGY	M	FAAC	4	0	0	0	4	4	
5	MSDC	MIN-SDP	25MRAP05M	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	25MRAR01	FUNDAMENTALS OF MACRO-ECONOMICS	R	FME	4	0	0	0	4	4	
2	MIN	MIN-CORE	25MRAR02	BASICS OF ECONOMETRICS	R	BOE	4	0	0	0	4	4	
3	MIN	MIN-CORE	25MRAR03	INTERNATIONAL RELATIONS: THEORIES AND CONCEPTS	R	IRTC	4	0	0	0	4	4	
4	MIN	MIN-CORE	25MRAR04	BEHAVIOURAL ECONOMICS AND POLICY	R	BEP	4	0	0	0	4	4	
5	MSDC	MIN-SDP	25MRAR05	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	25MRBA01M	ORGANIZATIONAL BEHAVIOUR	M	OBR	4	0	0	0	4	4	
2	MIN	MIN-CORE	25MRBA02M	MARKETING MANAGEMENT	M	MMG	4	0	0	0	4	4	
3	MIN	MIN-CORE	25MRBA03M	FINANCIAL MANAGEMENT	M	FMG	4	0	0	0	4	4	
4	MIN	MIN-CORE	25MRBA04M	HUMAN RESOURCE MANAGEMENT	M	HRM	4	0	0	0	4	4	
5	MSDC	MIN-SDP	25MRBA05M	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	25MRM01	LINEAR ALGEBRA	R	LAG	2	2	0	0	4	4	
2	MIN	MIN-CORE	25MRM02	ADVANCED NUMERICAL ANALYSIS	R	ANA	2	2	0	0	4	4	
3	MIN	MIN-CORE	25MRM03	MATHEMATICAL MODELLING	R	MML	3	0	2	0	4	5	
4	MIN	MIN-CORE	25MRM04	STOCHASTIC PROCESSES & OPTIMIZATION	R	SPO	2	2	0	0	4	4	
5	MIN	MIN-CORE	25MRM05	FUZZY MATHEMATICS AND ITS APPLICATIONS	R	FMAA	2	2	0	0	4	4	
6	MSDC	MIN-SDP	25MRM06	TRANSFORM TECHNIQUES FOR ENGINEERING	R	TTE	2	0	2	4	4	8	
7	MSDC	MIN-SDP	25MRM07	STATISTICS WITH R PROGRAMMING	R	SWRP	2	0	2	4	4	8	
8	MSDC	MIN-SDP	25MRM08	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	25MRCL01	PRINCIPLES OF COMPANIES ACT AND CORPORATE GOVERNANCE	R	PCACG	3	0	2	0	4	5	
2	MIN	MIN-CORE	25MRCL02	MERGERS, ACQUISITIONS AND PRIVATE EQUITY	R	MAPE	3	0	2	0	4	5	
3	MIN	MIN-CORE	25MRCL03	INSOLVENCY AND BANKRUPTCY LAW	R	IBL	3	0	2	0	4	5	
4	MIN	MIN-CORE	25MRCL04	COMPETITION LAW AND PRACTICE	R	CLP	3	0	2	0	4	5	
5	MSDC	MIN-SDP	25MRCL05	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	25MRCA01	INTRODUCTION TO CREATIVE ARTS	R	ICA	0	0	6	4	4	10	
2	MIN	MIN-CORE	25MRCA02	DRAWING AND SKETCHING	R	DAS	0	0	6	4	4	10	
3	MIN	MIN-CORE	25MRCA03	PAINTING	R	PNT	0	0	6	4	4	10	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
4	MIN	MIN-CORE	25MRCA04	CREATIVE WRITING	R	CWT	0	0	6	4	4	10	
5	MSDC	MIN-SDP	25MRCA05	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	25MRDM01M	FUNDAMENTALS OF DIGITAL MARKETING	M	FDM	4	0	0	0	4	4	
2	MIN	MIN-CORE	25MRDM02M	SOCIAL MEDIA MARKETING	M	SMM	4	0	0	0	4	4	
3	MIN	MIN-CORE	25MRDM03M	SEARCH ENGINE OPTIMIZATION	M	SEO	4	0	0	0	4	4	
4	MIN	MIN-CORE	25MRDM04M	ARTIFICIAL INTELLIGENCE IN MARKETING	M	AIM	4	0	0	0	4	4	
5	MSDC	MIN-SDP	25MRDM05M	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	25MRFM01	FILM AESTHETICS	R	FAS	0	0	6	4	4	10	
2	MIN	MIN-CORE	25MRFM02	SCREEN WRITING	R	SWT	0	0	6	4	4	10	
3	MIN	MIN-CORE	25MRFM03	CINEMATIC LIGHTING	R	CML	0	0	6	4	4	10	
4	MIN	MIN-CORE	25MRFM04	SOUND DESIGN	R	SDS	0	0	6	4	4	10	
5	MSDC	MIN-SDP	25MRFM05	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	25MRFA01M	FOUNDATIONS AND APPLICATIONS OF FINANCIAL TECHNOLOGY	M	AFT	4	0	0	0	4	4	
2	MIN	MIN-CORE	25MRFA02M	DECENTRALISED FINANCE: THE FUTURE OF FINANCE	M	DFFF	4	0	0	0	4	4	
3	MIN	MIN-CORE	25MRFA03M	FINTECH INNOVATIONS	M	FIV	4	0	0	0	4	4	
4	MIN	MIN-CORE	25MRFA04M	USING MACHINE LEARNING IN TRADING AND FINANCE	M	ML	4	0	0	0	4	4	
5	MSDC	MIN-SDP	25MRFA05M	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	25MRFT01	INTRODUCTION TO FOOD SCIENCE AND TECHNOLOGY	R	IFST	3	0	2	0	4	5	
2	MIN	MIN-CORE	25MRFT02	FOOD ANALYSIS AND QUALITY ASSURANCE	R	FAQA	3	0	2	0	4	5	
3	MIN	MIN-CORE	25MRFT03	FOOD SAFETY AND REGULATIONS	R	FSR	3	1	0	0	4	4	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
4	MIN	MIN-CORE	25MRFT04	FOOD ENGINEERING	R	FEG	3	0	2	0	4	5	
5	MSDC	MIN-SDP	25MRFT05	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	25MRGD01	INTRODUCTION TO GRAPHIC DESIGN	R	IGD	0	0	6	4	4	10	
2	MIN	MIN-CORE	25MRGD02	TYPOGRAPHY	R	TPY	0	0	6	4	4	10	
3	MIN	MIN-CORE	25MRGD03	VISUAL IDENTITY AND BRANDING	R	VIB	0	0	6	4	4	10	
4	MIN	MIN-CORE	25MRGD04	PRINT DESIGN	R	PRDG	0	0	6	4	4	10	
5	MSDC	MIN-SDP	25MRGD05	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	25MRIM01	APPLIED DESIGN THINKING	R	ADT	3	0	2	0	4	5	
2	MIN	MIN-CORE	25MRIM02	BUSINESS MODEL INNOVATION	R	BMI	3	0	2	0	4	5	
3	MIN	MIN-CORE	25MRIM03	VENTURE MANAGEMENT	R	VMT	3	0	2	0	4	5	
4	MIN	MIN-CORE	25MRIM04	BUSINESS AND LEADERSHIP	R	BL	3	0	2	0	4	5	
5	MSDC	MIN-SDP	25MRIM05	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	25MRIP01	EMERGENCE AND DEVELOPMENT OF IPR	R	EDIPR	3	0	2	0	4	5	
2	MIN	MIN-CORE	25MRIP02	LAW OF COPYRIGHT	R	LOCR	3	0	2	0	4	5	
3	MIN	MIN-CORE	25MRIP03	LAW OF PATENTS	R	LOPS	3	0	2	0	4	5	
4	MIN	MIN-CORE	25MRIP04	LAW OF TRADEMARK	R	LOTM	3	0	2	0	4	5	
5	MSDC	MIN-SDP	25MRIP05	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	25MRID01	INTRODUCTION TO INTERIOR DESIGN	R	IID	3	0	2	0	4	5	
2	MIN	MIN-CORE	25MRID02	SPACE PLANNING AND LAYOUT	R	SPL	3	0	2	0	4	5	
3	MIN	MIN-CORE	25MRID03	INTERIOR MATERIAL AND FINISHES	R	IMF	3	0	2	0	4	5	
4	MIN	MIN-CORE	25MRID04	FURNITURE AND ACCESSORIES DESIGN	R	FAD	3	0	2	0	4	5	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
5	MSDC	MIN-SDP	25MRID05	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	25MRIB01M	INTERNATIONAL BUSINESS ESSENTIALS	M	IBET	4	0	0	0	4	4	
2	MIN	MIN-CORE	25MRIB02M	INTERNATIONAL BUSINESS ENVIRONMENT	M	IBEV	4	0	0	0	4	4	
3	MIN	MIN-CORE	25MRIB03M	INTERNATIONAL BUSINESS OPERATIONS	M	IBO	4	0	0	0	4	4	
4	MIN	MIN-CORE	25MRIB04M	INTERNATIONAL BUSINESS MODELS	M	IBM	4	0	0	0	4	4	
5	MSDC	MIN-SDP	25MRIB05M	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	25MROB01M	ORGANIZATIONAL BEHAVIOUR	M	POM	4	0	0	0	4	4	
2	MIN	MIN-CORE	25MROB02M	ORGANIZATIONAL BEHAVIOUR MODELS	M	OBM	4	0	0	0	4	4	
3	MIN	MIN-CORE	25MROB03M	ORGANIZATIONAL CHANGE AND DEVELOPMENT	M	OCD	4	0	0	0	4	4	
4	MIN	MIN-CORE	25MROB04M	LEADERSHIP IN ORGANIZATION	M	LIO	4	0	0	0	4	4	
5	MSDC	MIN-SDP	25MROB05M	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	25MRPY01	BASICS OF PHARMACOLOGY	R	BOP	3	0	2	0	4	5	
2	MIN	MIN-CORE	25MRPY02	ADVANCED PHARMACOLOGY - I	R	AP-I	3	0	2	0	4	5	
3	MIN	MIN-CORE	25MRPY03	EXPERIMENTAL PHARMACOLOGY	R	EPC	3	0	2	0	4	5	
4	MIN	MIN-CORE	25MRPY04	ADVANCED PHARMACOLOGY - II	R	AP-II	3	0	2	0	4	5	
5	MSDC	MIN-SDP	25MRPY05	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	25MRPA01	FUNDAMENTALS OF AGRONOMY	R	FOA	3	0	2	0	4	5	
2	MIN	MIN-CORE	25MRPA02	INTRODUCTORY AGROMETEOROLOGY AND CLIMATE CHANGE	R	IACC	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	25MRPA03	GEOINFORMATICS AND NANOTECHNOLOGY FOR PRECISION FARMING	R	GNPF	3	0	2	0	4	5	
4	MIN	MIN-CORE	25MRPA04	PROTECTED CULTIVATION AND POST-HARVEST TECHNOLOGIES	R	PCPHT	3	0	2	0	4	5	
5	MSDC	MIN-SDP	25MRPA05	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	25MRTP01	INTRODUCTION TO TECHNOLOGICAL ENTREPRENEURSHIP	R	ITEP	3	0	2	0	4	5	
2	MIN	MIN-CORE	25MRTP02	LEAN STARTUP LAUNCHPAD	R	LSP	3	0	2	0	4	5	
3	MIN	MIN-CORE	25MRTP03	ENTREPRENEURSHIP AND VENTURE CAPITAL	R	EVC	3	0	2	0	4	5	
4	MIN	MIN-CORE	25MRTP04	BUILDING AND SUSTAINING A SUCCESSFUL ENTERPRISE	R	BSSE	3	0	2	0	4	5	
5	MSDC	MIN-SDP	25MRTP05	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	25MRPA01	FUNDAMENTALS OF AGRONOMY	R	FOA	3	0	2	0	4	5	
2	MIN	MIN-CORE	25MRWS02	SOIL AND WATER CONSERVATION ENGINEERING	R	SWCE	3	0	2	0	4	5	
3	MIN	MIN-CORE	25MRWS04	RAINFED AGRICULTURE AND WATERSHED MANAGEMENT	R	RAWM	3	0	2	0	4	5	
4	MIN	MIN-CORE	25MRWS03	IRRIGATION WATER MANAGEMENT	R	IWM	3	0	2	0	4	5	
5	MSDC	MIN-SDP	25MRPA05	MODERN FARMING TECHNIQUES AND INNOVATIONS	R	AELP	0	0	6	4	4	10	

23. MINOR: PSYCHOLOGY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	25MRPS01M	INTRODUCTION TO PSYCHOLOGY	M	ITP	4	0	0	0	4	4	
2	MIN	MIN-CORE	25MRPS02M	PSYCHOLOGY OF EVERYDAY	M	POE	4	0	0	0	4	4	
3	MIN	MIN-CORE	25MRPS03M	SOCIAL COGNITION	M	SC	4	0	0	0	4	4	
4	MIN	MIN-CORE	25MRPS04M	THE SCIENCE OF WELL-BEING FOR TEENS	M	TSOWBFT	4	0	0	0	4	4	
5	MSDC	MIN-SDP	25MRPS05M	POSITIVE PSYCHOLOGY: RESILIENCE SKILLS	M	PPRS	4	0	0	0	4	4	

24. MINOR: MANAGERIAL ECONOMICS AND FINANCE

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	25MRME01M	MICROECONOMICS - THE POWER OF MARKETS	M	MEPM	4	0	0	0	4	4	
2	MIN	MIN-CORE	25MRME02M	FUNDAMENTALS OF ACCOUNTING	M	FOA	4	0	0	0	4	4	
3	MIN	MIN-CORE	25MRME03M	FINANCIAL MANAGEMENT	M	FM	4	0	0	0	4	4	
4	MIN	MIN-CORE	25MRME04M	FINANCIAL MARKETS	M	FM	4	0	0	0	4	4	
5	MSDC	MIN-SDP	25MRME05M	HOW TO FINANCE YOUR VENTURE	M	HTFYV	4	0	0	0	4	4	

25. MINOR: BUSINESS ANALYTICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	25MRBN01M	INTRODUCTION TO BUSINESS ANALYTICS	M	IBA	4	0	0	0	4	4	
2	MIN	MIN-CORE	25MRBN02M	FOUNDATIONS OF BUSINESS INTELLIGENCE	M	FBI	4	0	0	0	4	4	
3	MIN	MIN-CORE	25MRBN03M	POWER BI FOR DATA SCIENCE AND ANALYTICS	M	PBDSA	4	0	0	0	4	4	
4	MIN	MIN-CORE	25MRBN04M	BUSINESS ANALYTICS WITH EXCEL: ELEMENTARY TO ADVANCE	M	BAWEEA	4	0	0	0	4	4	
5	MSDC	MIN-SDP	25MRBN05M	ADVANCED BUSINESS ANALYTICS	M	ABA	4	0	0	0	4	4	

26. MINOR: CYBER SECURITY LAW

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	MIN	MIN-CORE	25MRCY01	INTRODUCTION TO CYBERLAW AND CYBERSPACE	R	ITCLCS	4	0	0	0	4	4	
2	MIN	MIN-CORE	25MRCY02	CYBERLAW AND E-COMMERCE IMPLICATIONS	R	CLECI	4	0	0	0	4	4	
3	MIN	MIN-CORE	25MRCY03	CYBERCRIMES IN INDIA	R	CCII	4	0	0	0	4	4	
4	MIN	MIN-CORE	25MRCY04	INTRODUCTION TO CYBERSECURITY, INCIDENTAL RESPONSE AND DIGITAL FORENSIC	R	ITCIRDF	4	0	0	0	4	4	
5	MSDC	MIN-SDP	25MRCY05	CYBER SECURITY: TOOLS, TECHNIQUES & COUNTERMEASURES	M	CSTTCM	4	0	0	0	4	4	

27. SPECIALIZATION: AGRI-BIOTECHNOLOGY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25ABT3101	BIOSENSORS AND BIOELECTRONICS	R	BSBE	3	0	2	0	4	5	
2	PEC	PE-1	25ABT3101A	BIOSENSORS AND BIOELECTRONICS	A	BSBE	4	1	2	0	6	7	
3	PEC	PE-1	25ABT3101E	BIOSENSORS AND BIOELECTRONICS	E	BSBE	4	1	2	0	6	7	
4	PEC	PE-2	25ABT3202	IOT APPLICATIONS IN PRECISION AGRICULTURE	R	IOTAPA	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
5	PEC	PE-2	25ABT3203	MACHINE LEARNING FOR PRECISION AGRICULTURE	R	MLPA	3	0	0	0	3	3	
6	PEC	PE-3	25ABT3304	IMAGE PROCESSING FOR AGRICULTURAL APPLICATIONS	R	IPAA	3	0	0	2	3.5	5	
7	PEC	PE-3	25ABT3304A	IMAGE PROCESSING FOR AGRICULTURAL APPLICATIONS	A	IPAA	4	1	0	2	5.5	7	
8	PEC	PE-3	25ABT3304E	IMAGE PROCESSING FOR AGRICULTURAL APPLICATIONS	E	IPAA	4	1	0	2	5.5	7	
9	PEC	PE-4	25ABT3405	BIOINSTRUMENTATION	R	BIIS	3	0	0	0	3	3	
10	PEC	PE-4	25ABT3406	DATA ACQUISITION AND COMMUNICATION SYSTEMS FOR AGRICULTURE	R	DACSA	3	0	0	0	3	3	
11	PEC	PE-5	25ABT3507	MICROFLUIDICS FOR AGRICULTURAL APPLICATIONS	R	MAP	3	0	0	0	3	3	
12	PEC	PE-5	25ABT3508	BIOINFORMATICS FOR AGRICULTURE	R	BIA	3	0	0	0	3	3	

28. SPECIALIZATION: AI & AUTONOMOUS SYSTEMS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25AAS3101	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	R	ADAS	3	0	2	0	4	5	
2	PEC	PE-1	25AAS3101A	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	A	ADAS	4	1	2	0	6	7	
3	PEC	PE-1	25AAS3101E	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	E	ADAS	4	1	2	0	6	7	
4	PEC	PE-1	25AAS3102	AI AND CONTROLS FOR AUTONOMUS FUTURE TRANSPORT	R	AICAFT	3	0	2	0	4	5	
5	PEC	PE-1	25AAS3102A	AI AND CONTROLS FOR AUTONOMUS FUTURE TRANSPORT	A	AICAFT	4	1	2	0	6	7	
6	PEC	PE-1	25AAS3102E	AI AND CONTROLS FOR AUTONOMUS FUTURE TRANSPORT	E	AICAFT	4	1	2	0	6	7	
7	PEC	PE-1	25AAS3112	ECU DESIGN FOR AUTONOMOUS SYSTEMS	R	EDAS	3	0	2	0	4	5	
8	PEC	PE-1	25AAS3112A	ECU DESIGN FOR AUTONOMOUS SYSTEMS	A	EDAS	4	1	2	0	6	7	
9	PEC	PE-1	25AAS3112E	ECU DESIGN FOR AUTONOMOUS SYSTEMS	E	EDAS	4	1	2	0	6	7	
10	PEC	PE-2	25AAS3203	AI AND IOT FOR AUTONOMOUS VEHICLE	R	AIAV	3	0	0	0	3	3	
11	PEC	PE-2	25AAS3205	AUTONOMOUS VEHICLE ECU DESIGN WITH AUTOSAR	R	AVECUDA	3	0	0	0	3	3	
12	PEC	PE-2	25AAS3213	PERCEPTION ENGINEERING FOR AUTONOMY	R	PEA	3	0	0	0	3	3	
13	PEC	PE-2	25AAS3202	INTRODUCTION TO INTELLIGENT DRONES	R	IID	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
14	PEC	PE-3	25AAS3304	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	R	ADLAS	3	0	0	2	3.5	5	
15	PEC	PE-3	25AAS3304A	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	A	ADLAS	4	1	0	2	5.5	7	
16	PEC	PE-3	25AAS3304E	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	E	ADLAS	4	1	0	2	5.5	7	
17	PEC	PE-3	25AAS3309	AUTONOMOUS ELECTRIC MOBILITY - SYSTEMS AND APPLICATIONS	R	AAAV	3	0	0	2	3.5	5	
18	PEC	PE-3	25AAS3309A	AUTONOMOUS ELECTRIC MOBILITY - SYSTEMS AND APPLICATIONS	A	AAAV	4	1	0	2	5.5	7	
19	PEC	PE-3	25AAS3309E	AUTONOMOUS ELECTRIC MOBILITY - SYSTEMS AND APPLICATIONS	E	AAAV	4	1	0	2	5.5	7	
20	PEC	PE-3	25AAS3314	AI FOR AUTONOMOUS NAVIGATION, CONTROL & EDGE INTELLIGENCE	R	ANCE	3	0	0	2	3.5	5	
21	PEC	PE-3	25AAS3314A	AI FOR AUTONOMOUS NAVIGATION, CONTROL & EDGE INTELLIGENCE	A	ANCE	4	1	0	2	5.5	7	
22	PEC	PE-3	25AAS3314E	AI FOR AUTONOMOUS NAVIGATION, CONTROL & EDGE INTELLIGENCE	E	ANCE	4	1	0	2	5.5	7	
23	PEC	PE-4	25AAS3405	EXPERT SYSTEMS	R	ES	3	0	0	0	3	3	
24	PEC	PE-4	25AAS3406	SELF-DRIVING CARS	R	SDC	3	0	0	0	3	3	
25	PEC	PE-4	25AAS3415	REAL-TIME NETWORKS, COMMUNICATION & SECURITY FOR AUTONOMOUS SYSTEMS	R	RTNCSAS	3	0	0	0	3	3	
26	PEC	PE-4	25AAS3410	CYBERSECURITY IN AUTONOMOUS VEHICLE	R	CAV	3	0	0	0	3	3	
27	PEC	PE-5	25AAS3507	LOCALIZATION & PROGRAMMING REAL-TIME AUTONOMOUS SYSTEMS	R	LPRAS	3	0	0	0	3	3	
28	PEC	PE-5	25AAS3508	REINFORCEMENT LEARNING FOR AUTONOMOUS SYSTEM	R	RLA	3	0	0	0	3	3	
29	PEC	PE-5	25AAS3511	AI DRIVEN ECU DESIGN FOR AUTONOMOUS VEHICLES	R	AEDATT	3	0	0	0	3	3	
30	PEC	PE-5	25AAS3516	CYBER-PHYSICAL SECURITY IN AUTONOMOUS PLATFORMS	R	CPSAP	3	0	0	0	3	3	

29. SPECIALIZATION: AI FOR COMPUTATIONAL INTELLIGENCE

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25ACI3101	GENERATIVE ADVERSARIAL NETWORKS	R	GANWS	3	0	2	0	4	5	
2	PEC	PE-1	25ACI3101A	GENERATIVE ADVERSARIAL NETWORKS	A	GANWS	4	1	2	0	6	7	
3	PEC	PE-1	25ACI3101E	GENERATIVE ADVERSARIAL NETWORKS	E	GANWS	4	1	2	0	6	7	
4	PEC	PE-2	25ACI3202	EXPLAINABLE AI AND COMMUNICATIONS	R	EAIC	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
5	PEC	PE-3	25ACI3303	FUZZY LOGIC WITH SET THEORY	R	FLST	3	0	0	2	3.5	5	
6	PEC	PE-3	25ACI3303A	FUZZY LOGIC WITH SET THEORY	A	FLST	4	1	0	2	5.5	7	
7	PEC	PE-3	25ACI3303E	FUZZY LOGIC WITH SET THEORY	E	FLST	4	1	0	2	5.5	7	
8	PEC	PE-4	25ACI3404	HEURISTIC ALGORITHMS	R	HA	3	0	0	0	3	3	
9	PEC	PE-4	25ACI3405	SWARM INTELLIGENCE APPROACHES	R	SIA	3	0	0	0	3	3	
10	PEC	PE-5	25ACI3506	DATA MANIPULATION	R	DM	3	0	0	0	3	3	
11	PEC	PE-5	25ACI3507	REINFORCEMENT LEARNING	R	RIL	3	0	0	0	3	3	
12	PEC	PE-5	25ACI3508	EVOLUTIONARY COMPUTATION	R	ECP	3	0	0	0	3	3	

30. SPECIALIZATION: AI SYSTEMS FOR VISUAL INTELLIGENCE

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25AVI3101	DEEP LEARNING	R	DL	3	0	2	0	4	5	
2	PEC	PE-1	25AVI3101A	DEEP LEARNING	A	DL	4	1	2	0	6	7	
3	PEC	PE-1	25AVI3101E	DEEP LEARNING	E	DL	4	1	2	0	6	7	
4	PEC	PE-1	25AVI3102	AI DRIVEN VIDEO PROCESSING	R	AIDVP	3	0	2	0	4	5	
5	PEC	PE-1	25AVI3102A	AI DRIVEN VIDEO PROCESSING	A	AIDVP	4	1	2	0	6	7	
6	PEC	PE-1	25AVI3102E	AI DRIVEN VIDEO PROCESSING	E	AIDVP	4	1	2	0	6	7	
7	PEC	PE-4	25AVI3405	VISUAL RECOGNITION AND SCENE UNDERSTANDING	R	VRSU	3	0	0	0	3	3	
8	PEC	PE-5	25AVI3507	HUMAN COMPUTER INTERACTION	R	HCI	3	0	0	0	3	3	
9	PEC	PE-5	25AVI3508	OBJECT LOCALIZATION	R	OL	3	0	0	0	3	3	

31. SPECIALIZATION: AI-DRIVEN EDGE ARCHITECTURES & APPLICATIONS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25ADE3101	EDGE COMPUTING FUNDAMENTALS	R	ECF	3	0	2	0	4	5	
2	PEC	PE-1	25ADE3101A	EDGE COMPUTING FUNDAMENTALS	A	ECF	4	1	2	0	6	7	
3	PEC	PE-1	25ADE3101E	EDGE COMPUTING FUNDAMENTALS	E	ECF	4	1	2	0	6	7	
4	PEC	PE-2	25ADE3202	AI AT THE EDGE	R	AIAE	3	0	0	0	3	3	
5	PEC	PE-3	25ADE3303	EDGE AI ARCHITECTURES AND APPLICATIONS	R	EAIAA	3	0	0	2	3.5	5	
6	PEC	PE-3	25ADE3303A	EDGE AI ARCHITECTURES AND APPLICATIONS	A	EAIAA	4	1	0	2	5.5	7	
7	PEC	PE-3	25ADE3303E	EDGE AI ARCHITECTURES AND APPLICATIONS	E	EAIAA	4	1	0	2	5.5	7	
8	PEC	PE-4	25ADE3404	EDGE AI AND 5G	R	EAI5G	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
9	PEC	PE-4	25ADE3405	EDGE AI SECURITY AND PROTECTION	R	EAISP	3	0	0	0	3	3	
10	PEC	PE-5	25ADE3506	EDGE AI DEVELOPMENT FRAMEWORKS AND TOOLS	R	EADFT	3	0	0	0	3	3	
11	PEC	PE-5	25ADE3507	EDGE AI ANALYTICS AND DATA MANAGEMENT	R	EAIADM	3	0	0	0	3	3	
12	PEC	PE-5	25ADE3508	EDGE AI AND SUSTAINABILITY	R	EAIAS	3	0	0	0	3	3	

32. SPECIALIZATION: AI-DRIVEN LANGUAGE TECHNOLOGIES

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25ALT3101	APPLIED MACHINE LEARNING FOR TEXT ANALYSIS	R	AMLFTA	3	0	2	0	4	5	
2	PEC	PE-1	25ALT3101A	APPLIED MACHINE LEARNING FOR TEXT ANALYSIS	A	AMLFTA	4	1	2	0	6	7	
3	PEC	PE-1	25ALT3101E	APPLIED MACHINE LEARNING FOR TEXT ANALYSIS	E	AMLFTA	4	1	2	0	6	7	
4	PEC	PE-2	25ALT3202	DEEP LEARNING FOR NATURAL LANGUAGE PROCESSING	R	DLFNL	3	0	0	0	3	3	
5	PEC	PE-3	25ALT3303	CONVERSATIONAL AI AND CHATBOT DEVELOPMENT	R	CAICBD	3	0	0	2	3.5	5	
6	PEC	PE-3	25ALT3303A	CONVERSATIONAL AI AND CHATBOT DEVELOPMENT	A	CAICBD	4	1	0	2	5.5	7	
7	PEC	PE-3	25ALT3303E	CONVERSATIONAL AI AND CHATBOT DEVELOPMENT	E	CAICBD	4	1	0	2	5.5	7	
8	PEC	PE-4	25ALT3404	TEXT UNDERSTANDING	R	TUS	3	0	0	0	3	3	
9	PEC	PE-4	25ALT3405	NATURAL LANGUAGE PROCESSING	R	NLP	3	0	0	0	3	3	
10	PEC	PE-4	25ALT3506	LANGUAGE UNDERSTANDING WITH PRE-TRAINED MODELS	R	LUWPTM	3	0	0	0	3	3	
11	PEC	PE-5	25ALT3507	LARGE LANGUAGE MODEL FOR SPEECH PROCESSING	R	LLMFSP	3	0	0	0	3	3	

33. SPECIALIZATION: AUTOMOTIVE ELECTRONICS & AUTOSAR

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25AEA3101	AUTOMOTIVE SENSOR AND APPLICATIONS	R	ASA	3	0	2	0	4	5	
2	PEC	PE-1	25AEA3101A	AUTOMOTIVE SENSOR AND APPLICATIONS	A	ASA	4	1	2	0	6	7	
3	PEC	PE-1	25AEA3101E	AUTOMOTIVE SENSOR AND APPLICATIONS	E	ASA	4	1	2	0	6	7	
4	PEC	PE-2	25AEA3202	AUTOTRONICS	R	AT	3	0	0	0	3	3	
5	PEC	PE-2	25AEA3203	AUTOMOTIVE POLLUTION AND ITS CONTROL	R	APC	3	0	0	0	3	3	
6	PEC	PE-3	25AEA3304	ALTERNATE DRIVES, TRACTION AND CONTROLS	R	ADTC	3	0	0	2	3.5	5	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
7	PEC	PE-3	25AEA3304A	ALTERNATE DRIVES, TRACTION AND CONTROLS	A	ADTC	4	1	0	2	5.5	7	
8	PEC	PE-3	25AEA3304E	ALTERNATE DRIVES, TRACTION AND CONTROLS	E	ADTC	4	1	0	2	5.5	7	
9	PEC	PE-4	25AEA3405	VEHICLE CONTROL SYSTEMS	R	VCS	3	0	0	0	3	3	
10	PEC	PE-4	25AEA3406	AUTOMOTIVE ELECTRICAL AND ELECTRONIC SYSTEMS	R	AEES	3	0	0	0	3	3	
11	PEC	PE-5	25AEA3507	SOFT COMPUTING TECHNIQUES FOR AUTOMOTIVE APPLICATIONS	R	SCTAA	3	0	0	0	3	3	
12	PEC	PE-5	25AEA3508	AUTOMOTIVE NETWORKING AND PROTOCOLS	R	ANP	3	0	0	0	3	3	

34. SPECIALIZATION: AUTOMOTIVE ENERGY ENGINEERING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25AEE3101	AUTOMOBILE ENGINEERING	R	AEG	3	0	2	0	4	5	
2	PEC	PE-1	25AEE3101A	AUTOMOBILE ENGINEERING	A	AEG	4	1	2	0	6	7	
3	PEC	PE-1	25AEE3101E	AUTOMOBILE ENGINEERING	E	AEG	4	1	2	0	6	7	
4	PEC	PE-2	25AEE3202	AUTOTRONICS AND SAFETY	R	AESS	3	0	0	0	3	3	
5	PEC	PE-2	25AEE3203	REFRIGERATION & AIR CONDITIONING	R	RAC	3	0	0	0	3	3	
6	PEC	PE-3	25AEE3304	THERMAL MANAGEMENT OF ELECTRIC AND ELECTRONIC SYSTEMS	R	TMEES	3	0	0	2	3.5	5	
7	PEC	PE-3	25AEE3304A	THERMAL MANAGEMENT OF ELECTRIC AND ELECTRONIC SYSTEMS	A	TMEES	4	1	0	2	5.5	7	
8	PEC	PE-3	25AEE3304E	THERMAL MANAGEMENT OF ELECTRIC AND ELECTRONIC SYSTEMS	E	TMEES	4	1	0	2	5.5	7	
9	PEC	PE-4	25AEE3405	SPECIAL PURPOSE VEHICLES	R	SPV	3	0	0	0	3	3	
10	PEC	PE-4	25AEE3406	VEHICLE DYNAMICS	R	VDS	3	0	0	0	3	3	
11	PEC	PE-5	25AEE3507	AUTONOMOUS VEHICLES	R	AVS	3	0	0	0	3	3	
12	PEC	PE-5	25AEE3508	ALTERNATE ENERGY SOURCES FOR AUTOMOBILES	R	AESA	3	0	0	0	3	3	

35. SPECIALIZATION: BIOINFORMATICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25BIS3101	MOLECULAR MODELLING AND DRUG DESIGN	R	MMDD	3	0	2	0	4	5	
2	PEC	PE-1	25BIS3101A	MOLECULAR MODELLING AND DRUG DESIGN	A	MMDD	4	1	2	0	6	7	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
3	PEC	PE-1	25BIS3101E	MOLECULAR MODELLING AND DRUG DESIGN	E	MMDD	4	1	2	0	6	7	
4	PEC	PE-2	25BIS3202	BIOMEDICAL INFORMATICS	R	BMI	3	0	0	0	3	3	
5	PEC	PE-2	25BIS3203	PYTHON AND R PROGRAMMING	R	P&RP	3	0	0	0	3	3	
6	PEC	PE-3	25BIS3304	STRUCTURAL BIOLOGY	R	SB	3	0	0	2	3.5	5	
7	PEC	PE-3	25BIS3304A	STRUCTURAL BIOLOGY	A	SB	4	1	0	2	5.5	7	
8	PEC	PE-3	25BIS3304E	STRUCTURAL BIOLOGY	E	SB	4	1	0	2	5.5	7	
9	PEC	PE-4	25BIS3405	APPLIED BIOINFORMATICS	R	ABI	3	0	0	0	3	3	
10	PEC	PE-4	25BIS3406	NGS SEQUENCING AND DATA ANALYSIS	R	NGSDA	3	0	0	0	3	3	
11	PEC	PE-5	25BIS3507	SYSTEMS BIOLOGY	R	SSB	3	0	0	0	3	3	
12	PEC	PE-5	25BIS3508	DATA BASE MANAGEMENT SYSTEM FOR BIOLOGIST	R	DBMS	3	0	0	0	3	3	

36. SPECIALIZATION: BLOCKCHAIN ENGINEERING FOR WEB3

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25BEW3101	INTRODUCTION TO BLOCKCHAIN TECHNOLOGY, CRYPTOCURRENCIES AND TOKENS	R	IBCTCCT	3	0	2	0	4	5	
2	PEC	PE-1	25BEW3101A	INTRODUCTION TO BLOCKCHAIN TECHNOLOGY, CRYPTOCURRENCIES AND TOKENS	A	IBCTCCT	4	1	2	0	6	7	
3	PEC	PE-1	25BEW3101E	INTRODUCTION TO BLOCKCHAIN TECHNOLOGY, CRYPTOCURRENCIES AND TOKENS	E	IBCTCCT	4	1	2	0	6	7	
4	PEC	PE-2	25BEW3202	SMART CONTRACTS	R	SC	3	0	0	0	3	3	
5	PEC	PE-2	25BEW3110	SMART CONTRACT DEVELOPMENT & TESTING	R	SCDT	3	0	0	0	3	3	
6	PEC	PE-2	25BEW3211	BLOCKCHAIN NETWORK ARCHITECTURE & CONSENSUS MECHANISMS	R	BNAC	3	0	0	0	3	3	
7	PEC	PE-3	25BEW3303	DECENTRALIZED APPLICATIONS AND DECENTRALIZED WEB	R	DADW	3	0	0	2	3.5	5	
8	PEC	PE-3	25BEW3303A	DECENTRALIZED APPLICATIONS AND DECENTRALIZED WEB	A	DADW	4	1	0	2	5.5	7	
9	PEC	PE-3	25BEW3303E	DECENTRALIZED APPLICATIONS AND DECENTRALIZED WEB	E	DADW	4	1	0	2	5.5	7	
10	PEC	PE-3	25BEW3312	WEB3 APPLICATION DEVELOPMENT & INTEGRATION	R	WADI	3	0	0	2	3.5	5	
11	PEC	PE-3	25BEW3312A	WEB3 APPLICATION DEVELOPMENT & INTEGRATION	A	WADI	4	1	0	2	5.5	7	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
12	PEC	PE-3	25BEW3312E	WEB3 APPLICATION DEVELOPMENT & INTEGRATION	E	WADI	4	1	0	2	5.5	7	
13	PEC	PE-4	25BEW3404	BLOCKCHAIN PLATFORMS AND PROTOCOLS	R	BCFP	3	0	0	0	3	3	
14	PEC	PE-4	25BEW3405	BLOCKCHAIN SECURITY	R	BCF	3	0	0	0	3	3	
15	PEC	PE-4	25BEW3406	ORACLES AND DATA FEEDS	R	ODF	3	0	0	0	3	3	
16	PEC	PE-4	25BEW3413	DECENTRALIZED FINANCE (DEFI) SYSTEMS ENGINEERING	R	DFSE	3	0	0	0	3	3	
17	PEC	PE-4	25BEW3414	POST-QUANTUM CRYPTOGRAPHY FOR BLOCKCHAIN	R	PQCB	3	0	0	0	3	3	
18	PEC	PE-5	25BEW3507	BLOCKCHAIN SCALABILITY AND LAYER 2 SOLUTIONS	R	BCSALS	3	0	0	0	3	3	
19	PEC	PE-5	25BEW3508	REGULATORY LANDSCAPE AND COMPLIANCE	R	RLAC	3	0	0	0	3	3	
20	PEC	PE-5	25BEW3509	FUTURE TRENDS IN BLOCKCHAIN AND WEB3	R	FTBCAW	3	0	0	0	3	3	
21	PEC	PE-5	25BEW3515	DECENTRALIZED STORAGE, IDENTITY & MIDDLEWARE SYSTEMS	R	DSIM	3	0	0	0	3	3	
22	PEC	PE-5	25BEW3516	QUANTUM ALGORITHMS FOR BLOCKCHAIN DATA ANALYSIS	R	QABA	3	0	0	0	3	3	

37. SPECIALIZATION: CLOUD & EDGE COMPUTING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25CEC3101	CLOUD INFRASTRUCTURE AND SERVICES	R	CIS	3	0	2	0	4	5	
2	PEC	PE-2	25CEC3202	ADVANCED OPERATING SYSTEMS	R	AOS	3	0	0	0	3	3	
3	PEC	PE-2	25CEC3203	FUNCTIONAL AND CONCURRENT PROGRAMMING	R	FCP	3	0	0	0	3	3	
4	PEC	PE-2	25CEC3204	CLOUD DEVOPS	R	CD	3	0	0	0	3	3	
5	PEC	PE-3	25CEC3305	CLOUD AND SERVERLESS COMPUTING	R	CSC	3	0	0	2	3.5	5	
6	PEC	PE-3	25CEC3305A	CLOUD AND SERVERLESS COMPUTING	A	CSC	4	1	0	2	5.5	7	
7	PEC	PE-3	25CEC3305E	CLOUD AND SERVERLESS COMPUTING	E	CSC	4	1	0	2	5.5	7	
8	PEC	PE-4	25CEC3406	ADVANCED COMPUTER ARCHITECTURE	R	ACA	3	0	0	0	3	3	
9	PEC	PE-4	25CEC3407	PARALLEL ALGORITHMS	R	PA	3	0	0	0	3	3	
10	PEC	PE-4	25CEC3408	CLOUD SECURITY	R	CS	3	0	0	0	3	3	
11	PEC	PE-4	25CEC3409	ARCHITECTING CLOUD SOLUTIONS*	R	ACS	3	0	0	0	3	3	
12	PEC	PE-5	25CEC3510	EDGE COMPUTING	R	EC	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
13	PEC	PE-5	25CEC3511	HIGH PERFORMANCE COMPUTING	R	HPC	3	0	0	0	3	3	
14	PEC	PE-5	25CEC3512	DESIGN OF DISTRIBUTED APPLICATIONS ON CLOUD (DDA)	R	DDAC	3	0	0	0	3	3	
15	PEC	PE-5	25CEC3513	CLOUD NETWORKING	R	CN	3	0	0	0	3	3	

38. SPECIALIZATION: CLOUD INFRASTRUCTURE DESIGN & ENGINEERING?

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25CID3101	CLOUD INFRASTRUCTURE ENGINEERING	R	CIE	3	0	2	0	4	5	
2	PEC	PE-1	25CID3101A	CLOUD INFRASTRUCTURE ENGINEERING	A	CIE	4	1	2	0	6	7	
3	PEC	PE-1	25CID3101E	CLOUD INFRASTRUCTURE ENGINEERING	E	CIE	4	1	2	0	6	7	
4	PEC	PE-2	25CID3202	ENTERPRISE CLOUD COMPUTING: TECHNOLOGY, ARCHITECTURE, APPLICATIONS	R	ECT	3	0	0	0	3	3	
5	PEC	PE-2	25CID3203	ARCHITECTING HIGHLY AVAILABLE AND SCALABLE CLOUD ENVIRONMENTS	R	AHASCE	3	0	0	0	3	3	
6	PEC	PE-3	25CID3304	CLOUD INFRASTRUCTURE ARCHITECTURE AND ENGINEERING	R	CIA	3	0	0	2	3.5	5	
7	PEC	PE-3	25CID3304A	CLOUD INFRASTRUCTURE ARCHITECTURE AND ENGINEERING	A	CIA	4	1	0	2	5.5	7	
8	PEC	PE-3	25CID3304E	CLOUD INFRASTRUCTURE ARCHITECTURE AND ENGINEERING	E	CIA	4	1	0	2	5.5	7	
9	PEC	PE-4	25CID3405	RELIABLE CLOUD INFRASTRUCTURE: DESIGN AND PROCESS	R	RID	3	0	0	0	3	3	
10	PEC	PE-4	25CID3406	HYBRID CLOUD INTEGRATION AND MANAGEMENT	R	HCIM	3	0	0	0	3	3	
11	PEC	PE-5	25CID3507	CLOUD ENGINEERING	R	CE	3	0	0	0	3	3	
12	PEC	PE-5	25CID3508	CLOUD DATA MANAGEMENT AND STORAGE SOLUTIONS	R	CDMSS	3	0	0	0	3	3	

39. SPECIALIZATION: CLOUD NATIVE SECURITY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25CNS3101	INTRODUCTION TO CLOUD NATIVE COMPUTING	R	ITCNC	3	0	2	0	4	5	
2	PEC	PE-1	25CNS3101A	INTRODUCTION TO CLOUD NATIVE COMPUTING	A	ITCNC	4	1	2	0	6	7	
3	PEC	PE-1	25CNS3101E	INTRODUCTION TO CLOUD NATIVE COMPUTING	E	ITCNC	4	1	2	0	6	7	
4	PEC	PE-2	25CNS3202	FUNDAMENTALS OF CLOUD SECURITY	R	FOCS	2	0	2	0	3	4	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
5	PEC	PE-3	25CNS3303	CONTAINER SECURITY	R	CTSY	3	0	0	2	3.5	5	
6	PEC	PE-3	25CNS3303A	CONTAINER SECURITY	A	CTSY	4	1	0	2	5.5	7	
7	PEC	PE-3	25CNS3303E	CONTAINER SECURITY	E	CTSY	4	1	0	2	5.5	7	
8	PEC	PE-4	25CNS3404	MICROSERVICES SECURITY	R	MSS	3	0	0	0	3	3	
9	PEC	PE-4	25CNS3405	INFRASTRUCTURE AS CODE SECURITY	R	ISACS	3	0	0	0	3	3	
10	PEC	PE-4	25CNS3406	IDENTITY AND ACCESS MANAGEMENT IN CLOUD NATIVE ENVIRONMENTS	R	IAMCNE	3	0	0	0	3	3	
11	PEC	PE-4	25CNS3407	NETWORK SECURITY IN CLOUD NATIVE ARCHITECTURES	R	NSCNA	3	0	0	0	3	3	
12	PEC	PE-5	25CNS3508	MONITORING AND LOGGING FOR CLOUD NATIVE SECURITY	R	MLCNS	3	0	0	0	3	3	
13	PEC	PE-5	25CNS3509	COMPLIANCE AND GOVERNANCE IN CLOUD NATIVE ENVIRONMENTS	R	CGCNE	3	0	0	0	3	3	
14	PEC	PE-5	25CNS3510	SERVERLESS SECURITY	R	SLSY	3	0	0	0	3	3	
15	PEC	PE-5	25CNS3512	FUTURE TRENDS IN CLOUD NATIVE SECURITY	R	FTCNS	3	0	0	0	3	3	

40. SPECIALIZATION: CLOUD NATIVE SOFTWARE ENGINEERING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25CNE3101	FOUNDATIONS OF CLOUD NATIVE COMPUTING	R	FCNC	3	0	2	0	4	5	
2	PEC	PE-1	25CNE3101A	FOUNDATIONS OF CLOUD NATIVE COMPUTING	A	FCNC	4	1	2	0	6	7	
3	PEC	PE-1	25CNE3101E	FOUNDATIONS OF CLOUD NATIVE COMPUTING	E	FCNC	4	1	2	0	6	7	
4	PEC	PE-2	25CNE3202	CLOUD NATIVE APPLICATION DEVELOPMENT	R	CNAD	3	0	0	0	3	3	
5	PEC	PE-2	25CNE3203	CLOUD NATIVE DESIGN PROCESS	R	CNDP	3	0	0	0	3	3	
6	PEC	PE-3	25CNE3304	SOFTWARE ENGINEERING FOR CLOUD COMPUTING	R	SEC	3	0	0	2	3.5	5	
7	PEC	PE-3	25CNE3304A	SOFTWARE ENGINEERING FOR CLOUD COMPUTING	A	SEC	4	1	0	2	5.5	7	
8	PEC	PE-3	25CNE3304E	SOFTWARE ENGINEERING FOR CLOUD COMPUTING	E	SEC	4	1	0	2	5.5	7	
9	PEC	PE-4	25CNE3405	SERVERLESS COMPUTING AND EVENT-DRIVEN ARCHITECTURES	R	SCEDA	3	0	0	0	3	3	
10	PEC	PE-4	25CNE3406	CLOUD NATIVE SOFTWARE ARCHITECTURES	R	CNSA	3	0	0	0	3	3	
11	PEC	PE-5	25CNE3507	CLOUD NATIVE NETWORKING AND STORAGE SYSTEMS	R	CNNS	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
12	PEC	PE-5	25CNE3508	CLOUD INFRASTRUCTURE AND VIRTUALIZATION	R	CIAV	3	0	0	0	3	3	

41. SPECIALIZATION: CLOUD-BASED SCIENTIFIC COMPUTING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25CSC3101	FUNDAMENTALS OF CLOUD-BASED SCIENTIFIC COMPUTING	R	FCS	3	0	2	0	4	5	
2	PEC	PE-1	25CSC3101A	FUNDAMENTALS OF CLOUD-BASED SCIENTIFIC COMPUTING	A	FCS	4	1	2	0	6	7	
3	PEC	PE-1	25CSC3101E	FUNDAMENTALS OF CLOUD-BASED SCIENTIFIC COMPUTING	E	FCS	4	1	2	0	6	7	
4	PEC	PE-2	25CSC3202	DEVELOPMENT OF SCIENTIFIC APPLICATIONS USING CLOUD-BASED TECHNOLOGY	R	DSA	3	0	0	0	3	3	
5	PEC	PE-2	25CSC3203	DISTRIBUTED SCIENTIFIC COMPUTING IN THE CLOUD	R	DSCC	3	0	0	0	3	3	
6	PEC	PE-3	25CSC3304	CLOUD BASED HIGH PERFORMANCE COMPUTING	R	CHC	3	0	0	2	3.5	5	
7	PEC	PE-3	25CSC3304A	CLOUD BASED HIGH PERFORMANCE COMPUTING	A	CHC	4	1	0	2	5.5	7	
8	PEC	PE-3	25CSC3304E	CLOUD BASED HIGH PERFORMANCE COMPUTING	E	CHC	4	1	0	2	5.5	7	
9	PEC	PE-4	25CSC3405	CLOUD-BASED GRID COMPUTING	R	CGC	3	0	0	0	3	3	
10	PEC	PE-4	25CSC3406	CLOUD COMPUTING FOR SCIENTIFIC DISCOVERY	R	CCFSD	3	0	0	0	3	3	
11	PEC	PE-5	25CSC3507	CLOUD-BASED SCALABLE COMPUTING AND BIG DATA ANALYTICS	R	CSCBD	3	0	0	0	3	3	
12	PEC	PE-5	25CSC3508	PARALLEL COMPUTING FOR SCIENTISTS USING CLOUD PLATFORMS	R	PCSCP	3	0	0	0	3	3	

42. SPECIALIZATION: CROSS PLATFORM DEVELOPMENT FRAMEWORKS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25CPD3101	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	R	FMAD	3	0	2	0	4	5	
2	PEC	PE-1	25CPD3101A	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	A	FMAD	4	1	2	0	6	7	
3	PEC	PE-1	25CPD3101E	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	E	FMAD	4	1	2	0	6	7	
4	PEC	PE-2	25CPD3202	REACT NATIVE FOR ANDROID AND IOS DEVELOPMENT	R	RNA	3	0	0	0	3	3	
5	PEC	PE-2	25CPD3203	FRAMEWORK BASED CROSS PLATFORM APP DEVELOPMENT	R	FBCPD	3	0	0	0	3	3	
6	PEC	PE-3	25CPD3304	SECURE MOBILE APPLICATION DEVELOPMENT	R	SMAD	3	0	0	2	3.5	5	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
7	PEC	PE-3	25CPD3304A	SECURE MOBILE APPLICATION DEVELOPMENT	A	SMAD	4	1	0	2	5.5	7	
8	PEC	PE-3	25CPD3304E	SECURE MOBILE APPLICATION DEVELOPMENT	E	SMAD	4	1	0	2	5.5	7	
9	PEC	PE-4	25CPD3406	META REACT NATIVE SPECIALIZATION	R	MRNS	3	0	0	0	3	3	
10	PEC	PE-4	25CPD3405	UX DESIGN	R	UXD	3	0	0	0	3	3	
11	PEC	PE-5	25CPD3507	ADVANCED MOBILE APPLICATION DEVELOPMENT	R	AMAD	3	0	0	0	3	3	
12	PEC	PE-5	25CPD3508	CROSS PLATFORM USER INTERFACE DESIGN	R	CPED	3	0	0	0	3	3	

43. SPECIALIZATION: CYBER PHYSICAL SYSTEMS & IOT

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25CPS3101	IOT SENSING AND ACTUATING DEVICES	R	ISAD	3	0	2	0	4	5	
2	PEC	PE-1	25CPS3101A	IOT SENSING AND ACTUATING DEVICES	A	ISAD	4	1	2	0	6	7	
3	PEC	PE-1	25CPS3101E	IOT SENSING AND ACTUATING DEVICES	E	ISAD	4	1	2	0	6	7	
4	PEC	PE-2	25CPS3202	INTERNET OF THINGS ARCHITECTURES AND PROTOCOLS	R	IOTAP	3	0	0	0	3	3	
5	PEC	PE-3	25CPS3303	CYBER PHYSICAL SYSTEMS	R	CPS	3	0	0	2	3.5	5	
6	PEC	PE-3	25CPS3303A	CYBER PHYSICAL SYSTEMS	A	CPS	4	1	0	2	5.5	7	
7	PEC	PE-3	25CPS3303E	CYBER PHYSICAL SYSTEMS	E	CPS	4	1	0	2	5.5	7	
8	PEC	PE-4	25CPS3404	FOUNDATIONS OF HYBRID AND EMBEDDED SYSTEMS	R	DVP	3	0	0	0	3	3	
9	PEC	PE-5	25CPS3507	EDGE COMPUTING	R	EC	3	0	0	0	3	3	
10	PEC	PE-5	25CPS3505	CLOUD COMPUTING FOR IOT ENGINEERS	R	CCIOTE	3	0	0	0	3	3	
11	PEC	PE-5	25CPS3506	WIRELESS SENSOR NETWORKS	R	WSN	3	0	0	0	3	3	

44. SPECIALIZATION: CYBER SECURITY & BLOCKCHAIN TECHNOLOGY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25CSB3101	CRYPT ANALYSIS & CYBER DEFENSE	R	CACD	3	0	2	0	4	5	
2	PEC	PE-1	25CSB3101A	CRYPT ANALYSIS & CYBER DEFENSE	A	CACD	4	1	2	0	6	7	
3	PEC	PE-1	25CSB3101E	CRYPT ANALYSIS & CYBER DEFENSE	E	CACD	4	1	2	0	6	7	
4	PEC	PE-2	25CSB3202	NETWORK AND INFRASTRUCTURE SECURITY	R	NS	3	0	0	0	3	3	
5	PEC	PE-2	25CSB3203	INTRODUCTION TO BLOCKCHAIN AND CRYPTO CURRENCIES	R	IBCC	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
6	PEC	PE-3	25CSB3304	DIGITAL FORENSICS	R	DF	3	0	0	2	3.5	5	
7	PEC	PE-3	25CSB3304A	DIGITAL FORENSICS	A	DF	4	1	0	2	5.5	7	
8	PEC	PE-3	25CSB3304E	DIGITAL FORENSICS	E	DF	4	1	0	2	5.5	7	
9	PEC	PE-4	25CSB3405	DATABASE SYSTEM AND SECURITY	R	DSS	3	0	0	0	3	3	
10	PEC	PE-4	25CSB3406	PROGRAMMING FOR SMART CONTRACTS	R	PSC	3	0	0	0	3	3	
11	PEC	PE-4	25CSB3407	CLOUD SECURITY	R	CS	3	0	0	0	3	3	
12	PEC	PE-5	25CSB3508	SECURE SOFTWARE ENGINEERING	R	SSE	3	0	0	0	3	3	
13	PEC	PE-5	25CSB3509	WEB SECURITY	R	WS	3	0	0	0	3	3	
14	PEC	PE-5	25CSB3510	SECURITY GOVERNANCE & MANAGEMENT	R	SGM	3	0	0	0	3	3	

45. SPECIALIZATION: DATA COMMUNICATIONS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25DCM3101	TCP/IP AND OTHER PROTOCOL SUITE	R	TCP	3	0	2	0	4	5	
2	PEC	PE-1	25DCM3101A	TCP/IP AND OTHER PROTOCOL SUITE	A	TCP	4	1	2	0	6	7	
3	PEC	PE-1	25DCM3101E	TCP/IP AND OTHER PROTOCOL SUITE	E	TCP	4	1	2	0	6	7	
4	PEC	PE-2	25DCM3202	CLOUD COMPUTING AND NETWORKS SECURITY	R	CCNS	3	0	0	0	3	3	
5	PEC	PE-3	25DCM3303	VOIP AND BROADBAND NETWORKS	R	VOIP	3	0	0	2	3.5	5	
6	PEC	PE-3	25DCM3303A	VOIP AND BROADBAND NETWORKS	A	VOIP	4	1	0	2	5.5	7	
7	PEC	PE-3	25DCM3303E	VOIP AND BROADBAND NETWORKS	E	VOIP	4	1	0	2	5.5	7	
8	PEC	PE-4	25DCM3404	5G MOBILE AND IEEE STANDARDS	R	5GMI	3	0	0	0	3	3	
9	PEC	PE-5	25DCM3505	IP MULTIMEDIA SUB-SYSTEM AND EMERGING TECHNOLOGIES	R	IMSET	3	0	0	0	3	3	

46. SPECIALIZATION: DATA ENGINEERING FOR AI

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25DEA3101	FUNDAMENTALS OF DATA ENGINEERING	R	FDE	3	0	2	0	4	5	
2	PEC	PE-1	25DEA3101A	FUNDAMENTALS OF DATA ENGINEERING	A	FDE	4	1	2	0	6	7	
3	PEC	PE-1	25DEA3101E	FUNDAMENTALS OF DATA ENGINEERING	E	FDE	4	1	2	0	6	7	
4	PEC	PE-2	25DEA3202	DATA EXPLORATION AND PREPARATION	R	DEP	3	0	0	0	3	3	
5	PEC	PE-3	25DEA3303	BIG DATA TECHNOLOGIES	R	BDT	3	0	0	2	3.5	5	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
6	PEC	PE-3	25DEA3303A	BIG DATA TECHNOLOGIES	A	BDT	4	1	0	2	5.5	7	
7	PEC	PE-3	25DEA3303E	BIG DATA TECHNOLOGIES	E	BDT	4	1	0	2	5.5	7	
8	PEC	PE-4	25DEA3404	DATA WAREHOUSING AND BUSINESS INTELLIGENCE	R	DWBI	3	0	0	0	3	3	
9	PEC	PE-5	25DEA3505	MACHINE LEARNING ENGINEERING FOR BIG DATA	R	MLEBD	3	0	0	0	3	3	

47. SPECIALIZATION: DATA SCIENCE & BIG DATA ANALYTICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25DSB3101	DATA ANALYTICS AND VISUALIZATION	R	DAV	3	0	2	0	4	5	
2	PEC	PE-1	25DSB3101A	DATA ANALYTICS AND VISUALIZATION	A	DAV	4	1	2	0	6	7	
3	PEC	PE-1	25DSB3101E	DATA ANALYTICS AND VISUALIZATION	E	DAV	4	1	2	0	6	7	
4	PEC	PE-2	25DSB3202	DATA WAREHOUSING AND MINING	R	DWHM	3	0	0	0	3	3	
5	PEC	PE-3	25DSB3303	BIG DATA ANALYTICS	R	BDA	3	0	0	2	3.5	5	
6	PEC	PE-3	25DSB3303A	BIG DATA ANALYTICS	A	BDA	4	1	0	2	5.5	7	
7	PEC	PE-3	25DSB3303E	BIG DATA ANALYTICS	E	BDA	4	1	0	2	5.5	7	
8	PEC	PE-4	25DSB3404	BIG DATA OPTIMIZATION	R	BDO	3	0	0	0	3	3	
9	PEC	PE-4	25DSB3407	DATA ANALYTICS ON CLOUD	R	DAC	3	0	0	0	3	3	
10	PEC	PE-4	25DSB3408	DIGITAL MEDIA ANALYTICS	R	DMA	3	0	0	0	3	3	
11	PEC	PE-5	25DSB3509	ADVANCED DATABASES	R	AD	3	0	0	0	3	3	
12	PEC	PE-5	25DSB3510	BUSINESS ANALYTICS	R	BA	3	0	0	0	3	3	
13	PEC	PE-5	25DSB3511	GRAPH & WEB ANALYTICS	R	GWA	3	0	0	0	3	3	
14	PEC	PE-5	25DSB3512	DATA GOVERNANCE ON CLOUD	R	DGC	3	0	0	0	3	3	

48. SPECIALIZATION: DISTRIBUTED LEDGER ANALYTICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25DLA3101	BLOCKCHAIN SYSTEMS AND DISTRIBUTED LEDGER FOUNDATIONS	R	SNTSA	3	0	2	0	4	5	
2	PEC	PE-1	25DLA3101A	BLOCKCHAIN SYSTEMS AND DISTRIBUTED LEDGER FOUNDATIONS	A	SNTSA	4	1	2	0	6	7	
3	PEC	PE-1	25DLA3101E	BLOCKCHAIN SYSTEMS AND DISTRIBUTED LEDGER FOUNDATIONS	E	SNTSA	4	1	2	0	6	7	
4	PEC	PE-2	25DLA3202	MACHINE LEARNING FOR FINANCIAL RISK & BEHAVIORAL INTELLIGENCE	R	MLFRBI	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
5	PEC	PE-2	25DLA3203	BLOCKCHAIN TECHNOLOGY FOR DIGITAL TRANSFORMATION	R	BTDI	3	0	0	0	3	3	
6	PEC	PE-3	25DLA3304	MULTI AGENT SYSTEMS	R	MAS	3	0	0	2	3.5	5	
7	PEC	PE-3	25DLA3304A	MULTI AGENT SYSTEMS	A	MAS	4	1	0	2	5.5	7	
8	PEC	PE-3	25DLA3304E	MULTI AGENT SYSTEMS	E	MAS	4	1	0	2	5.5	7	
9	PEC	PE-3	25DLA3303	SMART CONTRACTS & WEB3 APPLICATION ENGINEERING	R	SCW3	3	0	0	2	3.5	5	
10	PEC	PE-3	25DLA3303A	SMART CONTRACTS & WEB3 APPLICATION ENGINEERING	A	SCW3	4	1	0	2	5.5	7	
11	PEC	PE-3	25DLA3303E	SMART CONTRACTS & WEB3 APPLICATION ENGINEERING	E	SCW3	4	1	0	2	5.5	7	
12	PEC	PE-4	25DLA3405	BLOCKCHAIN ANALYTICS	R	BCA	3	0	0	0	3	3	
13	PEC	PE-4	25DLA3406	CRYPTOCURRENCY AND BLOCKCHAIN TECHNOLOGY	R	CBT	3	0	0	0	3	3	
14	PEC	PE-4	25DLA3404	TOKENOMICS, DIGITAL ASSETS & CRYPTO INFRASTRUCTURE	R	TDCI	3	0	0	0	3	3	
15	PEC	PE-5	25DLA3507	DISTRIBUTED LEDGER ARCHITECTURE FOR AUTOMATION	R	DLAA	3	0	0	0	3	3	
16	PEC	PE-5	25DLA3508	PERMISSIONED DISTRIBUTED LEDGER	R	PDL	3	0	0	0	3	3	
17	PEC	PE-5	25DLA3505	PRIVACY, COMPLIANCE & DECENTRALIZED SECURITY ENGINEERING	R	PCDS	3	0	0	0	3	3	

49. SPECIALIZATION: EMBEDDED SYSTEMS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25EDS3101	ADVANCED EMBEDDED SYSTEMS	R	AES	3	0	2	0	4	5	
2	PEC	PE-1	25EDS3101A	ADVANCED EMBEDDED SYSTEMS	A	AES	4	1	2	0	6	7	
3	PEC	PE-1	25EDS3101E	ADVANCED EMBEDDED SYSTEMS	E	AES	4	1	2	0	6	7	
4	PEC	PE-2	25EDS3202	EMBEDDED SYSTEMS FOR IOT	R	ESIOT	3	0	0	0	3	3	
5	PEC	PE-3	25EDS3303	EMBEDDED AND REAL-TIME SYSTEMS	R	ERTS	3	0	0	2	3.5	5	
6	PEC	PE-3	25EDS3303A	EMBEDDED AND REAL-TIME SYSTEMS	A	ERTS	4	1	0	2	5.5	7	
7	PEC	PE-3	25EDS3303E	EMBEDDED AND REAL-TIME SYSTEMS	E	ERTS	4	1	0	2	5.5	7	
8	PEC	PE-4	25EDS3404	CLOUD ARCHITECTURE IN IOT	R	CAIOT	3	0	0	0	3	3	
9	PEC	PE-5	25EDS3505	EDGE COMPUTING AND DATA ANALYTICS IN IOT	R	ECDAI	3	0	0	0	3	3	

50. SPECIALIZATION: E-MOBILITY ENGINEERING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25EME3101	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	R	PTDEV	3	0	2	0	4	5	
2	PEC	PE-1	25EME3101A	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	A	PTDEV	4	1	2	0	6	7	
3	PEC	PE-1	25EME3101E	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	E	PTDEV	4	1	2	0	6	7	
4	PEC	PE-2	25EME3202	COMMUNICATION PROTOCOLS AND TESTING OF ELECTRIC VEHICLE	R	CPTEV	3	0	0	0	3	3	
5	PEC	PE-2	25EME3203	AUTONOMOUS VEHICLES AND AUTOMOTIVE ELECTRONICS	R	AVAE	3	0	0	0	3	3	
6	PEC	PE-3	25EME3304	CHARGING STATIONS FOR ELECTRIC VEHICLES	R	CSEV	3	0	0	2	3.5	5	
7	PEC	PE-3	25EME3304A	CHARGING STATIONS FOR ELECTRIC VEHICLES	A	CSEV	4	1	0	2	5.5	7	
8	PEC	PE-3	25EME3304E	CHARGING STATIONS FOR ELECTRIC VEHICLES	E	CSEV	4	1	0	2	5.5	7	
9	PEC	PE-4	25EME3405	INTRODUCTION TO BATTERY-MANAGEMENT SYSTEMS	R	IBMS	3	0	0	0	3	3	
10	PEC	PE-4	25EME3406	BATTERY STATE ESTIMATION ALGORITHMS FOR ELECTRIC VEHICLE	R	BSAEV	3	0	0	0	3	3	
11	PEC	PE-5	25EME3507	AI AND IOT FOR ELECTRIC VEHICLE	R	AIEV	3	0	0	0	3	3	
12	PEC	PE-5	25EME3508	EV SYSTEM AND WIRING DESIGN	R	ESWS	3	0	0	0	3	3	

51. SPECIALIZATION: ENGINEERING DESIGN

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25EGD3101	ADVANCED STRENGTH OF MATERIALS	R	ASM	3	0	2	0	4	5	
2	PEC	PE-1	25EGD3101A	ADVANCED STRENGTH OF MATERIALS	A	ASM	4	1	2	0	6	7	
3	PEC	PE-1	25EGD3101E	ADVANCED STRENGTH OF MATERIALS	E	ASM	4	1	2	0	6	7	
4	PEC	PE-2	25EGD3202	CREEP, FATIGUE AND FRACTURE MECHANICS	R	CFFM	3	0	0	0	3	3	
5	PEC	PE-2	25EGD3203	THEORY OF ELASTICITY AND PLASTICITY	R	KDARS	3	0	0	0	3	3	
6	PEC	PE-3	25EGD3304	MODELING, ANALYSIS AND DESIGN OF ROBOTIC SYSTEMS	R	MADRS	3	0	0	2	3.5	5	
7	PEC	PE-3	25EGD3304A	MODELING, ANALYSIS AND DESIGN OF ROBOTIC SYSTEMS	A	MADRS	4	1	0	2	5.5	7	
8	PEC	PE-3	25EGD3304E	MODELING, ANALYSIS AND DESIGN OF ROBOTIC SYSTEMS	E	MADRS	4	1	0	2	5.5	7	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
9	PEC	PE-4	25EGD3405	SUSTAINABLE DESIGN AND SOCIAL INNOVATION IN ENGINEERING DESIGN	R	SDSIED	3	0	0	0	3	3	
10	PEC	PE-4	25EGD3406	ADVANCED VIBRATIONS	R	AV	3	0	0	0	3	3	
11	PEC	PE-5	25EGD3507	MECHANICS OF COMPOSITE MATERIALS	R	MOCM	3	0	0	0	3	3	
12	PEC	PE-5	25EGD3508	HYBRID AND ELECTRIC VEHICLE DESIGN	R	HEVD	3	0	0	0	3	3	

52. SPECIALIZATION: GAME DEVELOPMENT & UX DESIGN

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25GDU3101	PROGRAMMING FOR GAME DEVELOPMENT	R	PGD	3	0	2	0	4	5	
2	PEC	PE-1	25GDU3101A	PROGRAMMING FOR GAME DEVELOPMENT	A	PGD	4	1	2	0	6	7	
3	PEC	PE-1	25GDU3101E	PROGRAMMING FOR GAME DEVELOPMENT	E	PGD	4	1	2	0	6	7	
4	PEC	PE-2	25GDU3202	UX DESIGN	R	UXD	3	0	0	0	3	3	
5	PEC	PE-3	25GDU3303	AR AND VR APPLICATION DEVELOPMENT	R	AR&VR	3	0	0	2	3.5	5	
6	PEC	PE-3	25GDU3303A	AR AND VR APPLICATION DEVELOPMENT	A	AR&VR	4	1	0	2	5.5	7	
7	PEC	PE-3	25GDU3303E	AR AND VR APPLICATION DEVELOPMENT	E	AR&VR	4	1	0	2	5.5	7	
8	PEC	PE-4	25GDU3404	COMPUTER GRAPHICS	R	CG	3	0	0	0	3	3	
9	PEC	PE-4	25GDU3405	3D MODELLING & ANIMATION	R	3DMA	3	0	0	0	3	3	
10	PEC	PE-5	25GDU3506	PRINCIPLES OF GAME DESIGN	R	PRGD	3	0	0	0	3	3	
11	PEC	PE-5	25GDU3507	BUSINESS OF GAMES & ENTREPRENEURSHIP	R	BGE	3	0	0	0	3	3	

53. SPECIALIZATION: GREEN ENERGY TECHNOLOGIES

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25GET3101	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	R	SPMET	3	0	2	0	4	5	
2	PEC	PE-1	25GET3101A	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	A	SPMET	4	1	2	0	6	7	
3	PEC	PE-1	25GET3101E	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	E	SPMET	4	1	2	0	6	7	
4	PEC	PE-2	25GET3202	WIND AND ENERGY STORAGE TECHNOLOGIES	R	WEST	3	0	0	0	3	3	
5	PEC	PE-2	25GET3203	ENERGY ECONOMICS AND POLICY	R	EEP	3	0	0	0	3	3	
6	PEC	PE-3	25GET3304	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	R	GIRES	3	0	0	2	3.5	5	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
7	PEC	PE-3	25GET3304A	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	A	GIRES	4	1	0	2	5.5	7	
8	PEC	PE-3	25GET3304E	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	E	GIRES	4	1	0	2	5.5	7	
9	PEC	PE-4	25GET3405	ENERGY MANAGEMENT AND GREEN BUILDING	R	EMGB	3	0	0	0	3	3	
10	PEC	PE-4	25GET3406	HYDROGEN FUEL CELL TECHNOLOGY	R	HFCT	3	0	0	0	3	3	
11	PEC	PE-5	25GET3507	AI AND IOT FOR GREEN ENERGY INTEGRATION	R	AIGEI	3	0	0	0	3	3	
12	PEC	PE-5	25GET3508	POWER ELECTRONICS FOR RENEWABLE ENERGY SYSTEMS	R	PERES	3	0	0	0	3	3	

54. SPECIALIZATION: GENERATIVE AI & MACHINE LEARNING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25GAM3101	NATURAL LANGUAGE PROCESSING AND APPLICATIONS	R	NLPA	3	0	2	0	4	5	
2	PEC	PE-1	25GAM3101A	NATURAL LANGUAGE PROCESSING AND APPLICATIONS	A	NLPA	4	1	2	0	6	7	
3	PEC	PE-1	25GAM3101E	NATURAL LANGUAGE PROCESSING AND APPLICATIONS	E	NLPA	4	1	2	0	6	7	
4	PEC	PE-2	25GAM3202	DEEP LEARNING FOR COMPUTER VISION APPLICATIONS	R	DLCVA	3	0	0	0	3	3	
5	PEC	PE-3	25GAM3303	GENERATIVE AI ARCHITECTURES	R	GAA	3	0	0	2	3.5	5	
6	PEC	PE-3	25GAM3303A	GENERATIVE AI ARCHITECTURES	A	GAA	4	1	0	2	5.5	7	
7	PEC	PE-3	25GAM3303E	GENERATIVE AI ARCHITECTURES	E	GAA	4	1	0	2	5.5	7	
8	PEC	PE-4	25GAM3404	DESIGN OF LARGE LANGUAGE MODELS	R	DLLM	3	0	0	0	3	3	
9	PEC	PE-5	25GAM3505	AI PRODUCT DEVELOPMENT AND MANAGEMENT	R	APDM	3	0	0	0	3	3	

55. 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	PEC	PE-1	25HSS3101	INTRODUCTION TO HARDWARE-SOFTWARE CO-DESIGN	R	ITHSCD	3	0	2	0	4	5	
2	PEC	PE-1	25HSS3101A	INTRODUCTION TO HARDWARE-SOFTWARE CO-DESIGN	A	ITHSCD	4	1	2	0	6	7	
3	PEC	PE-1	25HSS3101E	INTRODUCTION TO HARDWARE-SOFTWARE CO-DESIGN	E	ITHSCD	4	1	2	0	6	7	
4	PEC	PE-2	25HSS3202	FUNDAMENTALS OF COMPUTER SECURITY	R	FOCS	3	0	0	0	3	3	
5	PEC	PE-3	25HSS3303	HARDWARE SECURITY MECHANISMS	R	HSM	3	0	0	2	3.5	5	
6	PEC	PE-3	25HSS3303A	HARDWARE SECURITY MECHANISMS	A	HSM	4	1	0	2	5.5	7	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
7	PEC	PE-3	25HSS3303E	HARDWARE SECURITY MECHANISMS	E	HSM	4	1	0	2	5.5	7	
8	PEC	PE-4	25HSS3404	SOFTWARE SECURITY PRINCIPLES	R	SSP	3	0	0	0	3	3	
9	PEC	PE-4	25HSS3405	SECURE CO-DESIGN METHODOLOGIES	R	SCDM	3	0	0	0	3	3	
10	PEC	PE-4	25HSS3406	HARDWARE TROJAN DETECTION AND PREVENTION	R	HTDAP	3	0	0	0	3	3	
11	PEC	PE-5	25HSS3507	SIDE-CHANNEL ATTACKS AND COUNTER MEASURES	R	SCACM	3	0	0	0	3	3	
12	PEC	PE-5	25HSS3508	FORMAL METHODS FOR HARDWARE- SOFTWARE SECURITY	R	FMHSS	3	0	0	0	3	3	
13	PEC	PE-5	25HSS3509	TRUSTED PLATFORM MODULES AND SECURE ELEMENTS	R	TPMASE	3	0	0	0	3	3	
14	PEC	PE-5	25HSS3511	HARDWARE-SOFTWARE CO-DESIGN	R	HSCCS	3	0	0	0	3	3	
15	PEC	PE-5	25HSS3512	FUTURE TRENDS IN HARDWARE- SOFTWARE CO-DESIGN FOR SECURITY	R	FTHSCS	3	0	0	0	3	3	

56. SPECIALIZATION: HEALTHCARE DATA ANALYTICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25HDA3101	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	R	ISDPDD	3	0	2	0	4	5	
2	PEC	PE-1	25HDA3101A	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	A	ISDPDD	4	1	2	0	6	7	
3	PEC	PE-1	25HDA3101E	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	E	ISDPDD	4	1	2	0	6	7	
4	PEC	PE-2	25HDA3204	PYTHON FOR GENOMIC DATA SCIENCE	R	PFGDS	3	0	0	0	3	3	
5	PEC	PE-2	25HDA3202	BIO MEDICAL INFORMATICS	R	BMI	3	0	0	0	3	3	
6	PEC	PE-2	25HDA3203	GENETIC PROGRAMMING	R	GP	3	0	0	0	3	3	
7	PEC	PE-3	25HDA3305	COMPUTATIONAL NEUROSCIENCE	R	CNSE	3	0	0	2	3.5	5	
8	PEC	PE-3	25HDA3305A	COMPUTATIONAL NEUROSCIENCE	A	CNSE	4	1	0	2	5.5	7	
9	PEC	PE-3	25HDA3305E	COMPUTATIONAL NEUROSCIENCE	E	CNSE	4	1	0	2	5.5	7	
10	PEC	PE-4	25HDA3406	NGS SEQUENCING AND DATA ANALYSIS	R	NGSDA	3	0	0	0	3	3	
11	PEC	PE-4	25HDA3407	INTRODUCTION TO GENOMIC TECHNOLOGIES	R	IGT	3	0	0	0	3	3	
12	PEC	PE-5	25HDA3511	EPI GENETIC CONTROL FOR GENE EXPRESSION	R	ECBI	3	0	0	0	3	3	
13	PEC	PE-5	25HDA3510	GENOMIC DATASCIENCE AND CLUSTERING	R	GDSC	3	0	0	0	3	3	
14	PEC	PE-5	25HDA3509	MOLECULAR MODELLING AND DRUG DESIGN	R	MMOD	3	0	0	0	3	3	

57. SPECIALIZATION: INDUSTRIAL AUTOMATION

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25ILA3101	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	R	IIIOT	3	0	2	0	4	5	
2	PEC	PE-1	25ILA3101A	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	A	IIIOT	4	1	2	0	6	7	
3	PEC	PE-1	25ILA3101E	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	E	IIIOT	4	1	2	0	6	7	
4	PEC	PE-2	25ILA3202	INDUSTRIAL AUTOMATION AND ROBOTICS	R	IAR	3	0	0	0	3	3	
5	PEC	PE-2	25ILA3203	EDGE COMPUTING FOR INDUSTRY 4.0	R	ECI	3	0	0	0	3	3	
6	PEC	PE-3	25ILA3304	INDUSTRIAL DRIVES AND CONTROL	R	ID&C	3	0	0	2	3.5	5	
7	PEC	PE-3	25ILA3304A	INDUSTRIAL DRIVES AND CONTROL	A	ID&C	4	1	0	2	5.5	7	
8	PEC	PE-3	25ILA3304E	INDUSTRIAL DRIVES AND CONTROL	E	ID&C	4	1	0	2	5.5	7	
9	PEC	PE-4	25ILA3405	INDUSTRIAL COMMUNICATION PROTOCOLS AND CYBER SECURITY	R	ICPCS	3	0	0	0	3	3	
10	PEC	PE-4	25ILA3406	DIGITAL MANUFACTURING AND DESIGN	R	DMD	3	0	0	0	3	3	
11	PEC	PE-5	25ILA3507	SMART SENSORS AND SENSOR NETWORKING	R	SSSN	3	0	0	0	3	3	
12	PEC	PE-5	25ILA3508	PLC PROGRAMMING AND CONTROL	R	PLCPC	3	0	0	0	3	3	

58. SPECIALIZATION: INDUSTRIAL BIOTECHNOLOGY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25IBT3101	PHARMACEUTICAL BIOTECHNOLOGY	R	PBT	3	0	2	0	4	5	
2	PEC	PE-1	25IBT3101A	PHARMACEUTICAL BIOTECHNOLOGY	A	PBT	4	1	2	0	6	7	
3	PEC	PE-1	25IBT3101E	PHARMACEUTICAL BIOTECHNOLOGY	E	PBT	4	1	2	0	6	7	
4	PEC	PE-2	25IBT3202	PHARMACOVIGILANCE AND SAFETY	R	PCS	3	0	0	0	3	3	
5	PEC	PE-2	25IBT3203	BIOPROCESS ECONOMICS AND PLANT DESIGN	R	BEPD	3	0	0	0	3	3	
6	PEC	PE-3	25IBT3304	ENZYMES ENGINEERING	R	EE	3	0	0	2	3.5	5	
7	PEC	PE-3	25IBT3304A	ENZYMES ENGINEERING	A	EE	4	1	0	2	5.5	7	
8	PEC	PE-3	25IBT3304E	ENZYMES ENGINEERING	E	EE	4	1	0	2	5.5	7	
9	PEC	PE-4	25IBT3405	BIOPROCESS VALIDATION AND CGMP	R	BVCGMP	3	0	2	0	4	5	
10	PEC	PE-4	25IBT3406	FOOD TECHNOLOGY	R	FT	3	0	0	0	3	3	
11	PEC	PE-5	25IBT3507	MICROBIAL TECHNOLOGY	R	MBT	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
12	PEC	PE-5	25IBT3508	METABOLIC ENGINEERING	R	MBE	3	0	0	0	3	3	

59. SPECIALIZATION: IOT ANALYTICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25IOT3101	INDUSTRIAL INTERNET OF THINGS	R	IOT	3	0	2	0	4	5	
2	PEC	PE-1	25IOT3101A	INDUSTRIAL INTERNET OF THINGS	A	IOT	4	1	2	0	6	7	
3	PEC	PE-1	25IOT3101E	INDUSTRIAL INTERNET OF THINGS	E	IOT	4	1	2	0	6	7	
4	PEC	PE-2	25IOT3202	EDGE COMPUTING	R	EC	3	0	0	0	3	3	
5	PEC	PE-2	25IOT3203	PRECISION AGRICULTURE	R	PA	3	0	0	0	3	3	
6	PEC	PE-2	25IOT3204	SMART FARMING	R	SF	3	0	0	0	3	3	
7	PEC	PE-3	25IOT3305	DEEP LEARNING	R	DL	3	0	0	2	3.5	5	
8	PEC	PE-3	25IOT3305A	DEEP LEARNING	A	DL	4	1	0	2	5.5	7	
9	PEC	PE-3	25IOT3305E	DEEP LEARNING	E	DL	4	1	0	2	5.5	7	
10	PEC	PE-4	25IOT3406	DATA VISUALIZATION TECHNIQUES	R	DVT	3	0	0	0	3	3	
11	PEC	PE-4	25IOT3407	APPLIED MACHINE LEARNING FOR AGRICULTURE	R	AMLA	3	0	0	0	3	3	
12	PEC	PE-5	25IOT3508	BIG DATA ANALYTICS	R	BDA	3	0	0	0	3	3	

60. SPECIALIZATION: MEDICAL BIOTECHNOLOGY

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25MBT3101	STEM CELL TECHNOLOGY	R	SCT	3	0	2	0	4	5	
2	PEC	PE-1	25MBT3101A	STEM CELL TECHNOLOGY	A	SCT	4	1	2	0	6	7	
3	PEC	PE-1	25MBT3101E	STEM CELL TECHNOLOGY	E	SCT	4	1	2	0	6	7	
4	PEC	PE-2	25MBT3203	NANOBIOTECHNOLOGY	R	TE	3	0	0	0	3	3	
5	PEC	PE-2	25MBT3202	VIROLOGY	R	VR	3	0	0	0	3	3	
6	PEC	PE-3	25MBT3304	HEALTHCARE BIOTECHNOLOGY	R	HBT	3	0	0	2	3.5	5	
7	PEC	PE-3	25MBT3304A	HEALTHCARE BIOTECHNOLOGY	A	HBT	4	1	0	2	5.5	7	
8	PEC	PE-3	25MBT3304E	HEALTHCARE BIOTECHNOLOGY	E	HBT	4	1	0	2	5.5	7	
9	PEC	PE-4	25MBT3406	NEUROBIOLOGY	R	NB	3	0	0	0	3	3	
10	PEC	PE-4	25MBT3405	CANCER BIOLOGY	R	CB	3	0	0	0	3	3	
11	PEC	PE-5	25MBT3508	TISSUE ENGINEERING	R	NBT	3	0	0	0	3	3	
12	PEC	PE-5	25MBT3507	BIOELECTRONICS AND BIOSENSORS	R	BB	3	0	0	0	3	3	

61. SPECIALIZATION: NANO TECHNOLOGY & OPTOELECTRONICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25NTO3102	NANOSCALE ENGINEERING FOR CLEAN ENERGY	R	NEC	3	0	2	0	4	5	
2	PEC	PE-1	25NTO3102A	NANOSCALE ENGINEERING FOR CLEAN ENERGY	A	NEC	4	1	2	0	6	7	
3	PEC	PE-1	25NTO3102E	NANOSCALE ENGINEERING FOR CLEAN ENERGY	E	NEC	4	1	2	0	6	7	
4	PEC	PE-1	25NTO3101	THIN FILM TECHNOLOGIES FOR NANO ELECTRONICS	R	TTN	3	0	2	0	4	5	
5	PEC	PE-1	25NTO3101A	THIN FILM TECHNOLOGIES FOR NANO ELECTRONICS	A	TTN	4	1	2	0	6	7	
6	PEC	PE-1	25NTO3101E	THIN FILM TECHNOLOGIES FOR NANO ELECTRONICS	E	TTN	4	1	2	0	6	7	
7	PEC	PE-2	25NTO3204	NANOPHOTONICS AND BIOPHOTONICS	R	NAB	3	0	0	0	3	3	
8	PEC	PE-2	25NTO3203	NANOTECHNOLOGY AND NANOSENSORS	R	NAN	3	0	0	0	3	3	
9	PEC	PE-3	25NTO3306	NANOROBOTICS FOR ADVANCED APPLICATIONS	R	NAA	3	0	0	2	3.5	5	
10	PEC	PE-3	25NTO3306A	NANOROBOTICS FOR ADVANCED APPLICATIONS	A	NAA	4	1	0	2	5.5	7	
11	PEC	PE-3	25NTO3306E	NANOROBOTICS FOR ADVANCED APPLICATIONS	E	NAA	4	1	0	2	5.5	7	
12	PEC	PE-3	25NTO3305	NANOMATERIALS FOR BIO-MEDICAL APPLICATIONS	R	NBA	3	0	0	2	3.5	5	
13	PEC	PE-3	25NTO3305A	NANOMATERIALS FOR BIO-MEDICAL APPLICATIONS	A	NBA	4	1	0	2	5.5	7	
14	PEC	PE-3	25NTO3305E	NANOMATERIALS FOR BIO-MEDICAL APPLICATIONS	E	NBA	4	1	0	2	5.5	7	
15	PEC	PE-4	25NTO3408	INDUSTRIAL NANOTECHNOLOGY	R	INT	3	0	0	0	3	3	
16	PEC	PE-4	25NTO3407	COMPUTATIONAL DATA SCIENCE FOR NANOTECHNOLOGY	R	CDN	3	0	0	0	3	3	
17	PEC	PE-5	25NTO3510	MICRO/NANO FLUIDIC SYSTEMS FOR SENSORS	R	MFS	3	0	0	0	3	3	
18	PEC	PE-5	25NTO3509	BIOSENSING AND BIOELECTRONICS	R	BAB	3	0	0	0	3	3	

62. SPECIALIZATION: ROBOTICS & AUTOMATION

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25RAN3102	ADVANCED ROBOTICS	R	AR	3	0	2	0	4	5	
2	PEC	PE-1	25RAN3102A	ADVANCED ROBOTICS	A	AR	4	1	2	0	6	7	
3	PEC	PE-1	25RAN3102E	ADVANCED ROBOTICS	E	AR	4	1	2	0	6	7	
4	PEC	PE-1	25RAN3101	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	R	RMPDC	3	0	2	0	4	5	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
5	PEC	PE-1	25RAN3101A	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	A	RMPDC	4	1	2	0	6	7	
6	PEC	PE-1	25RAN3101E	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	E	RMPDC	4	1	2	0	6	7	
7	PEC	PE-2	25RAN3203	ROBOT MANIPULATION AND WHEELED MOBILE ROBOTS	R	RMWR	3	0	0	0	3	3	
8	PEC	PE-2	25RAN3202	AUTONOMOUS VEHICLES AND AUTOMOTIVE ELECTRONICS	R	AVAE	3	0	0	0	3	3	
9	PEC	PE-3	25RAN3304	AUTONOMOUS MOBILE ROBOT SYSTEMS	R	AMRS	3	0	0	2	3.5	5	
10	PEC	PE-3	25RAN3304A	AUTONOMOUS MOBILE ROBOT SYSTEMS	A	AMRS	4	1	0	2	5.5	7	
11	PEC	PE-3	25RAN3304E	AUTONOMOUS MOBILE ROBOT SYSTEMS	E	AMRS	4	1	0	2	5.5	7	
12	PEC	PE-4	25RAN3406	HUMAN MACHINE INTERFACE AND BRAIN MACHINE INTERFACE	R	HMIBMI	3	0	0	0	3	3	
13	PEC	PE-4	25RAN3405	ARTIFICIAL INTELLIGENCE FOR ROBOTICS	R	AIR	3	0	0	0	3	3	
14	PEC	PE-5	25RAN3507	COMPUTER VISION AND APPLICATIONS	R	CVA	3	0	0	0	3	3	

63. SPECIALIZATION: SMART GRID TECHNOLOGIES

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25SGT3101	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	R	DERSG	3	0	2	0	4	5	
2	PEC	PE-1	25SGT3101A	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	A	DERSG	3	1	2	0	5	6	
3	PEC	PE-1	25SGT3101E	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	E	DERSG	4	1	2	0	6	7	
4	PEC	PE-2	25SGT3203	MICROGRID DYNAMICS AND CONTROL	R	MDC	3	0	0	0	3	3	
5	PEC	PE-2	25SGT3202	DISTRIBUTION SYSTEM PRACTICES	R	DSP	3	0	0	0	3	3	
6	PEC	PE-3	25SGT3304	ENERGY MANAGEMENT SYSTEMS AND SCADA	R	EMS&SCADA	3	0	0	2	3.5	5	
7	PEC	PE-3	25SGT3304A	ENERGY MANAGEMENT SYSTEMS AND SCADA	A	EMS&SCADA	4	1	0	2	5.5	7	
8	PEC	PE-3	25SGT3304E	ENERGY MANAGEMENT SYSTEMS AND SCADA	E	EMS&SCADA	4	1	0	2	5.5	7	
9	PEC	PE-4	25SGT3405	SMART GRID COMMUNICATION AND CYBERSECURITY	R	SGCCS	3	0	0	0	3	3	
10	PEC	PE-4	25SGT3406	SMART METERS AND SMART CITIES	R	SMSC	3	0	0	0	3	3	
11	PEC	PE-5	25SGT3508	SMART GRID PROTECTION	R	SGP	3	0	0	0	3	3	
12	PEC	PE-5	25SGT3507	INTERNET OF THINGS AND SMART GRID ANALYTICS	R	IOT&SGA	3	0	0	0	3	3	

64. SPECIALIZATION: SMART MANUFACTURING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25SMF3101	AI AND IOT IN MANUFACTURING	R	AIM	3	0	2	0	4	5	
2	PEC	PE-1	25SMF3101A	AI AND IOT IN MANUFACTURING	A	AIM	4	1	2	0	6	7	
3	PEC	PE-1	25SMF3101E	AI AND IOT IN MANUFACTURING	E	AIM	4	1	2	0	6	7	
4	PEC	PE-2	25SMF3202	FLEXIBLE MANUFACTURING SYSTEMS	R	FMS	3	0	0	0	3	3	
5	PEC	PE-2	25SMF3203	PRECISION AND MICRO MANUFACTURING	R	PMM	3	0	0	0	3	3	
6	PEC	PE-3	25SMF3304	ADDITIVE AND HYBRID MANUFACTURING	R	AHM	3	0	0	2	3.5	5	
7	PEC	PE-3	25SMF3304A	ADDITIVE AND HYBRID MANUFACTURING	A	AHM	4	1	0	2	5.5	7	
8	PEC	PE-3	25SMF3304E	ADDITIVE AND HYBRID MANUFACTURING	E	AHM	4	1	0	2	5.5	7	
9	PEC	PE-4	25SMF3405	DIGITAL MANUFACTURING	R	DM	3	0	0	0	3	3	
10	PEC	PE-4	25SMF3406	PRECISION INNOVATION & ENTREPRENEURSHIP	R	PIE	3	0	0	0	3	3	
11	PEC	PE-5	25SMF3507	SUSTAINABLE MANUFACTURING	R	SM	3	0	0	0	3	3	
12	PEC	PE-5	25SMF3508	MACHINE TO MACHINE COMMUNICATION	R	MMC	3	0	0	0	3	3	

65. SPECIALIZATION: SOCIAL & DIGITAL MEDIA ANALYTICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25SDM3101	SENTIMENT ANALYSIS	R	SA	3	0	2	0	4	5	
2	PEC	PE-1	25SDM3101A	SENTIMENT ANALYSIS	A	SA	4	1	2	0	6	7	
3	PEC	PE-1	25SDM3101E	SENTIMENT ANALYSIS	E	SA	4	1	2	0	6	7	
4	PEC	PE-2	25SDM3203	META SOCIAL MEDIA ANALYTICS	R	MSMA	3	0	0	0	3	3	
5	PEC	PE-2	25SDM3202	OPINION MINING AND RECOMMENDER SYSTEMS	R	OMRS	3	0	0	0	3	3	
6	PEC	PE-3	25SDM3304	SOCIAL MEDIA MARKETING ANALYTICS	R	SMMA	3	0	0	2	3.5	5	
7	PEC	PE-3	25SDM3304A	SOCIAL MEDIA MARKETING ANALYTICS	A	SMMA	4	1	0	2	5.5	7	
8	PEC	PE-3	25SDM3304E	SOCIAL MEDIA MARKETING ANALYTICS	E	SMMA	4	1	0	2	5.5	7	
9	PEC	PE-4	25SDM3406	ETHICAL SOCIAL MEDIA	R	ESM	3	0	0	0	3	3	
10	PEC	PE-4	25SDM3405	DIGITAL MEDIA ANALYTICS	R	DMA	3	0	0	0	3	3	
11	PEC	PE-5	25SDM3508	SEARCH ENGINE OPTIMIZATION	R	SEO	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
12	PEC	PE-5	25SDM3507	INTELLIGENT SOCIAL MEDIA MONITORING SYSTEMS	R	ISMMS	3	0	0	0	3	3	

66. SPECIALIZATION: SOFTWARE MODELLING & DEVOPS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25SMD3101	SOFTWARE VERIFICATION & VALIDATION	R	SVV	3	0	2	0	4	5	
2	PEC	PE-1	25SMD3101A	SOFTWARE VERIFICATION & VALIDATION	A	SVV	4	1	2	0	6	7	
3	PEC	PE-1	25SMD3101E	SOFTWARE VERIFICATION & VALIDATION	E	SVV	4	1	2	0	6	7	
4	PEC	PE-2	25SMD3202	DESIGN PATTERNS & CLEAN CODING TECHNIQUES	R	DPCT	3	0	0	2	3.5	5	
5	PEC	PE-3	25SMD3303	CONTINUOUS DELIVERY & DEVOPS	R	CDD	3	0	0	2	3.5	5	
6	PEC	PE-3	25SMD3303A	CONTINUOUS DELIVERY & DEVOPS	A	CDD	4	1	0	2	5.5	7	
7	PEC	PE-3	25SMD3303E	CONTINUOUS DELIVERY & DEVOPS	E	CDD	4	1	0	2	5.5	7	
8	PEC	PE-4	25SMD3405	SOFTWARE ARCHITECTURE & DESIGN	R	SAD	3	0	0	0	3	3	
9	PEC	PE-4	25SMD3404	SOFTWARE PROJECT MANAGEMENT	R	SPM	3	0	0	0	3	3	
10	PEC	PE-5	25SMD3507	CROSS-PLATFORM USER INTERFACE DESIGN	R	CPUIF	3	0	0	0	3	3	
11	PEC	PE-5	25SMD3506	SOFTWARE RELIABILITY	R	SR	3	0	0	0	3	3	

67. SPECIALIZATION: SPATIAL COMPUTING & IMMERSIVE TECHNOLOGIES

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25SCI3101	SPATIAL DATA VISUALIZATION	R	SDV	3	0	2	0	4	5	
2	PEC	PE-1	25SCI3101A	SPATIAL DATA VISUALIZATION	A	SDV	4	1	2	0	6	7	
3	PEC	PE-1	25SCI3101E	SPATIAL DATA VISUALIZATION	E	SDV	4	1	2	0	6	7	
4	PEC	PE-2	25SCI3202	SPATIAL COMPUTING FOR MULTIPLAYER GAMES	R	SCMG	3	0	0	0	3	3	
5	PEC	PE-3	25SCI3303	SPATIAL COMPUTING PLATFORMS AND DEVELOPMENT	R	SCPD	3	0	0	2	3.5	5	
6	PEC	PE-3	25SCI3303A	SPATIAL COMPUTING PLATFORMS AND DEVELOPMENT	A	SCPD	4	1	0	2	5.5	7	
7	PEC	PE-3	25SCI3303E	SPATIAL COMPUTING PLATFORMS AND DEVELOPMENT	E	SCPD	4	1	0	2	5.5	7	
8	PEC	PE-4	25SCI3404	SPATIAL AND SOCIAL IMPLICATIONS OF IMMERSIVE TECHNOLOGIES	R	SSIIT	3	0	0	0	3	3	
9	PEC	PE-4	25SCI3405	SPATIAL AUDIO DESIGN FOR GAMES	R	SADG	3	0	0	0	3	3	
10	PEC	PE-5	25SCI3506	SPATIAL USER INTERFACE DESIGN	R	SUID	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
11	PEC	PE-5	25SCI3507	INTRODUCTION TO SPATIAL COMPUTING	R	ITSC	3	0	0	0	3	3	

68. SPECIALIZATION: STRUCTURAL ENGINEERING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25STE3101	ADVANCED CONCRETE TECHNOLOGY	R	ACT	3	0	2	0	4	5	
2	PEC	PE-1	25STE3101A	ADVANCED CONCRETE TECHNOLOGY	A	ACT	4	1	2	0	6	7	
3	PEC	PE-1	25STE3101E	ADVANCED CONCRETE TECHNOLOGY	E	ACT	4	1	2	0	6	7	
4	PEC	PE-2	25STE3202	ADVANCED STRUCTURAL ANALYSIS	R	ASA	3	0	0	0	3	3	
5	PEC	PE-3	25STE3303	PRESTRESSED CONCRETE	R	PSC	3	0	0	2	3.5	5	
6	PEC	PE-3	25STE3303A	PRESTRESSED CONCRETE	A	PSC	4	1	0	2	5.5	7	
7	PEC	PE-3	25STE3303E	PRESTRESSED CONCRETE	E	PSC	4	1	0	2	5.5	7	
8	PEC	PE-4	25STE3404	SUSTAINABLE CONSTRUCTION TECHNOLOGY	R	SCT	3	0	0	0	3	3	
9	PEC	PE-5	25STE3505	CONSTRUCTION PLANNING AND SCHEDULING	R	CPS	3	0	0	0	3	3	

69. SPECIALIZATION: VLSI

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25VLS3101	ANALOG VLSI DESIGN	R	AVD	3	0	2	0	4	5	
2	PEC	PE-1	25VLS3101A	ANALOG VLSI DESIGN	A	AVD	4	1	2	0	6	7	
3	PEC	PE-1	25VLS3101E	ANALOG VLSI DESIGN	E	AVD	4	1	2	0	6	7	
4	PEC	PE-2	25VLS3202	TESTING AND VERIFICATION OF VLSI CIRCUITS	R	TVVC	3	0	0	0	3	3	
5	PEC	PE-3	25VLS3303	VLSI PHYSICAL DESIGN AUTOMATION	R	VPDA	3	0	0	2	3.5	5	
6	PEC	PE-3	25VLS3303A	VLSI PHYSICAL DESIGN AUTOMATION	A	VPDA	4	1	0	2	5.5	7	
7	PEC	PE-3	25VLS3303E	VLSI PHYSICAL DESIGN AUTOMATION	E	VPDA	4	1	0	2	5.5	7	
8	PEC	PE-4	25VLS3404	MIXED SIGNAL IC DESIGN	R	MSID	3	0	0	0	3	3	
9	PEC	PE-5	25VLS3505	SYSTEM-ON-CHIP	R	SOC	3	0	0	0	3	3	

70. SPECIALIZATION: INFRASTRUCTURE & ENVIRONMENTAL ENGINEERING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25WRE3101	ADVANCED FOUNDATION ENGINEERING	R	AFE	3	0	2	0	4	5	
2	PEC	PE-1	25WRE3101A	ADVANCED FOUNDATION ENGINEERING	A	AFE	4	1	2	0	6	7	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
3	PEC	PE-1	25WRE3101E	ADVANCED FOUNDATION ENGINEERING	E	AFE	4	1	2	0	6	7	
4	PEC	PE-2	25WRE3202	INTELLIGENT TRANSPORTATION SYSTEMS	R	ITS	3	0	0	0	3	3	
5	PEC	PE-3	25WRE3303	GROUND IMPROVEMENT TECHNIQUES	R	GIT	3	0	0	2	3.5	5	
6	PEC	PE-3	25WRE3303A	GROUND IMPROVEMENT TECHNIQUES	A	GIT	4	1	0	2	5.5	7	
7	PEC	PE-3	25WRE3303E	GROUND IMPROVEMENT TECHNIQUES	E	GIT	4	1	0	2	5.5	7	
8	PEC	PE-4	25WRE3404	RIVER ENGINEERING	R	REG	3	0	0	0	3	3	
9	PEC	PE-5	25WRE3505	ENVIRONMENTAL IMPACT ASSESSMENT AND LIFE CYCLE ANALYSIS	R	EIALCA	3	0	0	0	3	3	

71. SPECIALIZATION: 5G -6G WIRELESS TECHNOLOGIES

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25WLT3101	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	R	4GW	3	0	2	0	4	5	
2	PEC	PE-1	25WLT3101A	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	A	4GW	4	1	2	0	6	7	
3	PEC	PE-1	25WLT3101E	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	E	4GW	4	1	2	0	6	7	
4	PEC	PE-2	25WLT3202	MODERN SATELLITE COMMUNICATION SYSTEMS	R	MSCS	3	0	0	0	3	3	
5	PEC	PE-3	25WLT3303	5G NR-WIRELESS TECHNOLOGIES	R	5GWT	3	0	0	2	3.5	5	
6	PEC	PE-3	25WLT3303A	5G NR-WIRELESS TECHNOLOGIES	A	5GWT	4	1	0	2	5.5	7	
7	PEC	PE-3	25WLT3303E	5G NR-WIRELESS TECHNOLOGIES	E	5GWT	4	1	0	2	5.5	7	
8	PEC	PE-5	25WLT3505	MACHINE LEARNING FOR WIRELESS COMMUNICATION	R	MLWC	3	0	0	0	3	3	
9	PEC	PE-5	25WLT3404	OPTICAL WIRELESS COMMUNICATIONS	R	OWC	3	0	0	0	3	3	

72. SPECIALIZATION: GENERATIVE AI FOR AGENTIC AND MULTI-MODAL INTELLIGENCE

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25GMI3101	PRINCIPLES OF DEEP NEURAL COMPUTATION	R	PDNC	3	0	2	0	4	5	
2	PEC	PE-1	25GMI3101A	PRINCIPLES OF DEEP NEURAL COMPUTATION	A	PDNC	4	1	2	0	6	7	
3	PEC	PE-1	25GMI3101E	PRINCIPLES OF DEEP NEURAL COMPUTATION	E	PDNC	4	1	2	0	6	7	
4	PEC	PE-2	25GMI3202	ENGINEERING LARGE LANGUAGE MODEL SYSTEMS	R	ELLMs	3	0	0	0	3	3	
5	PEC	PE-3	25GMI3303	REINFORCEMENT LEARNING	R	RL	3	0	0	2	3.5	5	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
6	PEC	PE-3	25GMI3303A	REINFORCEMENT LEARNING	A	RL	4	1	0	2	5.5	7	
7	PEC	PE-3	25GMI3303E	REINFORCEMENT LEARNING	E	RL	4	1	0	2	5.5	7	
8	PEC	PE-4	25GMI3404	GENERATIVE AI, AGENTIC AI & RETRIEVAL AUGMENTED GENERATION	R	GAAR	3	0	0	0	3	3	
9	PEC	PE-5	25GMI3505	MULTI-MODAL INTELLIGENCE	R	MMI	3	0	0	0	3	3	

73. SPECIALIZATION: HUMAN-CENTRIC AI SYSTEMS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25HCA3101	MULTI-MODAL INFORMATION PROCESSING	R	MMIP	3	0	2	0	4	5	
2	PEC	PE-1	25HCA3101A	MULTI-MODAL INFORMATION PROCESSING	A	MMIP	4	1	2	0	6	7	
3	PEC	PE-1	25HCA3101E	MULTI-MODAL INFORMATION PROCESSING	E	MMIP	4	1	2	0	6	7	
4	PEC	PE-2	25HCA3202	NATURAL LANGUAGE PROCESSING	R	NLP	3	0	0	0	3	3	
5	PEC	PE-2	25HCA3203	COMPUTER VISION & OBJECT DETECTION	R	CVOD	3	0	0	0	3	3	
6	PEC	PE-2	25HCA3204	COMPUTATIONAL PARALINGUISTICS	R	CPL	3	0	0	0	3	3	
7	PEC	PE-3	25HCA3305	LARGE LANGUAGE MODELS & CONVERSATIONAL AI	R	LLMC	3	0	0	2	3.5	5	
8	PEC	PE-3	25HCA3305A	LARGE LANGUAGE MODELS & CONVERSATIONAL AI	A	LLMC	4	1	0	2	5.5	7	
9	PEC	PE-3	25HCA3305E	LARGE LANGUAGE MODELS & CONVERSATIONAL AI	E	LLMC	4	1	0	2	5.5	7	
10	PEC	PE-3	25HCA3306	IMAGE PROCESSING & SCENE UNDERSTANDING	R	IPSU	3	0	0	2	3.5	5	
11	PEC	PE-3	25HCA3306A	IMAGE PROCESSING & SCENE UNDERSTANDING	A	IPSU	4	1	0	2	5.5	7	
12	PEC	PE-3	25HCA3306E	IMAGE PROCESSING & SCENE UNDERSTANDING	E	IPSU	4	1	0	2	5.5	7	
13	PEC	PE-3	25HCA3307	SPEECH PROCESSING	R	SP	3	0	0	2	3.5	5	
14	PEC	PE-3	25HCA3307A	SPEECH PROCESSING	A	SP	4	1	0	2	5.5	7	
15	PEC	PE-3	25HCA3307E	SPEECH PROCESSING	E	SP	4	1	0	2	5.5	7	
16	PEC	PE-4	25HCA3408	VISION TRANSFORMERS & GENERATIVE MODELS FOR VISION	R	VTGM	3	0	0	0	3	3	
17	PEC	PE-5	25HCA3509	AI ETHICS, FAIRNESS & RESPONSIBLE DEPLOYMENT	R	AIFD	3	0	0	0	3	3	
18	PEC	PE-5	25HCA3510	HUMAN-AI INTERACTION & USER-CENTERED DESIGN	R	HAI	3	0	0	0	3	3	

74. SPECIALIZATION: DATA SCIENCE & ENGINEERING FOR AI

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25DSE3101	DATA ANALYTICS & VISUALIZATION	R	DAV	3	0	2	0	4	5	
2	PEC	PE-1	25DSE3101A	DATA ANALYTICS & VISUALIZATION	A	DAV	4	1	2	0	6	7	
3	PEC	PE-1	25DSE3101E	DATA ANALYTICS & VISUALIZATION	E	DAV	4	1	2	0	6	7	
4	PEC	PE-2	25DSE3202	DATA EXPLORATION & PREPARATION	R	DEP	3	0	0	0	3	3	
5	PEC	PE-2	25DSE3203	DATA WAREHOUSING& BUSINESS INTELLIGENCE	R	DWBI	3	0	0	0	3	3	
6	PEC	PE-3	25DSE3304	BIG DATA ENGINEERING	R	BDE	3	0	0	2	3.5	5	
7	PEC	PE-3	25DSE3304A	BIG DATA ENGINEERING	A	BDE	4	1	0	2	5.5	7	
8	PEC	PE-3	25DSE3304E	BIG DATA ENGINEERING	E	BDE	4	1	0	2	5.5	7	
9	PEC	PE-3	25DSE3305	BUSINESS ANALYTICS	R	BA	3	0	0	2	3.5	5	
10	PEC	PE-3	25DSE3305A	BUSINESS ANALYTICS	A	BA	4	1	0	2	5.5	7	
11	PEC	PE-3	25DSE3305E	BUSINESS ANALYTICS	E	BA	4	1	0	2	5.5	7	
12	PEC	PE-4	25DSE3406	AI-DRIVEN DATA ENGINEERING	R	AIDE	3	0	0	0	3	3	
13	PEC	PE-4	25DSE3407	DATA GOVERNANCE ON CLOUD	R	DGC	3	0	0	0	3	3	
14	PEC	PE-5	25DSE3508	DATA ANALYTICS ON CLOUD	R	DAC	3	0	0	0	3	3	
15	PEC	PE-5	25DSE3509	GRAPH & WEB ANALYTICS	R	GWA	3	0	0	0	3	3	

75. SPECIALIZATION: DATA LAKE SYSTEMS & STREAMING ANALYTICS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25DLS3101	STREAMING DATA ARCHITECTURES & FRAMEWORKS	R	SDAF	3	0	2	0	4	5	
2	PEC	PE-1	25DLS3101A	STREAMING DATA ARCHITECTURES & FRAMEWORKS	A	SDAF	4	1	2	0	6	7	
3	PEC	PE-1	25DLS3101E	STREAMING DATA ARCHITECTURES & FRAMEWORKS	E	SDAF	4	1	2	0	6	7	
4	PEC	PE-2	25DLS3202	DESIGNING REAL-TIME DATA PIPELINES	R	RTDP	3	0	0	0	3	3	
5	PEC	PE-3	25DLS3303	DATA LAKES & STREAM-ORIENTED STORAGE SYSTEMS	R	DLSS	3	0	0	2	3.5	5	
6	PEC	PE-3	25DLS3303A	DATA LAKES & STREAM-ORIENTED STORAGE SYSTEMS	A	DLSS	4	1	0	2	5.5	7	
7	PEC	PE-3	25DLS3303E	DATA LAKES & STREAM-ORIENTED STORAGE SYSTEMS	E	DLSS	4	1	0	2	5.5	7	
8	PEC	PE-4	25DLS3404	REAL-TIME ANALYTICS & COMPLEX EVENT PROCESSING	R	RTAC	3	0	0	0	3	3	
9	PEC	PE-5	25DLS3505	STREAMING ANALYTICS FOR IOT AND EDGE ENVIRONMENTS	R	SAIE	3	0	0	0	3	3	

76. SPECIALIZATION: CLOUD NATIVE APPLICATION ENGINEERING & DEVOPS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25CND3101	CLOUD-NATIVE APPLICATION DEVELOPMENT & CONTAINER ORCHESTRATION	R	CNAD	3	0	2	0	4	5	
2	PEC	PE-1	25CND3101A	CLOUD-NATIVE APPLICATION DEVELOPMENT & CONTAINER ORCHESTRATION	A	CNAD	4	1	2	0	6	7	
3	PEC	PE-1	25CND3101E	CLOUD-NATIVE APPLICATION DEVELOPMENT & CONTAINER ORCHESTRATION	E	CNAD	4	1	2	0	6	7	
4	PEC	PE-2	25CND3202	CLOUD-NATIVE ARCHITECTURE & INFRASTRUCTURE AS CODE	R	CNAI	3	0	0	0	3	3	
5	PEC	PE-3	25CND3303	ADVANCED DEVOPS, OBSERVABILITY & RELIABILITY ENGINEERING	R	DORS	3	0	0	2	3.5	5	
6	PEC	PE-3	25CND3303A	ADVANCED DEVOPS, OBSERVABILITY & RELIABILITY ENGINEERING	A	DORS	4	1	0	2	5.5	7	
7	PEC	PE-3	25CND3303E	ADVANCED DEVOPS, OBSERVABILITY & RELIABILITY ENGINEERING	E	DORS	4	1	0	2	5.5	7	
8	PEC	PE-4	25CND3404	CLOUD-NATIVE MLOPS & A1-DRIVEN APPLICATION DEPLOYMENT	R	CNMA	3	0	0	0	3	3	
9	PEC	PE-5	25CND3505	HIGH-PERFORMANCE & SECURE CLOUD-NATIVE SYSTEMS	R	HPCS	3	0	0	0	3	3	

77. SPECIALIZATION: AI DRIVEN EDGE COMPUTING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25AEC3101	EDGE AI HARDWARE ARCHITECTURES & ACCELERATION	R	EHA	3	0	2	0	4	5	
2	PEC	PE-1	25AEC3101A	EDGE AI HARDWARE ARCHITECTURES & ACCELERATION	A	EHA	4	1	2	0	6	7	
3	PEC	PE-1	25AEC3101E	EDGE AI HARDWARE ARCHITECTURES & ACCELERATION	E	EHA	4	1	2	0	6	7	
4	PEC	PE-2	25AEC3201	SECURE & SCALABLE EDGE AI NETWORKING	R	SEAN	3	0	0	0	3	3	
5	PEC	PE-3	25AEC3303	SERVICE MESH & OBSERVABILITY FOR EDGE AI	R	SMOA	3	0	0	2	3.5	5	
6	PEC	PE-3	25AEC3303A	SERVICE MESH & OBSERVABILITY FOR EDGE AI	A	SMOA	4	1	0	2	5.5	7	
7	PEC	PE-3	25AEC3303E	SERVICE MESH & OBSERVABILITY FOR EDGE AI	E	SMOA	4	1	0	2	5.5	7	
8	PEC	PE-4	25AEC3404	SERVERLESS & COST-OPTIMIZED AI AT THE EDGE	R	SCAE	3	0	0	0	3	3	
9	PEC	PE-5	25AEC3505	EDGE AI ORCHESTRATION & LIFECYCLE MANAGEMENT	R	EAOM	3	0	0	0	3	3	

78. SPECIALIZATION: CLOUD AI & ACCELERATED COMPUTING

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25CAC3101	GPU PROGRAMMING & HARDWARE ACCELERATION FOR AI & HPC	R	GPAH	3	0	2	0	4	5	
2	PEC	PE-1	25CAC3101A	GPU PROGRAMMING & HARDWARE ACCELERATION FOR AI & HPC	A	GPAH	4	1	2	0	6	7	
3	PEC	PE-1	25CAC3101E	GPU PROGRAMMING & HARDWARE ACCELERATION FOR AI & HPC	E	GPAH	4	1	2	0	6	7	
4	PEC	PE-2	25CAC3202	PARALLEL & FUNCTIONAL PROGRAMMING FOR SCIENTIFIC APPLICATIONS	R	PFPS	3	0	0	0	3	3	
5	PEC	PE-3	25CAC3303	ADVANCED COMPUTER ARCHITECTURES FOR HARDWARE ACCELERATION	R	ACHA	3	0	0	2	3.5	5	
6	PEC	PE-3	25CAC3303A	ADVANCED COMPUTER ARCHITECTURES FOR HARDWARE ACCELERATION	A	ACHA	4	1	0	2	5.5	7	
7	PEC	PE-3	25CAC3303E	ADVANCED COMPUTER ARCHITECTURES FOR HARDWARE ACCELERATION	E	ACHA	4	1	0	2	5.5	7	
8	PEC	PE-3	25CAC3304	QUANTUM PROGRAMMING FUNDAMENTALS	R	QPF	3	0	0	2	3.5	5	
9	PEC	PE-3	25CAC3304A	QUANTUM PROGRAMMING FUNDAMENTALS	A	QPF	4	1	0	2	5.5	7	
10	PEC	PE-3	25CAC3304E	QUANTUM PROGRAMMING FUNDAMENTALS	E	QPF	4	1	0	2	5.5	7	
11	PEC	PE-4	25CAC3405	CLOUD ARCHITECTURES FOR HPC & AI WORKLOADS	R	CHAW	3	0	0	0	3	3	
12	PEC	PE-4	25CAC3406	QUANTUM ALGORITHMS FOR AI & OPTIMIZATION	R	QAAO	3	0	0	0	3	3	
13	PEC	PE-5	25CAC3507	MLOPS & SCIENTIFIC WORKFLOW AUTOMATION IN CLOUD	R	MSWC	3	0	0	0	3	3	
14	PEC	PE-5	25CAC3508	HYBRID QUANTUM-CLASSICAL CLOUD SYSTEMS	R	HQCC	3	0	0	0	3	3	

79. SPECIALIZATION: CYBER THREAT INTELLIGENCE AND SECURITY OPERATIONS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25CTI3101	DIGITAL FORENSICS & INCIDENT RESPONSE	R	DFIR	3	0	2	0	4	5	
2	PEC	PE-1	25CTI3101A	DIGITAL FORENSICS & INCIDENT RESPONSE	A	DFIR	4	1	2	0	6	7	
3	PEC	PE-1	25CTI3101E	DIGITAL FORENSICS & INCIDENT RESPONSE	E	DFIR	4	1	2	0	6	7	
4	PEC	PE-1	25CTI3102	MALWARE ANALYSIS & REVERSE ENGINEERING	R	MARE	3	0	2	0	4	5	
5	PEC	PE-1	25CTI3102A	MALWARE ANALYSIS & REVERSE ENGINEERING	A	MARE	4	1	2	0	6	7	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
6	PEC	PE-1	25CTI3102E	MALWARE ANALYSIS & REVERSE ENGINEERING	E	MARE	4	1	2	0	6	7	
7	PEC	PE-2	25CTI3203	ETHICAL HACKING & OFFENSIVE SECURITY	R	EHOS	3	0	0	0	3	3	
8	PEC	PE-2	25CTI3204	VULNERABILITY ASSESSMENT & PENETRATION TESTING	R	VAPT	3	0	0	0	3	3	
9	PEC	PE-3	25CTI3305	BLUE TEAM OPERATIONS & SIEM	R	BTOS	3	0	0	2	3.5	5	
10	PEC	PE-3	25CTI3305A	BLUE TEAM OPERATIONS & SIEM	A	BTOS	4	1	0	2	5.5	7	
11	PEC	PE-3	25CTI3305E	BLUE TEAM OPERATIONS & SIEM	E	BTOS	4	1	0	2	5.5	7	
12	PEC	PE-3	25CTI3306	SOC MANAGEMENT	R	SOC	3	0	0	2	3.5	5	
13	PEC	PE-3	25CTI3306A	SOC MANAGEMENT	A	SOC	4	1	0	2	5.5	7	
14	PEC	PE-3	25CTI3306E	SOC MANAGEMENT	E	SOC	4	1	0	2	5.5	7	
15	PEC	PE-4	25CTI3407	CLOUD SECURITY	R	CS	3	0	0	0	3	3	
16	PEC	PE-4	25CTI3408	DEVSECOPS & INFRASTRUCTURE SECURITY	R	DSI	3	0	0	0	3	3	
17	PEC	PE-5	25CTI3509	QUANTUM CRYPTOGRAPHY & POST-QUANTUM SECURITY	R	QCPS	3	0	0	0	3	3	
18	PEC	PE-5	25CTI3510	APPLIED CRYPTOGRAPHY FOR CYBERSECURITY	R	ACC	3	0	0	0	3	3	

80. SPECIALIZATION: INTELLIGENT GAME DEVELOPMENT & IMMERSIVE TECHNOLOGIES

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25IGD3101	GAME DEVELOPMENT WITH UNREAL ENGINE (C++)	R	GDUE	3	0	2	0	4	5	
2	PEC	PE-1	25IGD3101A	GAME DEVELOPMENT WITH UNREAL ENGINE (C++)	A	GDUE	4	1	2	0	6	7	
3	PEC	PE-1	25IGD3101E	GAME DEVELOPMENT WITH UNREAL ENGINE (C++)	E	GDUE	4	1	2	0	6	7	
4	PEC	PE-1	25IGD3102	GAME DEVELOPMENT WITH UNITY ENGINE (C#)	R	GDUN	3	0	2	0	4	5	
5	PEC	PE-1	25IGD3102A	GAME DEVELOPMENT WITH UNITY ENGINE (C#)	A	GDUN	4	1	2	0	6	7	
6	PEC	PE-1	25IGD3102E	GAME DEVELOPMENT WITH UNITY ENGINE (C#)	E	GDUN	4	1	2	0	6	7	
7	PEC	PE-2	25IGD3203	MULTIPLAYER GAME DEVELOPMENT AND NETWORKING	R	MGDN	3	0	0	0	3	3	
8	PEC	PE-2	25IGD3204	GAME DEVOPS AND CLOUD DEPLOYMENT	R	GDCD	3	0	0	0	3	3	
9	PEC	PE-3	25IGD3305	3D GAME PROGRAMMING AND PHYSICS SIMULATION	R	3DPS	3	0	0	2	3.5	5	
10	PEC	PE-3	25IGD3305A	3D GAME PROGRAMMING AND PHYSICS SIMULATION	A	3DPS	4	1	0	2	5.5	7	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
11	PEC	PE-3	25IGD3305E	3D GAME PROGRAMMING AND PHYSICS SIMULATION	E	3DPS	4	1	0	2	5.5	7	
12	PEC	PE-3	25IGD3306	PROCEDURAL WORLD BUILDING	R	PWB	3	0	0	2	3.5	5	
13	PEC	PE-3	25IGD3306A	PROCEDURAL WORLD BUILDING	A	PWB	4	1	0	2	5.5	7	
14	PEC	PE-3	25IGD3306E	PROCEDURAL WORLD BUILDING	E	PWB	4	1	0	2	5.5	7	
15	PEC	PE-4	25IGD3407	IMMERSIVE GAME DEVELOPMENT	R	IGD	3	0	0	0	3	3	
16	PEC	PE-4	25IGD3408	SPATIAL COMPUTING FOR INTERACTIVE SYSTEMS	R	SCIS	3	0	0	0	3	3	
17	PEC	PE-5	25IGD3509	GAME AI AND AUTONOMOUS AGENTS	R	GAIA	3	0	0	0	3	3	
18	PEC	PE-5	25IGD3510	GENERATIVE AI IN GAME DESIGN	R	GAID	3	0	0	0	3	3	

81. SPECIALIZATION: GREEN & SUSTAINABLE DIGITAL SYSTEMS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25GSD3101	GREEN SOFTWARE ENGINEERING	R	GSE	3	0	2	0	4	5	
2	PEC	PE-1	25GSD3101A	GREEN SOFTWARE ENGINEERING	A	GSE	4	1	2	0	6	7	
3	PEC	PE-1	25GSD3101E	GREEN SOFTWARE ENGINEERING	E	GSE	4	1	2	0	6	7	
4	PEC	PE-2	25GSD3202	GREEN ALGORITHMS AND SUSTAINABLE APP DESIGN	R	GAD	3	0	0	0	3	3	
5	PEC	PE-3	25GSD3303	SUSTAINABLE CLOUD AND EDGE COMPUTING	R	SCE	3	0	0	2	3.5	5	
6	PEC	PE-3	25GSD3303A	SUSTAINABLE CLOUD AND EDGE COMPUTING	A	SCE	4	1	0	2	5.5	7	
7	PEC	PE-3	25GSD3303E	SUSTAINABLE CLOUD AND EDGE COMPUTING	E	SCE	4	1	0	2	5.5	7	
8	PEC	PE-4	25GSD3404	HARDWARE FOR SUSTAINABLE DIGITAL INFRASTRUCTURE	R	HSDI	3	0	0	0	3	3	
9	PEC	PE-5	25GSD3505	SMART INFRASTRUCTURE FOR GREEN DATA CENTERS	R	SIGD	3	0	0	0	3	3	

82. SPECIALIZATION: BIO-MEDICAL INSTRUMENTATION

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25BMI3101	BIOMEDICAL SIGNAL AND IMAGE PROCESSING	R	BSIP	3	0	2	0	4	5	
2	PEC	PE-1	25BMI3101A	BIOMEDICAL SIGNAL AND IMAGE PROCESSING	A	BSIP	4	1	2	0	6	7	
3	PEC	PE-1	25BMI3101E	BIOMEDICAL SIGNAL AND IMAGE PROCESSING	E	BSIP	4	1	2	0	6	7	
4	PEC	PE-2	25BMI3202	ADVANCED BIOMEDICAL SIGNAL PROCESSING	R	ABSP	3	0	0	0	3	3	
5	PEC	PE-3	25BMI3303	MATERIALS FOR BIO-MEDICAL APPLICATIONS	R	MBMA	3	0	0	2	3.5	5	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
6	PEC	PE-3	25BMI3303A	MATERIALS FOR BIO-MEDICAL APPLICATIONS	A	MBMA	4	1	0	2	5.5	7	
7	PEC	PE-3	25BMI3303E	MATERIALS FOR BIO-MEDICAL APPLICATIONS	E	MBMA	4	1	0	2	5.5	7	
8	PEC	PE-4	25BMI3404	NANOTECHNOLOGY AND NANOSENSORS	R	NTN	3	0	0	0	3	3	
9	PEC	PE-5	25BMI3505	BIOSENSING AND BIOELECTRONICS	R	BSBE	3	0	0	0	3	3	

83. SPECIALIZATION: RF & MICROWAVE

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25RFM3101	MICROWAVE ENGINEERING	R	ME	3	0	2	0	4	5	
2	PEC	PE-1	25RFM3101A	MICROWAVE ENGINEERING	A	ME	4	1	2	0	6	7	
3	PEC	PE-1	25RFM3101E	MICROWAVE ENGINEERING	E	ME	4	1	2	0	6	7	
4	PEC	PE-2	25RFM3202	ADVANCED ANTENNA DESIGN FOR WIRELESS AND 5G APPLICATIONS	R	AADW	3	0	0	0	3	3	
5	PEC	PE-3	25RFM3303	MODERN RADAR SYSTEMS & NAVIGATIONAL AIDS	R	MRSN	3	0	0	2	3.5	5	
6	PEC	PE-3	25RFM3303A	MODERN RADAR SYSTEMS & NAVIGATIONAL AIDS	A	MRSN	4	1	0	2	5.5	7	
7	PEC	PE-3	25RFM3303E	MODERN RADAR SYSTEMS & NAVIGATIONAL AIDS	E	MRSN	4	1	0	2	5.5	7	
8	PEC	PE-4	25RFM3404	RF AND MILLIMETER-WAVE CIRCUIT DESIGN	R	RMWCD	3	0	0	0	3	3	
9	PEC	PE-5	25RFM3505	SATELLITE DESIGN	R	SD	3	0	0	0	3	3	

84. SPECIALIZATION: QUANTUM COMMUNICATIONS

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25QCS3101	QUANTUM HARDWARE AND CONTROL SYSTEMS	R	QHCS	3	0	2	0	4	5	
2	PEC	PE-1	25QCS3101A	QUANTUM HARDWARE AND CONTROL SYSTEMS	A	QHCS	4	1	2	0	6	7	
3	PEC	PE-1	25QCS3101E	QUANTUM HARDWARE AND CONTROL SYSTEMS	E	QHCS	4	1	2	0	6	7	
4	PEC	PE-2	25QCS3202	QUANTUM OPTICS	R	QO	3	0	0	0	3	3	
5	PEC	PE-3	25QCS3303	QUANTUM SENSING	R	QS	3	0	0	2	3.5	5	
6	PEC	PE-3	25QCS3303A	QUANTUM SENSING	A	QS	4	1	0	2	5.5	7	
7	PEC	PE-3	25QCS3303E	QUANTUM SENSING	E	QS	4	1	0	2	5.5	7	
8	PEC	PE-4	25QCS3404	QUANTUM RADAR	R	QR	3	0	0	0	3	3	
9	PEC	PE-5	25QCS3506	QUANTUM INFORMATION THEORY	R	QIT	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-5	25QCS3505	QUANTUM SATELLITE COMMUNICATIONS	R	QSC	3	0	0	0	3	3	

85. SPECIALIZATION: QUANTUM TECHNOLOGIES

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PEC	PE-1	25QTS3101	QUANTUM COMPUTATION : CIRCUITS, ALGORITHMS & FAULT TOLERANCE	R	QCCAFT	3	0	2	0	4	5	
2	PEC	PE-1	25QTS3101A	QUANTUM COMPUTATION : CIRCUITS, ALGORITHMS & FAULT TOLERANCE	A	QCCAFT	4	1	2	0	6	7	
3	PEC	PE-1	25QTS3101E	QUANTUM COMPUTATION : CIRCUITS, ALGORITHMS & FAULT TOLERANCE	E	QCCAFT	4	1	2	0	6	7	
4	PEC	PE-2	25QTS3202	QUANTUM CRYPTOGRAPHY & QUANTUM COMMUNICATION	R	QCQC	3	0	0	0	3	3	
5	PEC	PE-3	25QTS3303	QUANTUM SENSING & METROLOGY	R	QSM	3	0	0	2	3.5	5	
6	PEC	PE-3	25QTS3303A	QUANTUM SENSING & METROLOGY	A	QSM	4	1	0	2	5.5	7	
7	PEC	PE-3	25QTS3303E	QUANTUM SENSING & METROLOGY	E	QSM	4	1	0	2	5.5	7	
8	PEC	PE-4	25QTS3404	QUANTUM MATERIALS & TOPOLOGICAL MATTER	R	QMTM	3	0	0	0	3	3	
9	PEC	PE-5	25QTS3505	QUANTUM AI & MACHINE LEARNING	R	QAIML	3	0	0	0	3	3	

86. PROJECT: RESEARCH PROJECT

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PRI	PRI-CORE	25IE4057	RESEARCH PROJECT-1	R	RP-1	0	0	8	16	8	12	
2	PRI	PRI-CORE	25IE4058	RESEARCH PROJECT-2	R	RP-2	0	0	8	16	8	12	

87. PROJECT: INNOVATION PROJECT

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PRI	PRI-CORE	25IE4055	INNOVATION PROJECT-1	R	IP-1	0	0	8	16	8	12	
2	PRI	PRI-CORE	25IE4056	INNOVATION PROJECT-2	R	IP-2	0	0	8	16	8	12	

88. PROJECT: CAPSTONE PROJECT

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	PRI	PRI-CORE	25IE4053	ENGINEERING CAPSTONE PROJECT - 1	R	ECP-1	0	0	8	16	8	12	
2	PRI	PRI-CORE	25IE4054	ENGINEERING CAPSTONE PROJECT - 2	R	ECP-2	0	0	8	16	8	12	

Program Articulation Matrix

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
1	HAS	25FL3054 - 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	25FL3054 - FLG	CO2	Classify questions and respond in the affirmative or negative with ?tre and avoir and form plurals						2				2				
3	HAS	25FL3054 - FLG	CO3	Utilize and apply the adjectives and essential verbs.								3		3				
4	HAS	25FL3054 - FLG	CO4	Construct and use in speech, vocabulary, reading, questions and answers								3			3			
5	HAS	25FL3055 - 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	25FL3055 - 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	25FL3055 - GLG	CO3	Utilize their understanding with suitable prepositions, questions, and possessive pronouns, and the importance of four German cases. Prepositions in Akkusativ and Dativ										3				
8	HAS	25FL3055 - 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.								3			3			

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
9	HAS	25FL3058 - JLG	CO1	Classify Hiragana, Katakana, and basic Kanji characters used in greetings and simple scripts					2			2						
10	HAS	25FL3058 - 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	25FL3058 - 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								3		3				
12	HAS	25FL3058 - 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								3			3			
13	HAS	25FL3064 - KLG	CO1	Understanding of key features of Korean, Introduction to Hangul, Everyday greetings & expressions			2					2						
14	HAS	25FL3064 - KLG	CO2	Learning of important grammar particles & Parts of speeches			2					2						
15	HAS	25FL3064 - KLG	CO3	Verbs, Adjectives & additional vocabularies for daily life conversation		2								2				
16	HAS	25FL3064 - KLG	CO4	Sentence formation & Different aspects of tenses		2							2					
17	HAS	25MB4053 - MPF	CO1	Understanding Personal Finance	2													
18	HAS	25MB4053 - MPF	CO2	Applying and Building a Budget and Tracking Your Money		3												

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
19	HAS	25MB4053 - MPF	CO3	Applying and Managing Debt and Credit in present context			3											
20	HAS	25MB4053 - MPF	CO4	Applying Saving and Investment to present scenario			3											
21	HAS	25MB4054 - BME	CO1	Understand the basic concepts of marketing management						2								
22	HAS	25MB4054 - BME	CO2	Understand the concepts of Marketing environment, consumer behaviour and Segmentation, Targeting and Positioning (STP)						2								
23	HAS	25MB4054 - BME	CO3	Apply the marketing mix strategies with special focus on technology products			2											
24	HAS	25MB4054 - BME	CO4	Apply promotion and distribution strategies for marketing of high tech products and services			2											
25	HAS	25MB4055 - OMG	CO1	Remember and understand the various management theories and management approaches.	2								2					
26	HAS	25MB4055 - OMG	CO2	Remember and understand organization theories, structures and organization principles.	2								2					
27	HAS	25MB4055 - OMG	CO3	Have basic knowledge and understanding of motivation, motivational theories, leadership theories, moral and behavioral sciences and also understand the management concept, administration and management objectives.	2								2					
28	HAS	25MB4055 - OMG	CO4	Remember and understand the various issues in industrial relations, trade unions and college bargaining and industrial safety.	2								2					
29	HAS	25MB4056 - PMT	CO1	Understand the basic management concepts along with an insight into levels of management									2					

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
30	HAS	25MB4056 - PMT	CO2	Understand the key contributions of classical approach to Management											2			
31	HAS	25MB4056 - PMT	CO3	Understand and apply Quantitative methods to improve Management performance.									3					
32	HAS	25MB4056 - PMT	CO4	Understand the key contributions of Behavioural and contemporary approaches to Management.									3					
33	HAS	25MB4058 - SSYB	CO1	Six sigma principals Six Sigma Foundations, Principles, Roles and Responsibilities			3	3										
34	HAS	25MB4058 - SSYB	CO2	Quality Tools and Six Sigma Metrics			3		3									
35	HAS	25MB4058 - SSYB	CO3	Six Sigma Principles			3	3										
36	HAS	25MB4058 - SSYB	CO4	Six Sigma Principles and practice					3							3		
37	HAS	25MB4060 - FINT	CO1	Understanding the comprehension of finance functions and diverse business models to facilitate informed decision-making processes within financial management		2												
38	HAS	25MB4060 - FINT	CO2	Analyzing the investment decisions through an understanding of capital budgeting techniques, both traditional and modern, emphasizing long-term implications.				2										
39	HAS	25MB4060 - FINT	CO3	Analyze and make informed decisions regarding working capital management, considering the short-term financial health of organizations through practical case studies.				2										
40	HAS	25MB4060 - FINT	CO4	Developing proficiency in comprehending and utilizing various sources of finance while discerning the implications of different dividend policies in practical financial scenarios.				2										

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
41	HAS	25MB4068 - FMFE	CO1	Understanding the comprehension of finance functions and diverse business models to facilitate informed decision-making processes within financial management		2												
42	HAS	25MB4068 - FMFE	CO2	Analyzing the investment decisions through an understanding of capital budgeting techniques, both traditional and modern, emphasizing long-term implications.				2										
43	HAS	25MB4068 - FMFE	CO3	Analyze and make informed decisions regarding working capital management, considering the short-term financial health of organizations through practical case studies.				2										
44	HAS	25MB4068 - FMFE	CO4	Developing proficiency in comprehending and utilizing various sources of finance while discerning the implications of different dividend policies in practical financial scenarios.				2										
45	HAS	25MB4070 - SLSI	CO1	Understand the fundamental concepts of sustainability and the role of leadership in driving sustainable practices	2					2						2		
46	HAS	25MB4070 - SLSI	CO2	Analyze the strategic implications of sustainability in business and policymaking		3			3						3		3	
47	HAS	25MB4070 - SLSI	CO3	Evaluate sustainable business models and leadership frameworks for long-term impact			3				3						3	
48	HAS	25MB4070 - SLSI	CO4	Develop strategic solutions and leadership approaches to address real-world sustainability challenges				3					3	3				
49	HAS	25MB4071 - RSQM	CO1	Interpreting the basic systems of manpower and materials management	2		2	2								2		

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
50	HAS	25MB4071 - RSQM	CO2	Explaining the basic systems of machinery management			2	2								2		
51	HAS	25MB4071 - RSQM	CO3	Classify the basic systems of safety management	2		2	2								2		
52	HAS	25MB4071 - RSQM	CO4	Understand the basic systems of quality management	2		2	2								2		
53	HAS	25MB4072 - IPTBF	CO1	Explain investment concepts, risk - return trade-off, and factors influencing required rate of return.	2	2												
54	HAS	25MB4072 - IPTBF	CO2	Apply fundamental and technical analysis to evaluate securities, industries, and firms.	3				3									
55	HAS	25MB4072 - IPTBF	CO3	Construct and analyze portfolios using CAPM, APT, and modern portfolio theories.			3					3						
56	HAS	25MB4072 - IPTBF	CO4	Evaluate portfolio performance using risk-adjusted performance measures and selection models.						3				3				
57	HAS	25MB4073 - IM	CO1	Develop value proposition for the problem identified	2	3												
58	HAS	25MB4073 - IM	CO2	Build MVP for the solution developed			3			2								
59	HAS	25MB4073 - IM	CO3	Devise go to market strategy				2	3									
60	HAS	25MB4073 - IM	CO4	Create a Pitch-deck with funding strategy							1	2						
61	HAS	25MB4231 - DMK	CO1	Outline the key concepts of digital marketing.	1													
62	HAS	25MB4231 - DMK	CO2	Apply SEO to a website.	2													
63	HAS	25MB4231 - DMK	CO3	Use the key PPC concepts to draw visitors to a business websites		2												
64	HAS	25MB4231 - DMK	CO4	Analyze Campaign Management to manage the marketing concepts		3											3	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
65	HAS	25MB4231 - DMK	CO5	Analyze digital marketing strategies		3												
66	HAS	25UC0021 - SIL-1	CO1	Apply effective communication and collaboration skills to work with diverse populations in addressing social issues within the community								3	3					
67	HAS	25UC0021 - SIL-1	CO2	Build technological solutions to real-world problems or challenges with peers to achieve common goals.								3	3					
68	HAS	25UC0021 - SIL-1	CO3	Plan effectively to communicate ideas and collaborate with others to achieve artistic or recreational goals.				3										
69	HAS	25UC0021 - SIL-1	CO4	Develop innovative solutions by thinking critically and creatively within a collaborative social immersive learning environment				3							3			
70	HAS	25UC0021 - SIL-1	CO5	Identify the strategies to promote personal well-being for healthy living through social interaction and shared experiences.			3								3			
71	HAS	25UC0022 - SIL-2	CO1	Apply effective communication and collaboration skills to work with diverse populations in addressing social issues within the community		3						3	3					
72	HAS	25UC0022 - SIL-2	CO2	Build technological solutions to real-world problems or challenges with peers to achieve common goals		3						3	3					
73	HAS	25UC0022 - SIL-2	CO3	Plan effectively to communicate ideas and collaborate with others to achieve artistic or recreational goals.		3						3	3					
74	HAS	25UC0022 - SIL-2	CO4	Develop innovative solutions by thinking critically and creatively within a collaborative social immersive learning environment		3						3	3					

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
75	HAS	25UC0022 - SIL-2	CO5	Identify the strategies to promote personal well-being for healthy living through social interaction and shared experiences		3						3	3					
76	HAS	25UC0026 - UHV	CO1	Understanding the basic concepts of value education								2	2					
77	HAS	25UC0026 - UHV	CO2	Gain basic understanding of principles in harmony among human beings								2	2					
78	HAS	25UC0026 - UHV	CO3	Gain knowledge in the concept of Harmony in the family and society								3	3					
79	HAS	25UC0026 - UHV	CO4	Acquire knowledge in the concepts of harmony in the nature								3	3					
80	HAS	25UC1102 - LSE	CO1	Understand the essential listening, speaking, and reading skills, preparing them form effective communication in various personal and professional contexts.										2				
81	HAS	25UC1102 - LSE	CO2	Apply essential writing and non-verbal communication skills, preparing them for effective written and non-verbal interactions in various personal and professional										3				
82	HAS	25UC1203 - DTI	CO1	Understand the importance of Design thinking mindset for identifying contextualized		2												
83	HAS	25UC1203 - DTI	CO2	Analyze the problem statement by empathizing with user							3							
84	HAS	25UC1203 - DTI	CO3	Develop ideation and test the prototypes made			3											
85	HAS	25UC1203 - DTI	CO4	Explore the fundamentals of entrepreneurship skills for transforming the challenge											2			

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
86	HAS	25UC1204 - CSE	CO1	Understand the essential career skills, including resume writing, interview techniques, group discussions, and exploring career opportunities, preparing them for successful career advancement									3	3				
87	HAS	25UC1204 - CSE	CO2	Apply a comprehensive understanding of essential team skills, preparing them for successful collaboration and contribution in professional team environments.									3	3				
88	BSC	25CY1001 - SCE2	CO1	Apply the operation of electrochemical systems to produce electric energy and storage devices.	3	2												
89	BSC	25CY1001 - SCE2	CO2	Use the fundamental aspects of electrochemistry and materials science relevant to corrosion phenomena.	3	2												
90	BSC	25CY1001 - SCE2	CO3	Examine water quality and apply appropriate purification technique for intended problem.	3	2												
91	BSC	25CY1001 - SCE2	CO4	Employ the fundamental principles and general properties of materials in various engineering applications.	3	2												
92	BSC	25CY1001 - SCE2	CO5	Analyze the data, develop skills in chemical analysis and their application in engineering.	3						3							
93	BSC	25MT1001 - LCE	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													
94	BSC	25MT1001 - LCE	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	PSO1	PSO2	PSO3
95	BSC	25MT1001 - LCE	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													
96	BSC	25MT1001 - LCE	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													
97	BSC	25MT1002 - DMS	CO1	Relate practical examples to the appropriate set, function, or relation model, interpret the associated operations and terminology in context	3				3							3		
98	BSC	25MT1002 - DMS	CO2	Apply formal methods of symbolic propositional logic, such as calculating validity of formulae and computing normal forms and each of the proof techniques correctly in the construction of a sound argument.	3				3							3		
99	BSC	25MT1002 - DMS	CO3	Analyse a problem to determine underlying recurrence relations.	3				3							3		
100	BSC	25MT1002 - DMS	CO4	Model a variety of real-world problems in computer science using appropriate forms of graphs and trees, such as representing a network topology or the organization of a hierarchical file system.	3				3							3		
101	BSC	25MT2004 - MTO	CO1	Apply various methods for finding the optimal solution of Linear Programming Problem.	3	3										3		
102	BSC	25MT2004 - MTO	CO2	Apply Integer Programming and Gradient methods for solving optimization problems.	3	3										3		

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
103	BSC	25MT2004 - MTO	CO3	Express a practical problem, such as an engineering analysis or design problem and to optimize a multivariate quadratic function subject to linear constraints on the variables.		3	3									3		
104	BSC	25MT2004 - MTO	CO4	Apply and understand the search and optimization methodologies applicable to the resolution of multi disciplinary decision problems, under a decision support framework.		3	3									3		
105	BSC	25MT2019 - PNS	CO1	Apply the importance of probabilistic concepts in a wide spectrum of problems arising in engineering applied science.	3		3	3								3		
106	BSC	25MT2019 - PNS	CO2	Assess the relationship between variables using correlation and regression techniques	3		3	3									3	
107	BSC	25MT2019 - PNS	CO3	Apply the role of Statistical tests of significance in solving real world engineering problems	3		3	3									3	
108	BSC	25MT2019 - PNS	CO4	Formulate Stochastic process in terms of Markov chains and solve problems in queueing systems, and network	3		3	3								3		
109	BSC	25PH1005 - SCE1	CO1	Apply the concepts of basics of crystal structure to find out and to analyse the various structure of materials. To analyze the structure property relation through crystal imperfections.	3													
110	BSC	25PH1005 - SCE1	CO2	Apply the concepts of the deformation of materials in response to action of load to identify various materials for specific engineering applications.	3													
111	BSC	25PH1005 - SCE1	CO3	Apply the concepts of various concepts of quantum mechanics to solve the problems related to the motion of electrons in microscopic level	3													

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
112	BSC	25PH1005 - SCE1	CO4	Apply the concepts and properties of light to know the laser mechanism in various materials and to know their specific applications in engineering and medicine.	3													
113	BSC	25PH1005 - SCE1	CO5	Apply the knowledge of physics to execute the related experiments and develop some inter disciplinary projects.		3										3		
114	ESC	25EC1101 - BEEC	CO1	Understand the basic concepts of AC and DC circuits and apply them to solve electric circuit problems.	2											2		
115	ESC	25EC1101 - BEEC	CO2	Apply different circuit analysis techniques to find voltage, current, impedance and power in electrical circuits.	3											3		
116	ESC	25EC1101 - BEEC	CO3	Comprehend the behavior of basic electronic components, such as diodes and transistor, and their applications.	2											2		
117	ESC	25EC1101 - BEEC	CO4	Understand the basic functional principles of different analog ICs, such as IC 741 Op Amp, IC 555 Timer and IC Voltage Regulators.	2											2		
118	ESC	25EC1101 - BEEC	CO5	Utilize measurement tools and equipment for validating theoretical concepts of different electrical and electronic circuits and develop problem solving capabilities through hands on experimentation.	3				3							3		
119	ESC	25EC1102 - DSD	CO1	Understand fundamental concepts of number systems, code conversions, Boolean algebra, and logic minimization.	2											3		
120	ESC	25EC1102 - DSD	CO2	Design combinational logic circuits using logic minimization techniques	2	3										3		

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
121	ESC	25EC1102 - DSD	CO3	Design sequential circuits using flip-flops, counters, and registers.	2	3										3		
122	ESC	25EC1102 - DSD	CO4	Build logic functions using Programmable Logic Devices (PLDs).	2	3	3									3		
123	ESC	25EC1102 - DSD	CO5	Develop and Analyze various digital logic circuits using combinational, sequential and FSM models for real time applications	2	3	3		3							3		
124	ESC	25EC1203 - FIS	CO1	Understanding the basic concepts of IoT and its implementation using Arduino-based hardware platforms.	2	3										3		
125	ESC	25EC1203 - FIS	CO2	Apply and demonstrate the interfacing of various sensors with Arduino to acquire and process real-time data.		3	3									3		
126	ESC	25EC1203 - FIS	CO3	Apply and demonstrate the interfacing of different actuators with appropriate driver circuits for IoT applications.		3	3									3		
127	ESC	25EC1203 - FIS	CO4	Analyze and develop IoT applications using ESP32 and display modules supported by various case studies.		3	3	2								3		
128	ESC	25EC1203 - FIS	CO5	Design, simulate, and implement IoT-based systems using Arduino and ESP32, integrating sensors, actuators, and displays to build functional prototypes.		3	3									3		
129	ESC	25ME1103 - DTW	CO1	Demonstrate proficiency in typing sentence , paragraph , report , presentations along spread sheets using office tools, LaTeX tools and PowerBI		2			2									
130	ESC	25ME1103 - DTW	CO2	Build a static website and blog with using html along with Special features of HTML5, CSS and Javascript					3					3				

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
131	ESC	25ME1103 - DTW	CO3	Develop a virtual environment with cospace and construct a marker based Augmented Reality	3		3											
132	ESC	25ME1103 - DTW	CO4	Utilising the softwares of Autodesk Fusion 360 and the same can be printed in 3D printer as physical prototype	3		3											
133	ESC	25SC1101 - PSTC	CO1	Develop Basic and Complex Building Blocks for real world problems using structured programming paradigm	3	3	3		3									
134	ESC	25SC1101 - PSTC	CO2	Develop logical building blocks using conditional statements to solve real world problems	3	3	3		3									
135	ESC	25SC1101 - PSTC	CO3	Develop logical solutions using the concepts of arrays and functions	3	3	3		3									
136	ESC	25SC1101 - PSTC	CO4	Develop solutions by applying various operations on user defined data types such as structures and unions	3	3	3		3									
137	ESC	25SC1101 - PSTC	CO5	Apply the structured programming paradigm with logic building skills on Basic and Linear Data Structures for solving real world problems	3	3	3		3									
138	ESC	25SC1101 - PSTC	CO6	Skill the students in such a way that students will be able to develop logic that help them to create programs as well as applications in C	3	3	3		3							3		
139	ESC	25SC1203 - DST	CO1	Understand various sorting algorithms and analyze the efficiency of the algorithms	2	2	2		2									
140	ESC	25SC1203 - DST	CO2	Implement and evaluate Linear Data Structures and Demonstrate their applications	3	3	3		3									
141	ESC	25SC1203 - DST	CO3	Implement and evaluate tree data structures and understand hashing techniques	3	3	3		3									
142	ESC	25SC1203 - DST	CO4	Understand graph data structures and apply graphs to solve problems	2	2	2		2									

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
143	ESC	25SC1203 - DST	CO5	Design, Develop and evaluate common practical applications for linear and nonlinear data structures	3	3	3		3							3		
144	ESC	25SC1203 - DST	CO6	Skill the students in such a way that students will be able to develop and create programs as well as applications in DS	3	3	3		3							3		
145	ESC	25SC2006 - OOP	CO1	Apply Object oriented paradigm for code reusability	3	3	3											
146	ESC	25SC2006 - OOP	CO2	Design object-oriented solutions to the real-world problems through SOLID design principles	3	3	3											
147	ESC	25SC2006 - OOP	CO3	Demonstrate Exception handling and String manipulation techniques	3	3	3											
148	ESC	25SC2006 - OOP	CO4	Design solutions to real time problems by using object-oriented programming concepts.	3	3	3		3									
149	ESC	25SC2006 - OOP	CO5	Design GUI based applications for real time problems 3	3	3	3		3									
150	ESC	25SC2007 - PP	CO1	Apply the concepts of Basic Data types, Operators, Decision and Looping Control Statements, String	3	3	3		3									
151	ESC	25SC2007 - PP	CO2	Apply the concepts of Lists, Tuples, Dictionaries. Functions, Modules, Class, Object, OOPS principles.	3	3	3		3									
152	ESC	25SC2007 - PP	CO3	Apply the concept of OOP principles, Classes and Objects, Call by value vs call by reference, recursion and nested classes	3	3	3		3									
153	ESC	25SC2007 - PP	CO4	Apply the concept of files, interfaces, packages, threads	3	3	3		3									

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154	ESC	25SC2007 - PP	CO5	Design, implement and evaluate python program using basic datatypes, variables, expressions, conditional statements, loops, functions, built-in data structures, object oriented concepts, python libraries and modules, debugging techniques and file I/O to solve programming problems	3	3	3		3				3		3	3		
155	PCC	25AD2001 - AIML	CO1	Apply classical AI techniques such as search, constraint satisfaction, and logical inference to solve real-world problems.		3	3									3		
156	PCC	25AD2001 - AIML	CO2	Demonstrate ability to build intelligent systems using probabilistic reasoning and basic learning models		3	3									3		
157	PCC	25AD2001 - AIML	CO3	Apply supervised and unsupervised machine learning algorithms to practical problems and interpret results using performance metrics.		3	3									3		
158	PCC	25AD2001 - AIML	CO4	Implement deep learning models, reinforcement learning, and deploy models while addressing ethical concerns in AI applications		3	3		3							3		
159	PCC	25AD2001 - AIML	CO5	Lead peer teams in model development, experimentation, and responsible deployment using MLOps and explainability tools.									3	3				
160	PCC	25AD2103 - DBMS	CO1	Develop a database solution by applying DBMS architecture concepts and modeling the data using an ER diagram.	3	3												
161	PCC	25AD2103 - DBMS	CO2	Construct database solutions by using SQL for data management and Relational Algebra for query representation.			3								3			

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162	PCC	25AD2103 - DBMS	CO3	Apply normalization rules to database design for efficient and consistent data storage.			3						3					
163	PCC	25AD2103 - DBMS	CO4	Operate database systems using indexing, query tuning, and concurrency control for improved data retrieval and transaction handling.									3		3			
164	PCC	25AD2103 - DBMS	CO5	Design and implement practical database solutions to solve real-world problems using appropriate database management system technologies and best practices.			3						3					
165	PCC	25AD2204 - AML	CO1	Understand and apply fundamental concepts of PAC learning, VC dimension, and statistical estimation principles (MLE, MAP, Bayes) to assess model performance and generalization capability.		3	3									3		
166	PCC	25AD2204 - AML	CO2	Analyze and implement advanced ensemble methods (e.g., XGBoost, Random Forests), kernel-based		3	3									3		
167	PCC	25AD2204 - AML	CO3	Evaluate and apply various dimensionality reduction techniques and regularization methods to efficiently manage high-dimensional data, perform feature selection, and improve model generalization in low-sample size regimes.		3	3									3		
168	PCC	25AD2204 - AML	CO4	Design and implement graph-based learning models including GNNs and spectral methods for semi-supervised		3		3				3						

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169	PCC	25AD2204 - AML	CO5	Design, implement, and evaluate machine learning models using modern libraries and tools through hands-on experiments, focusing on real-world datasets														
170	PCC	25CS2101 - OST	CO1	Understand the subsystem components of the kernel and apply CPU scheduling algorithms.	2	2	2											
171	PCC	25CS2101 - OST	CO2	Apply concurrency concepts and implement various locking algorithms to solve synchronization problems.	3	3	3	3										
172	PCC	25CS2101 - OST	CO3	Apply concepts of memory and process virtualization, including paging, and implement page replacement algorithms.		3	3									3		
173	PCC	25CS2101 - OST	CO4	Apply knowledge of persistence, redundant disk arrays, file system implementation, and distributed systems. Implement disk scheduling algorithms.		3	3	3								3		
174	PCC	25CS2101 - OST	CO5	Evaluate Unix System Calls. Use C Programming Language to implement Operating System Concepts (Practical).	3	3	3											
175	PCC	25CS2203 - DAA	CO1	Apply concepts of mathematics to find space complexity, time complexities of various algorithms	3											3		
176	PCC	25CS2203 - DAA	CO2	Analyze the problems that can be solved by using Divide and Conquer and Greedy Method		3	3		3							3		
177	PCC	25CS2203 - DAA	CO3	Analyze the problems that can be solved by using Dynamic Programming and Backtracking		3	3		3							3		
178	PCC	25CS2203 - DAA	CO4	Analyze the problems that can be solved by using Branch and Bound, NP-Hard Graph problems and Approximation Algorithms		3	3		3							3		

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179	PCC	25CS2203 - DAA	CO5	Solve and Analyze the complex and realtime problems by various design strategies	3	3	3		3								3	
180	PCC	25CS2203 - DAA	CO6	Analyze the various design techniques to solve any real-world problems	3	3	3		3								3	
181	PCC	25CS2204 - CIS	CO1	Apply the knowledge of foundation for cloud infrastructure			3	3										
182	PCC	25CS2204 - CIS	CO2	Analyze Virtualization, its levels, and justify with few real time examples		3	3	3								3		
183	PCC	25CS2204 - CIS	CO3	Analyze load balancing, container services and Kubernetes		3	3	3								3		
184	PCC	25CS2204 - CIS	CO4	Apply and evaluate the security, best practices over the cloud through specific approaches		3	3	3								3		
185	PCC	25CS2204 - CIS	CO5	Analyze the Infrastructure related concepts as best practices		3	3	3								3		
186	PCC	25EC1204 - COA	CO1	Understanding the fundamental concepts and techniques used in digital electronics and using K-Maps for Boolean Expression simplification	2	3				2						2		
187	PCC	25EC1204 - COA	CO2	Model the building blocks of Combinational and Sequential circuits and explaining registers and its usage	2	3				2						2		
188	PCC	25EC1204 - COA	CO3	Analyze the basic concepts of computer organization: structure and operation of computers and their peripherals the design of the functional units of a digital computer system.			3			2						2		
189	PCC	25EC1204 - COA	CO4	Classify the working of the Central Processing Unit. Design and evaluate the performance of memory systems			3			2						2		

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190	PRI	25IE2040 - 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														
191	PRI	25IE2040 - SIP	CO2	Remember the water sustainability and water resilience of village, city, residential facilities and households using multi-level water scorecards														
192	PRI	25IE2040 - SIP	CO3	Apply the design thinking positive action plan for a village, campus, residential														
193	PRI	25IE2040 - SIP	CO4	Apply the water positive solutions within an urban watershed, a rural watershed														
194	PRI	25IE3041 - TIP	CO1	Ability to demonstrate the impact of academic skills and logical thinking														
195	PRI	25IE3041 - TIP	CO2	Ability to integrate existing and new technical knowledge for industrial application														
196	PRI	25IE3041 - TIP	CO3	Ability to demonstrate the impact of the internship on their learning and professional development														
197	PRI	25IE3041 - TIP	CO4	Demonstrate the ability to harness resources by analyzing challenges														
198	PRI	25IE4042 - INT	CO5	INTERNSHIP														
199	PRI	25IE4048 - EPJ	CO1	Develop skills to conduct comprehensive searches, critically assess the credibility of sources, and apply research findings to support their academic or professional work.														

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200	PRI	25IE4048 - EPJ	CO2	Analyze situations critically, identify underlying causes, and articulate clear problem statements that guide effective problem-solving strategies.														
201	PRI	25IE4048 - EPJ	CO3	Develop the ability to dissect research findings, identify strengths and weaknesses, and draw informed conclusions that contribute to their own academic or professional endeavors.														
202	PRI	25IE4048 - EPJ	CO4	Gain the skills to judge the validity, reliability, and impact of research, enabling them to make informed decisions and provide constructive feedback in academic or professional contexts.														
203	PRI	25IE4051 - INT-1	CO5	INTERNSHIP														
204	PRI	25IE4052 - INT-2	CO5	INTERNSHIP														
205	PRI	25IE4053 - ECP-1	CO1	Exercise to acquire knowledge within the chosen area of technology for project development.														
206	PRI	25IE4053 - ECP-1	CO2	Identify, discuss and justify the technical aspects of the chosen area for problem analysis														
207	PRI	25IE4053 - ECP-1	CO3	Reproduce, improve and refine technical aspects for chosen problem														
208	PRI	25IE4053 - ECP-1	CO4	Communicate and report effectively project related activities and findings.														
209	PRI	25IE4054 - ECP-2	CO1	Develop skills to conduct comprehensive searches, critically assess the credibility of sources, and apply research findings to support their academic or professional work.														

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210	PRI	25IE4054 - ECP-2	CO2	Analyze situations critically, identify underlying causes, and articulate problem statements that guide effective problem-solving strategies.														
211	PRI	25IE4054 - ECP-2	CO3	Develop the ability to dissect research findings, identify strengths and weaknesses, and draw informed conclusions that contribute to their own academic or professional endeavors.														
212	PRI	25IE4054 - ECP-2	CO4	Gain the skills to judge the validity, reliability, and impact of research, enabling them to make informed decisions and provide constructive feedback in academic or professional contexts.														
213	PRI	25IE4055 - IP-1	CO1	Understand the fundamental principles and processes of innovation														
214	PRI	25IE4055 - IP-1	CO2	Develop skills to identify and evaluate opportunities for innovation														
215	PRI	25IE4055 - IP-1	CO3	Apply research methodologies to gather and analyze data for innovative solutions.														
216	PRI	25IE4055 - IP-1	CO4	Enhance team collaboration and project management skills in an innovation context.														
217	PRI	25IE4056 - IP-2	CO1	Develop advanced project management skills for innovation projects.														
218	PRI	25IE4056 - IP-2	CO2	Apply advanced analytical tools to refine innovative ideas.														
219	PRI	25IE4056 - IP-2	CO3	Create detailed business plans for innovative solutions.														
220	PRI	25IE4056 - IP-2	CO4	Present and defend innovation projects effectively to stakeholders.														
221	PRI	25IE4057 - RP-1	CO1	Demonstrate the basic principles of research methodology.														

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222	PRI	25IE4057 - RP-1	CO2	Conduct a literature review and identify simple research problems.														
223	PRI	25IE4057 - RP-1	CO3	Formulate basic research questions and hypotheses.														
224	PRI	25IE4057 - RP-1	CO4	Develop a straightforward research proposal including methodology and expected outcomes														
225	PRI	25IE4058 - RP-2	CO1	Implement advanced research methodologies for data collection and analysis.														
226	PRI	25IE4058 - RP-2	CO2	Interpret complex research findings and discuss their implications.														
227	PRI	25IE4058 - RP-2	CO3	Develop advanced skills in academic writing and publication.														
228	PRI	25IE4058 - RP-2	CO4	Present research findings effectively to an academic and professional audience.														
					2.7	2.8	2.9	2.6	2.9	2.1	2.5	2.7	2.7	2.8	2.8	2.8	3	NaN