Y24: B.Sc. - Electrical and Electronics Engineering

Program Handbook

Program Outcomes & Program Specific Outcomes (PO & PSO)

PO & PSO

PO/PSO	PO/PSO Description
PO1	Engineering Knowledge: An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization for the solution of complex engineering problems in engineering
PO2	Problem Analysis: An ability to identify, formulate, research literature, analyze complex engineering problems in engineering using the first principles of mathematics, natural sciences and engineering sciences
PO3	Design/ development of solutions: An ability to design solutions for complex engineering problems and system component or processes that meet the specified needs considering public health & safety and cultural, societal & environment
PO4	Conduct investigations of complex problems: An ability to use research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of the information to obtain solutions to engineering problems.
PO5	Modern tool usage: Ability to create, select and apply appropriate techniques, resources and modern engineering activities, with an understanding of the limitations.
PO6	The engineer and society: Ability to apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Ethics: An ability to apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
PO8	Individual and team work: An ability to function effectively as an individual, and as a member or leader in diverse teams and in multi- disciplinary settings.
PO9	Communication: Ability to communicate effectively oral, written reports and graphical forms on complex engineering activities.
PO10	Lifelong learning: An ability to recognize the need for and having the preparation and ability to engage independent and life-long learning in broadest context of technological change
PSO1	Ability to demonstrate the knowledge, skill to analyze the cause and effect on Electrical system, processes and systems
PSO2	Ability to apply the acquired Electrical Engineering knowledge for the advancement of society and self

Program Rules & Regulations

Admission Eligibility Criteria

- 10 +2 or equivalent at least 60% in aggregate and 60% and above (or) equivalent CGPA in Group subjects / Physics, Chemistry and Mathematics.

Program Structure and Curriculum

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

- An Academic Year is made of two semesters each is of, approximately 15+1 week duration and each semester is classified as:
  - Odd Semester (July to December)
  - Even Semester (December to May).
- KLEF may offer summer term between May and June.
- All courses are offered under three categories i.e. odd, even and dual semester courses.
- Students have the flexibility to choose courses of their own choice prescribed by the KLEF.
- From third semester onwards a student can register for a maximum of 30 credits, other than audited and certificate courses per semester. This is not applicable when student exercises the overloading option while doing project work / practice school / Minor degree / Honors degree program / specialization.
- Every course has a Lecture Tutorial Practice Skill (LTPS) component attached to it.
- Every Lecture / Tutorial hour is equivalent to one credit.
- Every Practical hour is equivalent to half credit.
- Every skill-based practice hour is equivalent to quarter credit.
- 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.

Course Credit Structure:

- Based upon the LTPS structure, the credits are allotted to a course using the following criteria.
- Every Lecture / Tutorial hour is equivalent to one credit.
- Every Practical hour is equivalent to half credit.
- Every skill-based practice hour is equivalent to quarter credit.

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

NA

Registration Process

Registration Guidelines

- For every course, the student must undertake the registration process prior to commencement of the coursework, based on the following conditions.
- Registration into a course will be permitted only for such courses, which are offered in that semester.
- A student must clear the prerequisite(s) if any, to register into course.
- KLEF has the right to refuse registration process if a student does not turn up on the day of registration.
- Registration for add or drop or change of a course will be permitted only within one week from the scheduled date of commencement of classes.
- Students can register up to a maximum of 30 credits of their choice in a semester to meet their program requirements.
- Students who have opted for minor degree, Honors degree, can register for a greater number of credits in a semester through Overloading (subjected to guidelines appropriate to compliance on eligibility).
- KLEF reserves the right to withdraw any elective course offered within one week of the commencement of the semester if sufficient numbers of students have not registered or for any other reasons. In such cases, the students are permitted to register for any other elective course of their choice provided they have fulfilled the eligibility conditions.
- KLEF reserves the right to cancel the registration of a student from a course or a semester or debar from the degree on disciplinary or plagiarism grounds.
- A student is solely responsible to ensure that all conditions for proper registration are satisfied. If, there is any clash in the timetable, it should be immediately brought to the notice of the Department Year coordinator for necessary corrective action. The registration may be cancelled for a course or the entire semester by KLEF if any irregularity is found at a later stage.

Acceleration & Over loading

- Students have the flexibility to overload by registering for more credits than the standard semester limit. Additionally, they can opt for acceleration by registering for next semester courses in advance.
- Those who wish to register for additional credits through overloading or through acceleration must obtain prior permission from the Dean of Academics through the proper channel.

Deceleration & Under loading

- Students have the flexibility to underload by registering for less credits than the regular semester requirement. They also have the option to decelerate by transferring courses to the next semester and registering for fewer courses.
- Those who wish to register for less credits through underloading or through deceleration must obtain prior permission from the Dean of Academics through the proper channel.

Summer Term

- KLEF offers summer term courses during May and June. The following are the guidelines to register into courses offered in the Summer Semester.
- A student may register for course/s in each summer term by paying the stipulated fee.
- Students registering for more than one (1) summer course must ensure that there is no clash in the timetable.
- A student can register into a detained course or a not registered course (course offered in regular semester, but student failed to register due to the noncompliance of prerequisite condition but has paid the fee.) A student can also register for other than the above two mentioned categories of courses only if they are permitted for acceleration.
- In any case, a student can register only for a maximum of 12 credits during summer term.
- Attendance & Promotion policy for summer term is same as compared to the regular semester except for condonation policy. Condonation is not applicable for summer term courses.
- A Student can register for additional credits through acceleration in summer term for a maximum of 12 credits, from the list of courses offered by the department.

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:

- Top 1 percent (based on CGPA until 2ndsemester) students will be permitted to change to any branch of their choice within the program discipline.

- Apart from students mentioned in clause (a) above, those who have successfully completed all the first and second semester courses and with CGPA greater than 8 are also eligible to apply, but the change of Branch in such case is purely at the discretion of the KLEF.

- All changes of Branch will be effective from third semester. Change of branch shall not be permitted thereafter.

- Change of branch once made will be final and binding on the student. No student will be permitted, under any circumstances, to refuse the change of branch offered.

- Students in clause a and b may be permitted subject to the availability of seats in the desired branch.

Academic Bank of Credits

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

Award of Class

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

- 5.25 less than or equal to CGPA less than 5.75 will be awarded Pass class

- 5.75 less than or equal to CGPA less than 6.75 will be awarded Second-class

- 6.75 less than or equal to CGPA less than 7.75 will be awarded First class

- CGPA greater than or equal to 7.75 will be awarded First class with Distinction provided the student has cleared all the courses in first attempt and must have fulfilled all the program requirements in program specified minimum years duration.

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

Attendance requirements leading to promotion

- The student must maintain minimum 85% of attendance to be promoted in a course and to appear for Sem End Examination. In case of medical exigencies, the student/parent should inform the principal within a week by submitting necessary proofs and in such cases the attendance can be condoned up to an extent of 10% by Principal on the recommendation of the committee established for condonation.
- Attendance in a course shall be counted from the date of commencement of the classwork only and not from the date of his/her registration.
- Attendance for the students who are transferred from other institutes and for new admissions, attendance must be considered from the date of his/her admission.
- In case of attendance falling marginally below 75% due to severe medical reasons or any other valid reasons, the Principal / Program chair may bring such cases, along with valid and adequate evidence to the notice of the Dean Academics. The condonation board formed by Vice-Chancellor under the chairman ship of Dean-Academics will consider any further relaxation in attendance from the minimum attendance percentage requirement condition after going through case by case.

Attendance-based marks

- The student must maintain minimum 85% of attendance to be promoted in a course and to appear for Sem End Examination. In case of medical exigencies, the student/parent should inform the principal within a week by submitting necessary proofs and in such cases the attendance can be condoned up to an extent of 10% by Principal on the recommendation of the committee established for condonation.
- Attendance in a course shall be counted from the date of commencement of the classwork only and not from the date of his/her registration.
- Attendance for the students who are transferred from other institutes and for new admissions, attendance must be considered from the date of his/her admission.
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Attendance waiver

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

Compensatory (Extra) attendance policy

- Only those students nominated / sponsored by the KLEF to represent in various forums like seminars / conferences / workshops / competitions or taking part in cocurricular / extracurricular events will be given compensatory attendance provided the student applies in writing for such a leave in advance and obtain sanction from the Principal basing on the recommendations of the Head of the Department (HoD) for academic related requests or from the Dean Student Affairs for extracurricular related requests. For participation in the KLEFs placement process the names of students will be forwarded by the placement cell incharge to the respective Heads of the Departments. Students participating in KLEF/National/International events like technical fests, workshops, conferences etc., will be condoned for 10 percent of total classes conducted for each course in the semester. This condonation is not applicable for summer term.

Course-based promotion and detention policy

- In any course, student must maintain a minimum attendance as per the attendance policy for promotion in a course, to be eligible f course and become ineligible to take semester end exam.

Eligibility for appearing Sem-End Examination

- A Student registered for a course and maintained minimum attendance of 85percent is eligible to write the Semester End Examination for that course unless found ineligible due to one or more of the following reason.
- Shortfall of attendance
- Acts of indiscipline
- Withdrawal from a course

Assessment & Evaluation

- The assessment in each theory subject consists of SemIn Exams, inclass quizzes/tutorials/home assignments/Active Learning Methods (continuous assessment) and the Semester End Exanimation (SEE). Students are advised to refer to the course handout to get more detailed information on assessment.
- The Sem In tests and the Semester End Examinations will be conducted as per the Academic Calendar.
- As per the necessity, the Supplementary examinations will be conducted at the discretion of Dean Academics with the approval of the Vice Chancellor.
- Students may have to take more than one examination in a day during Sem In exams, Semester End Examinations /Supplementary examinations.

College / School Name	Semester-In Evaluation (Weightage %) (A)	Sem End Ex
College of Engineering	60	

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.

Absence in Assessment and Examination

- Should a student miss 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. In cases of 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 SemIn exam1.
- Students for whom CO1/CO2 is (are) not attained in SemIn Exam 1
- Any other student may also be permitted to attend remedial classes as per the discretion of the principal.
- The following are the guidelines to conduct remedial classes:
- Remedial classes which are scheduled to be conducted usually one or two weeks post conclusion of Sem In exam1.
- The number of remedial classes to be conducted shall be 50 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.

Absolute Grading

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

Performance	Letter Grade	Grade Point	Percentage of marks
Outstanding	O	10	90 - 100
Excellent	A+	9	80 - 89
Very Good	A	8	70 - 79
Good	B+	7	60 - 69
Above Average	B	6	50 - 59
Average	C	5	46 - 49
Pass	P	4	40 - 45
Fail	F	0	0 – 39
Absent	AB	0	Absent

Relative Grading

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

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

- μ is the mean mark of the class excluding the marks of those students who scored 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.
- A student may reappear for semester end examination for betterment only in the theory part of the course for improving the grade, subject to the condition that, the student has passed the course, his/her CGPA is less than or equal to 6.75 and the grade in the respective course to be equal to or lower than C. In the case of reappearing for a course, the best of the two grades will be considered.
- A Student can reregister in any course in any semester during the program for improvement of grade if the current grade in the course is lower than B^+ and with due approval from Dean Academics in accordance with academic regulations.
- A student cannot reappear for semester end examination in courses like Industrial Training, courses with their L T/ST P S Structure like 0 0 X X, Project, Practice School and Term Paper.
- A student is not eligible for award of B.Tech. Degree with Honors, and any Program Degree with distinction, in case s/he takes up the betterment option.

Revaluation

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

- There is no provision for reevaluation in case of Lab/Practical/skilling exams,

- student project, viva voce exam or seminar/design/mini-project courses.

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

Credit Transfer

- **Credit transfer between KLEF and other Institution**

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

B) Credit transfer from KLEF to other institutions: Student studying in KLEF can take transfer to another institution under the following conditions:

- KLEF has signed MOU with the institution.

- However, a student, after seeking transfer from KLEF can return to KLEF after a semester or year. Based on courses done in the other institution, equivalent credits shall be awarded to such students.

- **Credit transfer from another institution to KLEF:** A student studying in another institution can take transfer to KLEF under the following conditions:

- When a student seeks transfer, equivalent credits will be assigned to the student based on the courses studied by the student.

- To determine the equivalent credits for a course from a previous institution on a 10 point scale at KLEF, the number of credits of the course is multiplied by the equivalent grade point of the previous institution and then divided by the number of credits of the corresponding course at KLEF.

- If a course from the previous institution has zero credits and no grade assigned, the student must sit for the final examination for the equivalent course at KLEF.

- A transfer student seeking improvement in any course can take the final examination at KLEF, where the grade received at KLEF becomes the final grade recorded on their grade sheets.

- The student, when transferred from other institutions, must stick to the rules and regulations of KLEF.

- To graduate from KLEF, a student must study at least half of the minimum duration prescribed for a program at KLEF. **Credit Transfer Through MOOCs:**

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

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

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

- A credit is a unit that gives weight to the value, level, or time requirements of an academic course. The number of Contact Hours in a week of a particular course determines its credit value. One credit is equivalent to one lecture hour per week or one tutorial hour per week or two hours per week of practical/ field work or four hours per week of skilling or one studio hour is equivalent to 1.5 credit during a semester.

Semester Promotion policy

- **To be eligible for provisional promotion for course registration in the next semester, a student must meet the following criterion: the student must promote in the course that serves as a prerequisite for the courses in the following semester.**
    - **Note:** In case a student is unable to secure minimum P grade for a particular course even after three consecutive attempts, s/he must repeat the course by re-registration.

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.

Terminology

or minimum prescribed attendance in a course shall be detained in that course.

- **Dropping from the Semester** : A student who doesnt want to register for the semester should do so in writing in a prescribed format before commencement of the semester.

- **Elective Course** : A course that can be chosen from a set of courses. An elective can be Professional Elective, Open Elective, Management Elective and Humanities Elective.
- **Engineering Sciences** : The courses belonging to basic evolutionary aspects of engineering from Mechanical Sciences, Electrical Sciences and Computing like Engineering Mechanics, Data structures, Network Theory, Signal Analysis.
- **Evaluation** : Evaluation is the process of judging the academic work done by the student in her/his courses. It is done through a combination of continuous insemester assessment and semester end examinations.
- **Grade** : It is an index of the performance of the students in a said course. Grades are denoted by alphabets.
- **Grade Point** : It is a numerical weight allotted to each letter grade on a 10 point scale.
- **Honors Degree** : A student who fulfills all the Program requirements of her/his discipline and successfully completes a specified set of additional courses within the same program is eligible to receive an Honors degree. Based on the outcomes , Different types of honors degrees are Awarded.
- **Humanities Elective** : A course offered in Liberal Arts.
- **Industrial Training** : Training program undergone by the student as per the academic requirement in any company/firm. It is a credited course.
- **Industrial Visit** : Visit to a company/firm as per the academic requirement.
- **InSemester 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.
- **Makeup Test** : An additional test scheduled on a date other than the originally scheduled date.
- **Management elective** : A course that develops managerial skills and inculcates entrepreneurial skills.
- **Minor Degree** : A student who fulfills all the Program requirements of her/his discipline and successfully completes a specified set of courses from another discipline is eligible to receive a minor degree in that discipline.
- **Open Elective** : This is a course of interdisciplinary nature. It is offered across the University for all Programs.
- **Overloading** : Registering for more number of credits than normally prescribed by the Program in a semester.
- **Practice School** : It is a part of the total program and takes one full semester in a professional location, where the students and the faculty get involved in finding solutions to realworld problems. A student can choose Project/Practice School during his/her 7th or 8th semester of his/her Academic Year to meet the final requirements for the award of B.Tech degree.
- **Prerequisite** : A course, the knowledge of which is required for registration into higher level course.
- **Professional Core** : The courses that are essential constituents of each engineering discipline are categorized as Professional Core courses for that discipline.
- **Professional Elective** : A course that is discipline centric. An appropriate choice of minimum number of such electives as specified in the program will lead to a degree with specialization.
- **Program** : A set of courses offered by the Department. A student can opt and complete the stipulated minimum credits to qualify for the award of a degree in that Program.
- **Program Educational Objectives** : The broad career, professional, personal goals that every student will achieve through a strategic and sequential action plan.
- **Project** : Course that a student has to undergo during his/her final year which involves the student to undertake a research or design, which is carefully planned to achieve a particular aim. It is a credit-based course.
- Supplementary : A student can reappear only in the semester end examination for the Theory component of a course, subject to the regulations contained herein.
- **Registration** : Process of enrolling into a set of courses in a semester/ term of the Program.
- **ReRegistration** : Student who are detained in courses due to attendance or marks criteria as per their regulation are given a chance to reregister for the same and complete it during the summer term.
- **Semester** : It is a period of study consisting of 15 to 18 weeks of academic work equivalent to normally 90 working days including examination and preparation holidays. The odd Semester starts normally in July and even semester in December.
- **Semester End Examinations** : It is an examination conducted at the end of a course of study.
- **Social Service** : An activity designed to promote social awareness and generate well being; to improve the life and living conditions of society.
- **Student Outcomes** : The essential skill sets that need to be acquired by every student during her/his program of study. These skill sets are in the areas of employability, entrepreneurial, social and behavioral.
- **Substitution of Elective course**: Replacing an elective course with another elective course as opted by the student.
- **Summer term** : The term during which courses are offered from May to July. Summer term is not a students right and will be offered at the discretion of the University
- **Term Paper** : A term paper is a research report written by students that evolves their course based knowledge,

Program - Degrees(Design your own Degree)

S#	Major Flexibility	Program Addon
1	No Flexibility	No Add-on

Degree-wise Credit Requirements

1. No Flexibility with No Add-on

a) Credit Requirement **Total Credit Required:**

S#	Category	Sub-Category	Min-Credit	Max-Credit	Min-Courses	Max-Courses	Grouping
1	HAS	HAS-CORE	11	11	5	5	
2	HAS	HAS-FLE	3	3	1	1	
3	HAS	HAS-MGE	4	4	1	1	
4	BSC	BSC-CORE	4	4	1	1	
5	BSC	BSC-ME-1	4	4	1	1	
6	BSC	BSC-ME-2	4	4	1	1	
7	BSC	BSC-SE-1	4	4	1	1	
8	ESC	ESC-CORE	33	33	9	9	
9	PCC	PCC-CORE	30	30	8	8	
10	FCC	FC-1	3	3	1	1	
11	FCC	FC-2	3	3	1	1	
12	SDC	SDP-1	2	2	1	1	
13	SDC	SDP-2	2	2	1	1	
14	SDC	SDP-3	2	2	1	1	
15	SDC	SDP-4	2	2	1	1	
16	PEC	PE-1	5	5	1	1	
17	PEC	PE-2	3	3	1	1	
18	PEC	PE-3	5	5	1	1	
19	PRI	PRI-CORE	0	0	2	2	
20	OEC	OE-1	4	4	1	1	
21	OEC	OE-2	4	4	1	1	
22	VAC	VAC-SPORTS	0	0	1	1	
23	VAC	VAC-CERT	0	0	3	3	
24	AUC	AUC-CORE	0	0	2	2	
25	SIL	SIL-CORE	3	3	3	3	

b) Outcome Requirement

- Minimum 120 credits followed by an exit 4-credit skill internship / skill enhancement courses

Program Structure

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1	HAS	HAS-CORE	23UC0026	HUMAN VALUES, GENDER EQUALITY & PROFESSIONAL ETHICS	R	HGP	2	0	0	0	2	2	
2	HAS	HAS-CORE	24UC1203	DESIGN THINKING AND INNOVATION	R	DTI	2	0	2	0	3	4	
3	HAS	HAS-CORE	24UC1102	LANGUAGE SKILLS FOR ENGINEERS	R	LSE	0	0	4	0	2	4	
4	HAS	HAS-CORE	24UC1204	COMMUNICATION SKILLS FOR ENGINEERS	R	CSFE	0	0	4	0	2	4	
5	HAS	HAS-CORE	23UC0027	LEADERSHIP AND MANAGEMENT SKILLS	R	LAMS	0	0	4	0	2	4	
6	HAS	HAS-FLE	23FL3054	FRENCH LANGUAGE	R	FLG	3	0	0	0	3	3	
7	HAS	HAS-FLE	23FL3055	GERMAN LANGUAGE	R	GLG	3	0	0	0	3	3	
8	HAS	HAS-FLE	23FL3058	JAPANESE LANGUAGE	R	JLG	3	0	0	0	3	3	
9	HAS	HAS-MGE	23MB0003	FINANCIAL MANAGEMENT FOR ENGINEERS	R	FMFE	4	0	0	0	4	4	
10	HAS	HAS-MGE	23MB0005	MANAGING PERSONAL FINANCE	R	MPF	4	0	0	0	4	4	
11	HAS	HAS-MGE	23MB0001	BASICS OF MARKETING FOR ENGINEERS	R	BME	4	0	0	0	4	4	
12	HAS	HAS-MGE	23MB0002	PARADIGMS IN MANAGEMENT THOUGHT	R	PIMT	4	0	0	0	4	4	
13	HAS	HAS-MGE	23MB0004	ORGANIZATION MANAGEMENT	R	OMG	4	0	0	0	4	4	
14	HAS	HAS-MGE	23MB4067	INDUSTRIAL MANAGEMENT & PRODUCTION PLANNING	R	IMPP	4	0	0	0	4	4	
15	HAS	HAS-MGE	23MB4064	SEO AND DIGITAL MARKETING	R	SDM	4	0	0	0	4	4	
16	HAS	HAS-MGE	23MB4065	DIGITAL ECONOMICS AND TOKENOMICS	R	DET	4	0	0	0	4	4	
17	HAS	HAS-MGE	23MB4066	DECENTRALISED FINANCE AND DIGITAL FINANCIAL SYSTEMS	R	DFDFS	4	0	0	0	4	4	
18	HAS	HAS-MGE	23MB4068	INNOVATION MANAGEMENT	R	IMG	4	0	0	0	4	4	
19	HAS	HAS-MGE	23MB4062	CONSTRUCTION PROJECT MANAGEMENT	R	CPM	4	0	0	0	4	4	
20	HAS	HAS-MGE	23MB4063	RESOURCES SAFETY AND QUALITY MANAGEMENT	R	RSQM	4	0	0	0	4	4	
21	BSC	BSC-CORE	23MT1001	LINEAR ALGEBRA AND CALCULUS FOR ENGINEERS	R	LACE	2	2	0	0	4	4	
22	BSC	BSC-ME-1	23MT2003	MATHEMATICAL MODELLING & NUMERICAL METHODS	R	MMNM	2	2	0	0	4	4	
23	ESC	ESC-CORE	23EC1202	DIGITAL DESIGN & COMPUTER ARCHITECTURE	R	DDCA	3	0	2	0	4	5	
24	ESC	ESC-CORE	23EC1203	BASIC ELECTRICAL AND ELECTRONIC CIRCUITS	R	BEEC	2	0	0	0	2	2	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
25	ESC	ESC-CORE	24EC1101	FUNDAMENTALS OF IOT AND SENSORS	R	FIS	2	0	4	0	4	6	
26	ESC	ESC-CORE	24AD2001R	ARTIFICIAL INTELLIGENCE & MACHINE LEARNING	R	AIML	3	0	2	0	4	5	
27	ESC	ESC-CORE	24SC2006	OBJECT ORIENTED PROGRAMMING	R	OOP	3	0	2	0	4	5	
28	ESC	ESC-CORE	23EE2101R	ELECTRICAL CIRCUITS	R	ELC	2	0	2	0	3	4	
29	ESC	ESC-CORE	23ME1103	DESIGN TOOL WORKSHOP	R	DTW	0	0	4	0	2	4	
30	ESC	ESC-CORE	23AD2001O	ARTIFICIAL INTELLIGENCE & MACHINE LEARNING	O	AIML	3	0	2	0	4	5	
31	ESC	ESC-CORE	23SC1101	COMPUTATIONAL THINKING FOR STRUCTURED DESIGN	R	CTSD	3	0	2	4	5	9	
32	ESC	ESC-CORE	24SC1203	DATA STRUCTURES	R	DS	3	0	2	4	5	9	
33	PCC	PCC-CORE	23EC2106A	PROCESSORS AND CONTROLLERS	A	PRC	4	0	4	0	6	8	
34	PCC	PCC-CORE	23EC2106E	PROCESSORS AND CONTROLLERS	E	PRC	4	0	4	0	6	8	
35	PCC	PCC-CORE	23EC2106R	PROCESSORS AND CONTROLLERS	R	PRC	3	0	2	0	4	5	
36	PCC	PCC-CORE	23EE2205A	POWER ELECTRONICS	A	PES	4	0	4	0	6	8	
37	PCC	PCC-CORE	23EE2205E	POWER ELECTRONICS	E	PES	4	0	4	0	6	8	
38	PCC	PCC-CORE	23EE2205R	POWER ELECTRONICS	R	PES	3	0	2	0	4	5	
39	PCC	PCC-CORE	23EE2207A	CONTROL SYSTEMS	A	CS	4	0	4	0	6	8	
40	PCC	PCC-CORE	23EE2207E	CONTROL SYSTEMS	E	CS	4	0	4	0	6	8	
41	PCC	PCC-CORE	23EE2207R	CONTROL SYSTEMS	R	CS	3	0	2	0	4	5	
42	PCC	PCC-CORE	23EE3106A	POWER SYSTEM ANALYSIS & STABILITY	A	PSAS	3	2	0	0	5	5	
43	PCC	PCC-CORE	23EE3106E	POWER SYSTEM ANALYSIS & STABILITY	E	PSAS	3	2	0	0	5	5	
44	PCC	PCC-CORE	23EE3106R	POWER SYSTEM ANALYSIS & STABILITY	R	PSAS	2	1	0	0	3	3	
45	PCC	PCC-CORE	23EE3208A	POWER SYSTEM PROTECTION & CONTROL	A	PSPC	3	0	4	2	5.5	9	
46	PCC	PCC-CORE	23EE3208E	POWER SYSTEM PROTECTION & CONTROL	E	PSPC	3	0	4	2	5.5	9	
47	PCC	PCC-CORE	23EE3208R	POWER SYSTEM PROTECTION & CONTROL	R	PSPC	2	0	2	2	3.5	6	
48	PCC	PCC-CORE	23EE2102	ELECTRICAL MACHINES	R	ELM	3	0	2	0	4	5	
49	PCC	PCC-CORE	23EE2204A	ELECTRICAL POWER GENERATION, TRANSMISSION & DISTRIBUTION	A	EPGTD	3	2	0	0	5	5	
50	PCC	PCC-CORE	23EE2204E	ELECTRICAL POWER GENERATION, TRANSMISSION & DISTRIBUTION	E	EPGTD	3	2	0	0	5	5	

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51	PCC	PCC-CORE	23EE2204R	ELECTRICAL POWER GENERATION, TRANSMISSION & DISTRIBUTION	R	EPGTD	2	1	0	0	3	3	
52	PCC	PCC-CORE	23EC2104A	ANALOG ELECTRONIC CIRCUIT DESIGN	A	AECD	4	0	4	2	6.5	10	
53	PCC	PCC-CORE	23EC2104E	ANALOG ELECTRONIC CIRCUIT DESIGN	E	AECD	4	0	4	2	6.5	10	
54	PCC	PCC-CORE	23EC2104R	ANALOG ELECTRONIC CIRCUIT DESIGN	R	AECD	3	0	2	2	4.5	7	
55	FCC	FC-1	23EC2222F	DIGITAL VLSI DESIGN	F	DVD	2	0	2	0	3	4	
56	FCC	FC-1	23CE2102F	FLUID MECHANICS & HYDRAULICS	F	FMH	2	0	2	0	3	4	
57	FCC	FC-1	23ME1001F	ENGINEERING MECHANICS	F	EM	2	1	0	0	3	3	
58	FCC	FC-1	23EC2235F	RESILIENT NETWORKS	F	RNW	2	0	2	0	3	4	
59	FCC	FC-1	23EE2230F	ESSENTIALS OF AUTONOMOUS SYSTEMS	F	EAS	2	0	2	0	3	4	
60	FCC	FC-1	23EE2222F	INDUSTRIAL APPLICATIONS OF ELECTRICAL MACHINES	F	IAEM	2	0	2	0	3	4	
61	FCC	FC-1	23EE2223F	UTILIZATION OF ELECTRICAL ENERGY	F	UEE	3	0	0	0	3	3	
62	FCC	FC-1	23BT2234F	REGULATORY AFFAIRS AND CLINICAL TRAILS	F	RACT	2	1	0	0	3	3	
63	FCC	FC-1	23CE2231F	SOIL MECHANICS	F	SM	2	0	2	0	3	3	
64	FCC	FC-1	23EC2223F	FUNDAMENTALS OF ROBOTICS	F	FOR	2	0	2	0	3	4	
65	FCC	FC-1	23ME1005F	MATERIAL SCIENCE & METALLURGY	F	MSM	2	0	2	0	3	4	
66	FCC	FC-1	23EC2221F	EMBEDDED SYSTEM DESIGN	F	ESD	2	0	2	0	3	4	
67	FCC	FC-1	23EC1101F	FUNDAMENTALS OF IOT AND SENSORS	F	FITS	2	0	2	0	3	4	
68	FCC	FC-1	23ME2107F	THERMODYNAMICS	F	TD	2	1	0	0	3	3	
69	FCC	FC-1	23EC2224F	DEEP NETWORK ARCHITECTURES	F	DNA	2	0	2	0	3	4	
70	FCC	FC-1	23EC2226F	WIRELESS COMMUNICATIONS	F	WC	2	0	2	0	3	4	
71	FCC	FC-1	23AD2102F	DATABASE MANAGEMENT SYSTEMS	F	DBMS	2	0	2	0	3	4	
72	FCC	FC-1	23EC2210F	NETWORK PROTOCOLS AND SECURITY	F	NPS	2	0	2	0	3	4	
73	FCC	FC-1	23CS2104F	OPERATING SYSTEMS	F	OS	2	0	2	0	3	4	
74	FCC	FC-1	23BT2228F	CLINICAL DATA SCIENCE	F	CDS	2	0	2	0	3	4	
75	FCC	FC-1	23BT2239F	COMPUTATIONAL BIOLOGY	F	CB	2	0	2	0	3	4	
76	FCC	FC-1	23BT2224F	BIOREACTOR OPERATIONS	F	BO	2	0	2	0	3	4	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
77	FCC	FC-2	23EE2224F	MEASUREMENTS AND INSTRUMENTATION	F	MI	2	0	2	0	3	4	
78	FCC	FC-2	23EE2225F	POWER QUALITY	F	PQ	3	0	0	0	3	3	
79	SDC		23SDAD08A	EMERGING BLOCKCHAIN MODELS FOR DIGITAL CURRENCIES	A	EBCMDC	0	0	6	4	4	10	
80	SDC		23SDAD08E	EMERGING BLOCKCHAIN MODELS FOR DIGITAL CURRENCIES	E	EBCMDC	0	0	6	4	4	10	
81	SDC		23SDAD08R	EMERGING BLOCKCHAIN MODELS FOR DIGITAL CURRENCIES	R	EBCMDC	0	0	2	4	2	6	
82	SDC		23SDIN03A	IOT FULL STACK DEVELOPMENT	A	IOTSDF	0	0	6	4	4	10	
83	SDC		23SDIN03E	IOT FULL STACK DEVELOPMENT	E	IOTSDF	0	0	6	4	4	10	
84	SDC		23SDIN03R	IOT FULL STACK DEVELOPMENT	R	IOTSDF	0	0	2	4	2	6	
85	SDC	SDP-1	23SDIN01A	IOT HARDWARE PROGRAMMING	A	IOTHP	0	0	6	4	4	10	
86	SDC	SDP-1	23SDIN01E	IOT HARDWARE PROGRAMMING	E	IOTHP	0	0	6	4	4	10	
87	SDC	SDP-1	23SDIN01R	IOT HARDWARE PROGRAMMING	R	IOTHP	0	0	2	4	2	6	
88	SDC	SDP-1	23SDEC01A	ELECTRONIC SYSTEM DESIGN	A	ESD	0	0	6	4	4	10	
89	SDC	SDP-1	23SDEC01E	ELECTRONIC SYSTEM DESIGN	E	ESD	0	0	6	4	4	10	
90	SDC	SDP-1	23SDEC01R	ELECTRONIC SYSTEM DESIGN	R	ESD	0	0	2	4	2	6	
91	SDC	SDP-1	23SDME01A	VISUALIZATION AND MODELLING FOR ENGINEERING DESIGN	A	VMED	0	0	6	4	4	10	
92	SDC	SDP-1	23SDME01E	VISUALIZATION AND MODELLING FOR ENGINEERING DESIGN	E	VMED	0	0	6	4	4	10	
93	SDC	SDP-1	23SDME01R	VISUALIZATION AND MODELLING FOR ENGINEERING DESIGN	R	VMED	0	0	2	4	2	6	
94	SDC	SDP-1	23SDAD01A	DATA ANALYTICS AND VISUALIZATION	A	DAV	0	0	6	4	4	10	
95	SDC	SDP-1	23SDAD01E	DATA ANALYTICS AND VISUALIZATION	E	DAV	0	0	6	4	4	10	
96	SDC	SDP-1	23SDAD01R	DATA ANALYTICS AND VISUALIZATION	R	DAV	0	0	2	4	2	6	
97	SDC	SDP-1	23SDCS11A	LINUX ADMINISTRATION AND AUTOMATION	A	LAA	0	0	6	4	4	10	
98	SDC	SDP-1	23SDCS11E	LINUX ADMINISTRATION AND AUTOMATION	E	LAA	0	0	6	4	4	10	
99	SDC	SDP-1	23SDCS11R	LINUX ADMINISTRATION AND AUTOMATION	R	LAA	0	0	2	4	2	6	
100	SDC	SDP-1	23SDBT01A	MEDICAL LAB TECHNOLOGY	A	MLT	0	0	6	4	4	10	
101	SDC	SDP-1	23SDBT01E	MEDICAL LAB TECHNOLOGY	E	MLT	0	0	6	4	4	10	
102	SDC	SDP-1	23SDBT01R	MEDICAL LAB TECHNOLOGY	R	MLT	0	0	2	4	2	6	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
103	SDC	SDP-1	23SDBT02A	ANALYTICAL AND OPTICAL INSTRUMENTATION	A	AOI	0	0	6	4	4	10	
104	SDC	SDP-1	23SDBT02E	ANALYTICAL AND OPTICAL INSTRUMENTATION	E	AOI	0	0	6	4	4	10	
105	SDC	SDP-1	23SDBT02R	ANALYTICAL AND OPTICAL INSTRUMENTATION	R	AOI	0	0	2	4	2	6	
106	SDC	SDP-1	23SDCE01A	VISUALIZATION AND MODELLING FOR STRUCTURAL DESIGN	A	VMSD	0	0	6	4	4	10	
107	SDC	SDP-1	23SDCE01E	VISUALIZATION AND MODELLING FOR STRUCTURAL DESIGN	E	VMSD	0	0	6	4	4	10	
108	SDC	SDP-1	23SDCE01R	VISUALIZATION AND MODELLING FOR STRUCTURAL DESIGN	R	VMSD	0	0	2	4	2	6	
109	SDC	SDP-1	23SDEE01A	VISUALIZATION AND MODELING OF CIRCUITS	A	VAMC	0	0	6	4	4	10	
110	SDC	SDP-1	23SDEE01E	VISUALIZATION AND MODELING OF CIRCUITS	E	VAMC	0	0	6	4	4	10	
111	SDC	SDP-1	23SDEE01R	VISUALIZATION AND MODELING OF CIRCUITS	R	VAMC	0	0	2	4	2	6	
112	SDC	SDP-2	23SDME02A	COMPUTER INTEGRATED MANUFACTURING	A	CIDM	0	0	6	4	4	10	
113	SDC	SDP-2	23SDME02E	COMPUTER INTEGRATED MANUFACTURING	E	CIDM	0	0	6	4	4	10	
114	SDC	SDP-2	23SDME02R	COMPUTER INTEGRATED MANUFACTURING	R	CIDM	0	0	2	4	2	6	
115	SDC	SDP-2	23SDCS12A	FULL STACK APPLICATION DEVELOPMENT	A	FSD	0	0	6	4	4	10	
116	SDC	SDP-2	23SDCS12E	FULL STACK APPLICATION DEVELOPMENT	E	FSD	0	0	6	4	4	10	
117	SDC	SDP-2	23SDCS12R	FULL STACK APPLICATION DEVELOPMENT	R	FSD	0	0	2	4	2	6	
118	SDC	SDP-2	23SDBT03A	BIO-INSTRUMENTATION	A	BI	0	0	6	4	4	10	
119	SDC	SDP-2	23SDBT03E	BIO-INSTRUMENTATION	E	BI	0	0	6	4	4	10	
120	SDC	SDP-2	23SDBT03R	BIO-INSTRUMENTATION	R	BI	0	0	2	4	2	6	
121	SDC	SDP-2	23SDBT04A	PROCESS ENGINEERING TOOLS	A	PET	0	0	6	4	4	10	
122	SDC	SDP-2	23SDBT04E	PROCESS ENGINEERING TOOLS	E	PET	0	0	6	4	4	10	
123	SDC	SDP-2	23SDBT04R	PROCESS ENGINEERING TOOLS	R	PET	0	0	2	4	2	6	
124	SDC	SDP-2	23SDCE02A	BUILDING INFORMATION MODELLING	A	BIM	0	0	6	4	4	10	
125	SDC	SDP-2	23SDCE02E	BUILDING INFORMATION MODELLING	E	BIM	0	0	6	4	4	10	
126	SDC	SDP-2	23SDCE02R	BUILDING INFORMATION MODELLING	R	BIM	0	0	2	4	2	6	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
127	SDC	SDP-2	23SDEC02A	EMBEDDED SYSTEM AUTOMATION	A	ESDA	0	0	6	4	4	10	
128	SDC	SDP-2	23SDEC02E	EMBEDDED SYSTEM AUTOMATION	E	ESDA	0	0	6	4	4	10	
129	SDC	SDP-2	23SDEC02R	EMBEDDED SYSTEM AUTOMATION	R	ESDA	0	0	2	4	2	6	
130	SDC	SDP-2	23SDEE02A	EMBEDDED SYSTEM DESIGN WITH ARM	A	ESDA	0	0	6	4	4	10	
131	SDC	SDP-2	23SDEE02E	EMBEDDED SYSTEM DESIGN WITH ARM	E	ESDA	0	0	6	4	4	10	
132	SDC	SDP-2	23SDEE02R	EMBEDDED SYSTEM DESIGN WITH ARM	R	ESDA	0	0	2	4	2	6	
133	SDC	SDP-3	23SDIN04A	CLOUD COMPUTING FOR IOT	A	IOTPD	0	0	6	4	4	10	
134	SDC	SDP-3	23SDIN04E	CLOUD COMPUTING FOR IOT	E	IOTPD	0	0	6	4	4	10	
135	SDC	SDP-3	23SDIN04R	CLOUD COMPUTING FOR IOT	R	IOTPD	0	0	2	4	2	6	
136	SDC	SDP-3	23SDAD10A	COMPUTER VISION USING OPENCV	A	CVOCV	0	0	6	4	4	10	
137	SDC	SDP-3	23SDAD10E	COMPUTER VISION USING OPENCV	E	CVOCV	0	0	6	4	4	10	
138	SDC	SDP-3	23SDAD10R	COMPUTER VISION USING OPENCV	R	CVOCV	0	0	2	4	2	6	
139	SDC	SDP-3	23SDEC07A	DEEP LEARNING WITH TENSORFLOW FRAMEWORK	A	DLTF	0	0	6	4	4	10	
140	SDC	SDP-3	23SDEC07E	DEEP LEARNING WITH TENSORFLOW FRAMEWORK	E	DLTF	0	0	6	4	4	10	
141	SDC	SDP-3	23SDEC07R	DEEP LEARNING WITH TENSORFLOW FRAMEWORK	R	DLTF	0	0	2	4	2	6	
142	SDC	SDP-3	23SDEC06A	EMBEDDED DESIGN	A	EBD	0	0	6	4	4	10	
143	SDC	SDP-3	23SDEC06E	EMBEDDED DESIGN	E	EBD	0	0	6	4	4	10	
144	SDC	SDP-3	23SDEC06R	EMBEDDED DESIGN	R	EBD	0	0	2	4	2	6	
145	SDC	SDP-3	23SDME03A	FINITE ELEMENT ANALYSIS	A	FEA	0	0	6	4	4	10	
146	SDC	SDP-3	23SDME03E	FINITE ELEMENT ANALYSIS	E	FEA	0	0	6	4	4	10	
147	SDC	SDP-3	23SDME03R	FINITE ELEMENT ANALYSIS	R	FEA	0	0	2	4	2	6	
148	SDC	SDP-3	23SDCS10A	IT VENTURE MANAGEMENT	A	ITVM	0	0	6	4	4	10	
149	SDC	SDP-3	23SDCS10E	IT VENTURE MANAGEMENT	E	ITVM	0	0	6	4	4	10	
150	SDC	SDP-3	23SDCS10R	IT VENTURE MANAGEMENT	R	ITVM	0	0	2	4	2	6	
151	SDC	SDP-3	23SDEC05A	4G - LTE COMMUNICATION SYSTEMS	A	LCS	0	0	6	4	4	10	
152	SDC	SDP-3	23SDEC05E	4G - LTE COMMUNICATION SYSTEMS	E	LCS	0	0	6	4	4	10	
153	SDC	SDP-3	23SDEC05R	4G - LTE COMMUNICATION SYSTEMS	R	LCS	0	0	2	4	2	6	
154	SDC	SDP-3	23SDEE03A	AI TECHNIQUES FOR ELECTRICAL ENGINEERING	A	AITFEE	0	0	6	4	4	10	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
155	SDC	SDP-3	23SDEE03E	AI TECHNIQUES FOR ELECTRICAL ENGINEERING	E	AITFEE	0	0	6	4	4	10	
156	SDC	SDP-3	23SDEE03R	AI TECHNIQUES FOR ELECTRICAL ENGINEERING	R	AITFEE	0	0	2	4	2	6	
157	SDC	SDP-3	23SDCS13A	CI/CD & CLOUD DEVOPS	A	CICD	0	0	6	4	4	10	
158	SDC	SDP-3	23SDCS13E	CI/CD & CLOUD DEVOPS	E	CICD	0	0	6	4	4	10	
159	SDC	SDP-3	23SDCS13R	CI/CD & CLOUD DEVOPS	R	CICD	0	0	2	4	2	6	
160	SDC	SDP-3	23SDEC04A	DESIGN OF NETWORKS USING NS-3	A	DNN	0	0	6	4	4	10	
161	SDC	SDP-3	23SDEC04E	DESIGN OF NETWORKS USING NS-3	E	DNN	0	0	6	4	4	10	
162	SDC	SDP-3	23SDEC04R	DESIGN OF NETWORKS USING NS-3	R	DNN	0	0	2	4	2	6	
163	SDC	SDP-3	23SDBT05A	COMPUTER AIDED DRUG DESIGN	A	CADD	0	0	6	4	4	10	
164	SDC	SDP-3	23SDBT05E	COMPUTER AIDED DRUG DESIGN	E	CADD	0	0	6	4	4	10	
165	SDC	SDP-3	23SDBT05R	COMPUTER AIDED DRUG DESIGN	R	CADD	0	0	2	4	2	6	
166	SDC	SDP-3	23SDBT06A	GENOMICS DATA SCIENCE & CLUSTERING	A	CADD	0	0	6	4	4	10	
167	SDC	SDP-3	23SDBT06E	GENOMICS DATA SCIENCE & CLUSTERING	E	CADD	0	0	6	4	4	10	
168	SDC	SDP-3	23SDBT06R	GENOMICS DATA SCIENCE & CLUSTERING	R	CADD	0	0	2	4	2	6	
169	SDC	SDP-3	23SDEC03A	BIOSENSOR SYSTEM DESIGN	A	BSD	0	0	6	4	4	10	
170	SDC	SDP-3	23SDEC03E	BIOSENSOR SYSTEM DESIGN	E	BSD	0	0	6	4	4	10	
171	SDC	SDP-3	23SDEC03R	BIOSENSOR SYSTEM DESIGN	R	BSD	0	0	2	4	2	6	
172	SDC	SDP-3	23SDEC08A	PLANAR ANTENNA DESIGN	A	PAD	0	0	6	4	4	10	
173	SDC	SDP-3	23SDEC08E	PLANAR ANTENNA DESIGN	E	PAD	0	0	6	4	4	10	
174	SDC	SDP-3	23SDEC08R	PLANAR ANTENNA DESIGN	R	PAD	0	0	2	4	2	6	
175	SDC	SDP-3	23SDCE03A	ANALYSIS & DESIGN OF MULTI-STORIED STRUCTURES USING ETABS	A	ADMSS	0	0	6	4	4	10	
176	SDC	SDP-3	23SDCE03E	ANALYSIS & DESIGN OF MULTI-STORIED STRUCTURES USING ETABS	E	ADMSS	0	0	6	4	4	10	
177	SDC	SDP-3	23SDCE03R	ANALYSIS & DESIGN OF MULTI-STORIED STRUCTURES USING ETABS	R	ADMSS	0	0	2	4	2	6	
178	SDC	SDP-3	23SDEC09A	ROBOTICS AND AUTOMATION WITH WEBOTS	A	RAW	0	0	6	4	4	10	
179	SDC	SDP-3	23SDEC09E	ROBOTICS AND AUTOMATION WITH WEBOTS	E	RAW	0	0	6	4	4	10	
180	SDC	SDP-3	23SDEC09R	ROBOTICS AND AUTOMATION WITH WEBOTS	R	RAW	0	0	2	4	2	6	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
181	SDC	SDP-3	23SDEC10A	INTEGRATED SYSTEM DESIGN AUTOMATION	A	ISDA	0	0	6	4	4	10	
182	SDC	SDP-3	23SDEC10E	INTEGRATED SYSTEM DESIGN AUTOMATION	E	ISDA	0	0	6	4	4	10	
183	SDC	SDP-3	23SDEC10R	INTEGRATED SYSTEM DESIGN AUTOMATION	R	ISDA	0	0	2	4	2	6	
184	SDC	SDP-4	23SDEC18A	VLSI SUBMICRON DESIGN AND VERIFICATION	A	VSDV	0	0	6	4	4	10	
185	SDC	SDP-4	23SDEC18E	VLSI SUBMICRON DESIGN AND VERIFICATION	E	VSDV	0	0	6	4	4	10	
186	SDC	SDP-4	23SDEC18R	VLSI SUBMICRON DESIGN AND VERIFICATION	R	VSDV	0	0	2	4	2	6	
187	SDC	SDP-4	23SDCE07A	ARC-GIS (PRO)	A	ARC	0	0	6	4	4	10	
188	SDC	SDP-4	23SDCE07E	ARC-GIS (PRO)	E	ARC	0	0	6	4	4	10	
189	SDC	SDP-4	23SDCE07R	ARC-GIS (PRO)	R	ARC	0	0	2	4	2	6	
190	SDC	SDP-4	23SDAD09A	AUTONOMOUS VEHICLE SYSTEMS	A	AVS	0	0	6	4	4	10	
191	SDC	SDP-4	23SDAD09E	AUTONOMOUS VEHICLE SYSTEMS	E	AVS	0	0	6	4	4	10	
192	SDC	SDP-4	23SDAD09R	AUTONOMOUS VEHICLE SYSTEMS	R	AVS	0	0	2	4	2	6	
193	SDC	SDP-4	23SDCS14A	CLOUD ARCHITECTURES FOR SCIENTIFIC WORKLOADS	A	CASW	0	0	6	4	4	10	
194	SDC	SDP-4	23SDCS14E	CLOUD ARCHITECTURES FOR SCIENTIFIC WORKLOADS	E	CASW	0	0	6	4	4	10	
195	SDC	SDP-4	23SDCS14R	CLOUD ARCHITECTURES FOR SCIENTIFIC WORKLOADS	R	CASW	0	0	2	4	2	6	
196	SDC	SDP-4	23SDCS15A	SOFTWARE DESIGN WITH CLOUD NATIVE COMPUTING	A	SDCNC	0	0	6	4	4	10	
197	SDC	SDP-4	23SDCS15E	SOFTWARE DESIGN WITH CLOUD NATIVE COMPUTING	E	SDCNC	0	0	6	4	4	10	
198	SDC	SDP-4	23SDCS15R	SOFTWARE DESIGN WITH CLOUD NATIVE COMPUTING	R	SDCNC	0	0	2	4	2	6	
199	SDC	SDP-4	23SDCS16A	CLOUD INFRASTRUCTURE DESIGN	A	CISD	0	0	6	4	4	10	
200	SDC	SDP-4	23SDCS16E	CLOUD INFRASTRUCTURE DESIGN	E	CISD	0	0	6	4	4	10	
201	SDC	SDP-4	23SDCS16R	CLOUD INFRASTRUCTURE DESIGN	R	CISD	0	0	2	4	2	6	
202	SDC	SDP-4	23SDCS17A	GENERATIVE ADVERSARIAL NETWORKS FOR IMAGES	A	GANI	0	0	6	4	4	10	
203	SDC	SDP-4	23SDCS17E	GENERATIVE ADVERSARIAL NETWORKS FOR IMAGES	E	GANI	0	0	6	4	4	10	
204	SDC	SDP-4	23SDCS17R	GENERATIVE ADVERSARIAL NETWORKS FOR IMAGES	R	GANI	0	0	2	4	2	6	
205	SDC	SDP-4	23SDCS18A	TEXT ANALYTICS	A	TAT	0	0	6	4	4	10	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
206	SDC	SDP-4	23SDCS18E	TEXT ANALYTICS	E	TAT	0	0	6	4	4	10	
207	SDC	SDP-4	23SDCS18R	TEXT ANALYTICS	R	TAT	0	0	2	4	2	6	
208	SDC	SDP-4	23SDCS19A	VISUAL RECOGNITION AND SCENE UNDERSTANDING	A	VRSU	0	0	6	4	4	10	
209	SDC	SDP-4	23SDCS19E	VISUAL RECOGNITION AND SCENE UNDERSTANDING	E	VRSU	0	0	6	4	4	10	
210	SDC	SDP-4	23SDCS19R	VISUAL RECOGNITION AND SCENE UNDERSTANDING	R	VRSU	0	0	2	4	2	6	
211	SDC	SDP-4	23SDCS20A	SMART IOT AND SENSOR NETWORKS	A	SISN	0	0	6	4	4	10	
212	SDC	SDP-4	23SDCS20E	SMART IOT AND SENSOR NETWORKS	E	SISN	0	0	6	4	4	10	
213	SDC	SDP-4	23SDCS20R	SMART IOT AND SENSOR NETWORKS	R	SISN	0	0	2	4	2	6	
214	SDC	SDP-4	23SDCS21A	HARDWARE SOFTWARE CODESIGN IMPLEMENTATION FOR SECURITY SPECILAITY	A	HSCISS	0	0	6	4	4	10	
215	SDC	SDP-4	23SDCS21	HARDWARE SOFTWARE CODESIGN IMPLEMENTATION FOR SECURITY SPECILAITY	E	HSCISS	0	0	6	4	4	10	
216	SDC	SDP-4	23SDCS21R	HARDWARE SOFTWARE CODESIGN IMPLEMENTATION FOR SECURITY SPECILAITY	R	HSCISS	0	0	2	4	2	6	
217	SDC	SDP-4	23SDAD11A	AI-DRIVEN DATA ENGINEERING	A	ADDE	0	0	6	4	4	10	
218	SDC	SDP-4	23SDAD11E	AI-DRIVEN DATA ENGINEERING	E	ADDE	0	0	6	4	4	10	
219	SDC	SDP-4	23SDAD11R	AI-DRIVEN DATA ENGINEERING	R	ADDE	0	0	2	4	2	6	
220	SDC	SDP-4	23SDEC17A	ROBOT DESIGN AND ANALYSIS	A	RDA	0	0	6	4	4	10	
221	SDC	SDP-4	23SDEC17E	ROBOT DESIGN AND ANALYSIS	E	RDA	0	0	6	4	4	10	
222	SDC	SDP-4	23SDEC17R	ROBOT DESIGN AND ANALYSIS	R	RDA	0	0	2	4	2	6	
223	SDC	SDP-4	23SDEE07A	IA HARDWARE PROTOTYPING	A	IAHP	0	0	6	4	4	10	
224	SDC	SDP-4	23SDEE07E	IA HARDWARE PROTOTYPING	E	IAHP	0	0	6	4	4	10	
225	SDC	SDP-4	23SDEE07R	IA HARDWARE PROTOTYPING	R	IAHP	0	0	2	4	2	6	
226	SDC	SDP-4	23SDCE06A	DESIGN & ANALYSIS OF DIFFERENT STRUCTURAL COMPONENTS USING SAFE	A	SAFE	0	0	6	4	4	10	
227	SDC	SDP-4	23SDCE06E	DESIGN & ANALYSIS OF DIFFERENT STRUCTURAL COMPONENTS USING SAFE	E	SAFE	0	0	6	4	4	10	
228	SDC	SDP-4	23SDCE06R	DESIGN & ANALYSIS OF DIFFERENT STRUCTURAL COMPONENTS USING SAFE	R	SAFE	0	0	2	4	2	6	
229	SDC	SDP-4	23SDEE06A	EVT HARDWARE PROTOTYPING	A	EVTHP	0	0	6	4	4	10	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
230	SDC	SDP-4	23SDEE06E	EVT HARDWARE PROTOTYPING	E	EVTHP	0	0	6	4	4	10	
231	SDC	SDP-4	23SDEE06R	EVT HARDWARE PROTOTYPING	R	EVTHP	0	0	2	4	2	6	
232	SDC	SDP-4	23SDCI05A	CLOUD DEVOPS	A	CDP	0	0	6	4	4	10	
233	SDC	SDP-4	23SDCI05E	CLOUD DEVOPS	E	CDP	0	0	6	4	4	10	
234	SDC	SDP-4	23SDCI05R	CLOUD DEVOPS	R	CDP	0	0	2	4	2	6	
235	SDC	SDP-4	23SDME06A	GEOMETRIC DIMENSIONING AND TOLERANCING	A	GDAT	0	0	6	4	4	10	
236	SDC	SDP-4	23SDME06E	GEOMETRIC DIMENSIONING AND TOLERANCING	E	GDAT	0	0	6	4	4	10	
237	SDC	SDP-4	23SDME06R	GEOMETRIC DIMENSIONING AND TOLERANCING	R	GDAT	0	0	2	4	2	6	
238	SDC	SDP-4	23SDEE04A	AI & ML FOR SMART GRIDS	A	AIMLSG	0	0	6	4	4	10	
239	SDC	SDP-4	23SDEE04E	AI & ML FOR SMART GRIDS	E	AIMLSG	0	0	6	4	4	10	
240	SDC	SDP-4	23SDEE04R	AI & ML FOR SMART GRIDS	R	AIMLSG	0	0	2	4	2	6	
241	SDC	SDP-4	23SDEC16A	ADVANCED RADIATING SYSTEM MODELING	A	ARSM	0	0	6	4	4	10	
242	SDC	SDP-4	23SDEC16E	ADVANCED RADIATING SYSTEM MODELING	E	ARSM	0	0	6	4	4	10	
243	SDC	SDP-4	23SDEC16R	ADVANCED RADIATING SYSTEM MODELING	R	ARSM	0	0	2	4	2	6	
244	SDC	SDP-4	23SDEE05A	MODELING AND SIMULATION OF GREEN ENERGY SYSTEMS	A	GML	0	0	6	4	4	10	
245	SDC	SDP-4	23SDEE05E	MODELING AND SIMULATION OF GREEN ENERGY SYSTEMS	E	GML	0	0	6	4	4	10	
246	SDC	SDP-4	23SDEE05R	MODELING AND SIMULATION OF GREEN ENERGY SYSTEMS	R	GML	0	0	2	4	2	6	
247	SDC	SDP-4	23SDBT09A	CELL CULTURE TECHNOLOGIES	A	CCT	0	0	6	4	4	10	
248	SDC	SDP-4	23SDBT09E	CELL CULTURE TECHNOLOGIES	E	CCT	0	0	6	4	4	10	
249	SDC	SDP-4	23SDBT09R	CELL CULTURE TECHNOLOGIES	R	CCT	0	0	2	4	2	6	
250	SDC	SDP-4	23SDBT10A	MASS SPECTROMETRY BASED PROTEOMICS	A	MSBP	0	0	6	4	4	10	
251	SDC	SDP-4	23SDBT10E	MASS SPECTROMETRY BASED PROTEOMICS	E	MSBP	0	0	6	4	4	10	
252	SDC	SDP-4	23SDBT10R	MASS SPECTROMETRY BASED PROTEOMICS	R	MSBP	0	0	2	4	2	6	
253	SDC	SDP-4	23SDBT11A	ANIMAL PHYSIOLOGY	A	AP	0	0	6	4	4	10	
254	SDC	SDP-4	23SDBT11E	ANIMAL PHYSIOLOGY	E	AP	0	0	6	4	4	10	
255	SDC	SDP-4	23SDBT11R	ANIMAL PHYSIOLOGY	R	AP	0	0	2	4	2	6	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
256	SDC	SDP-4	23SDCS06A	CERTIFIED GAME DEVELOPER	A	CGD	0	0	6	4	4	10	
257	SDC	SDP-4	23SDCS06E	CERTIFIED GAME DEVELOPER	E	CGD	0	0	6	4	4	10	
258	SDC	SDP-4	23SDCS06R	CERTIFIED GAME DEVELOPER	R	CGD	0	0	2	4	2	6	
259	SDC	SDP-4	23SDCE05A	DESIGN OF THE PAVEMENT BY USING MX ROADS	A	DPMX	0	0	6	4	4	10	
260	SDC	SDP-4	23SDCE05E	DESIGN OF THE PAVEMENT BY USING MX ROADS	E	DPMX	0	0	6	4	4	10	
261	SDC	SDP-4	23SDCE05R	DESIGN OF THE PAVEMENT BY USING MX ROADS	R	DPMX	0	0	2	4	2	6	
262	SDC	SDP-4	23SDEC11A	BIOMEDICAL SYSTEM INTERFACING AND SIGNAL ANALYSIS	A	BSIS	0	0	6	4	4	10	
263	SDC	SDP-4	23SDEC11E	BIOMEDICAL SYSTEM INTERFACING AND SIGNAL ANALYSIS	E	BSIS	0	0	6	4	4	10	
264	SDC	SDP-4	23SDEC11R	BIOMEDICAL SYSTEM INTERFACING AND SIGNAL ANALYSIS	R	BSIS	0	0	2	4	2	6	
265	SDC	SDP-4	23SDBT08A	DRUG DESIGN: PRINCIPLES AND ENGINEERING	A	DDPE	0	0	6	4	4	10	
266	SDC	SDP-4	23SDBT08E	DRUG DESIGN: PRINCIPLES AND ENGINEERING	E	DDPE	0	0	6	4	4	10	
267	SDC	SDP-4	23SDBT08R	DRUG DESIGN: PRINCIPLES AND ENGINEERING	R	DDPE	0	0	2	4	2	6	
268	SDC	SDP-4	23SDCS07A	CLOUD BASED AI/ML SPECIALITY	A	CBAIMLS	0	0	6	4	4	10	
269	SDC	SDP-4	23SDCS07E	CLOUD BASED AI/ML SPECIALITY	E	CBAIMLS	0	0	6	4	4	10	
270	SDC	SDP-4	23SDCS07R	CLOUD BASED AI/ML SPECIALITY	R	CBAIMLS	0	0	2	4	2	6	
271	SDC	SDP-4	23SDEC12A	NETWORK PROGRAMMABILITY AND AUTOMATION	A	NPA	0	0	6	4	4	10	
272	SDC	SDP-4	23SDEC12E	NETWORK PROGRAMMABILITY AND AUTOMATION	E	NPA	0	0	6	4	4	10	
273	SDC	SDP-4	23SDEC12R	NETWORK PROGRAMMABILITY AND AUTOMATION	R	NPA	0	0	2	4	2	6	
274	SDC	SDP-4	23SDCS04A	CLOUD BASED SOLUTIONS ARCHITECT	A	CBSA	0	0	6	4	4	10	
275	SDC	SDP-4	23SDCS04E	CLOUD BASED SOLUTIONS ARCHITECT	E	CBSA	0	0	6	4	4	10	
276	SDC	SDP-4	23SDCS04R	CLOUD BASED SOLUTIONS ARCHITECT	R	CBSA	0	0	2	4	2	6	
277	SDC	SDP-4	23SDBT07A	ASPECTS OF BIOCHEMICAL ENGINEERING	A	ABCE	0	0	6	4	4	10	
278	SDC	SDP-4	23SDBT07E	ASPECTS OF BIOCHEMICAL ENGINEERING	E	ABCE	0	0	6	4	4	10	
279	SDC	SDP-4	23SDBT07R	ASPECTS OF BIOCHEMICAL ENGINEERING	R	ABCE	0	0	2	4	2	6	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
280	SDC	SDP-4	23SDEC13A	5G PRIVATE AND INDUSTRIAL AUTOMATION NETWORKS	A	5PIA	0	0	6	4	4	10	
281	SDC	SDP-4	23SDEC13E	5G PRIVATE AND INDUSTRIAL AUTOMATION NETWORKS	E	5PIA	0	0	6	4	4	10	
282	SDC	SDP-4	23SDEC13R	5G PRIVATE AND INDUSTRIAL AUTOMATION NETWORKS	R	5PIA	0	0	2	4	2	6	
283	SDC	SDP-4	23SDAD06A	ANALYSIS OF DIGITAL MARKETING	A	ADM	0	0	6	4	4	10	
284	SDC	SDP-4	23SDAD06E	ANALYSIS OF DIGITAL MARKETING	E	ADM	0	0	6	4	4	10	
285	SDC	SDP-4	23SDAD06R	ANALYSIS OF DIGITAL MARKETING	R	ADM	0	0	2	4	2	6	
286	SDC	SDP-4	23SDCS08A	CLOUD BASED DATA ANALYTICS SPECIALITY	A	CBDAS	0	0	6	4	4	10	
287	SDC	SDP-4	23SDCS08E	CLOUD BASED DATA ANALYTICS SPECIALITY	E	CBDAS	0	0	6	4	4	10	
288	SDC	SDP-4	23SDCS08R	CLOUD BASED DATA ANALYTICS SPECIALITY	R	CBDAS	0	0	2	4	2	6	
289	SDC	SDP-4	23SDCE04A	PLANNING AND SCHEDULING OF RESIDENTIAL BUILDING USING PRIMAVERA SOFTWARE	A	PSRBPS	0	0	6	4	4	10	
290	SDC	SDP-4	23SDCE04E	PLANNING AND SCHEDULING OF RESIDENTIAL BUILDING USING PRIMAVERA SOFTWARE	E	PSRBPS	0	0	6	4	4	10	
291	SDC	SDP-4	23SDCE04R	PLANNING AND SCHEDULING OF RESIDENTIAL BUILDING USING PRIMAVERA SOFTWARE	R	PSRBPS	0	0	2	4	2	6	
292	SDC	SDP-4	23SDCS05A	CLOUD BASED SECURITY SPECIALITY	A	CBSS	0	0	6	4	4	10	
293	SDC	SDP-4	23SDCS05E	CLOUD BASED SECURITY SPECIALITY	E	CBSS	0	0	6	4	4	10	
294	SDC	SDP-4	23SDCS05R	CLOUD BASED SECURITY SPECIALITY	R	CBSS	0	0	2	4	2	6	
295	SDC	SDP-4	23SDCI04A	ADVANCED ANDROID MOBILE APPLICATION WITH CLOUD-BASED WEB SERVICES	A	AAMA	0	0	6	4	4	10	
296	SDC	SDP-4	23SDCI04E	ADVANCED ANDROID MOBILE APPLICATION WITH CLOUD-BASED WEB SERVICES	E	AAMA	0	0	6	4	4	10	
297	SDC	SDP-4	23SDCI04R	ADVANCED ANDROID MOBILE APPLICATION WITH CLOUD-BASED WEB SERVICES	R	AAMA	0	0	2	4	2	6	
298	SDC	SDP-4	23SDME05A	3D MODELLING AND DIGITAL PROTOTYPING	A	3DMDP	0	0	6	4	4	10	
299	SDC	SDP-4	23SDME05E	3D MODELLING AND DIGITAL PROTOTYPING	E	3DMDP	0	0	6	4	4	10	
300	SDC	SDP-4	23SDME05R	3D MODELLING AND DIGITAL PROTOTYPING	R	3DMDP	0	0	2	4	2	6	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
301	SDC	SDP-4	23SDME04A	ANALYSIS OF ENERGY SYSTEMS	A	AES	0	0	6	4	4	10	
302	SDC	SDP-4	23SDME04E	ANALYSIS OF ENERGY SYSTEMS	E	AES	0	0	6	4	4	10	
303	SDC	SDP-4	23SDME04R	ANALYSIS OF ENERGY SYSTEMS	R	AES	0	0	2	4	2	6	
304	SDC	SDP-4	23SDEC14A	EMBEDDED PROTOTYPE	A	EPT	0	0	6	4	4	10	
305	SDC	SDP-4	23SDEC14E	EMBEDDED PROTOTYPE	E	EPT	0	0	6	4	4	10	
306	SDC	SDP-4	23SDEC14R	EMBEDDED PROTOTYPE	R	EPT	0	0	2	4	2	6	
307	SDC	SDP-4	23SDEC15A	NATURAL LANGUAGE PROCESSING USING TENSOR FLOW	A	NLPTF	0	0	6	4	4	10	
308	SDC	SDP-4	23SDEC15E	NATURAL LANGUAGE PROCESSING USING TENSOR FLOW	E	NLPTF	0	0	6	4	4	10	
309	SDC	SDP-4	23SDEC15R	NATURAL LANGUAGE PROCESSING USING TENSOR FLOW	R	NLPTF	0	0	2	4	2	6	
310	SDC	SDP-4	23SDIN05A	IOT ANALYTICS FOR THE CLOUD	A	IOTAC	0	0	6	4	4	10	
311	SDC	SDP-4	23SDIN05E	IOT ANALYTICS FOR THE CLOUD	E	IOTAC	0	0	6	4	4	10	
312	SDC	SDP-4	23SDIN05R	IOT ANALYTICS FOR THE CLOUD	R	IOTAC	0	0	2	4	2	6	
313	SDC	SDP-4	23SDIN06A	EMBEDDED AND IOT ROGRAMMING	A	IOTHP	0	0	6	4	4	10	
314	SDC	SDP-4	23SDIN06E	EMBEDDED AND IOT ROGRAMMING	E	IOTHP	0	0	6	4	4	10	
315	SDC	SDP-4	23SDIN06R	EMBEDDED AND IOT ROGRAMMING	R	IOTHP	0	0	2	4	2	6	
316	PEC		23DSB3406M	DIGITAL VIDEO PROCESSING	M	DVP	3	0	0	0	3	3	
317	PEC		23ABT3508	BIOINFORMATICS FOR AGRICULTURE	R	BIA	3	0	0	0	3	3	
318	PEC		23IOT3406M	DATA VISUALIZATION TECHNIQUES	M	DVT	3	0	0	0	3	3	FITS(1)
319	PEC		23IOT3508	BIG DATA ANALYTICS	R	BDA	3	0	0	0	3	3	
320	PEC		23ILA3508	PLC PROGRAMMING & CONTROL	R	PLCPC	3	0	0	0	3	3	
321	PEC		23EDS3404M	CLOUD ARCHITECTURE IN IOT	M	CAIOT	3	0	0	0	3	3	ESD(1) Rule:3
322	PEC		23EDS3505	EDGE COMPUTING & DATA ANALYTICS IN IOT	R	ECDAI	3	0	0	0	3	3	
323	PEC		23IMP3404M	DATA VISUALIZATION	M	DV	3	0	0	0	3	3	DNA(1) Rule:3
324	PEC		23IMP3505	MULTI MEDIA PROCESSING	R	MMP	3	0	0	0	3	3	
325	PEC		23IMP3506	INTRODUCTION TO QUANTUM COMPUTING	R	MMP	3	0	0	0	3	3	
326	PEC		23ECF3405M	SPECIAL PURPOSE VEHICLES	M	SPV	3	0	0	0	3	3	
327	PEC		23ECF3406M	VEHICLE DYNAMICS	M	VD	3	0	0	0	3	3	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
328	PEC		23ECF3507	THERMAL MANAGEMENT OF ELECTRIC AND ELECTRONIC SYSTEMS	R	TMEES	3	0	0	0	3	3	
329	PEC		23ECF3508	ALTERNATE ENERGY SOURCES FOR AUTOMOBILES	R	AESFA	3	0	0	0	3	3	
330	PEC		23EGD3405M	ADVANCED VIBRATIONS	M	AV	3	0	0	0	3	3	EM(1) Rule:1
331	PEC		23EGD3406M	MECHANICS OF COMPOSITE MATERIALS	M	MOCM	3	0	0	0	3	3	EM(1) Rule:1
332	PEC		23EGD3507	ADVANCED STRENGTH OF MATERIALS	R	ASM	3	0	0	0	3	3	EM(1) Rule:1
333	PEC		23EGD3508	HYBRID AND ELECTRIC VEHICLE DESIGN	R	HEVD	3	0	0	0	3	3	EM(1) Rule:1
334	PEC		23CPD3406M	META REACT NATIVE SPECIALIZATION	M	MRNS	3	0	0	0	3	3	
335	PEC		23CPD3507	ADVANCED MOBILE APPLICATION DEVELOPMENT	R	AMAD	3	0	0	0	3	3	
336	PEC		23CPD3508	CROSS PLATFORM USER INTERFACE DESIGN	R	CPED	3	0	0	0	3	3	
337	PEC		23BEW3404M	BLOCKCHAIN PLATFORMS AND PROTOCOLS	M	BCPAP	3	0	0	0	3	3	
338	PEC		23BEW3405M	BLOCKCHAIN SECURITY	M	BCS	3	0	0	0	3	3	
339	PEC		23BEW3406M	ORACLES AND DATA FEEDS	M	ODF	3	0	0	0	3	3	
340	PEC		23BEW3507	BLOCKCHAIN SCALABILITY AND LAYER 2 SOLUTIONS	R	BCSALS	3	0	0	0	3	3	
341	PEC		23BEW3508	REGULATORY LANDSCAPE AND COMPLIANCE	R	RLAC	3	0	0	0	3	3	
342	PEC		23BEW3509	FUTURE TRENDS IN BLOCKCHAIN AND WEB3	R	FTBCAW	3	0	0	0	3	3	
343	PEC		23CSB3405M	DATABASE SYSTEM AND SECURITY	M	DSS	3	0	0	0	3	3	
344	PEC		23CSB3406M	PROGRAMMING FOR SMART CONTRACTS	M	PSC	3	0	0	0	3	3	
345	PEC		23CSB3407M	CLOUD SECURITY	M	CS	3	0	0	0	3	3	
346	PEC		23CSB3508	SECURE SOFTWARE ENGINEERING	R	SSE	3	0	0	0	3	3	
347	PEC		23CSB3509	WEB SECURITY	R	WS	3	0	0	0	3	3	
348	PEC		23CSB3510	SECURITY GOVERNANCE & MANAGEMENT	R	SGM	3	0	0	0	3	3	
349	PEC		23CNS3404M	MICROSERVICES SECURITY	M	MSS	3	0	0	0	3	3	OS(1) Rule:3
350	PEC		23CNS3405M	INFRASTRUCTURE AS CODE SECURITY	M	ISACS	3	0	0	0	3	3	

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351	PEC		23CNS3406M	IDENTITY AND ACCESS MANAGEMENT IN CLOUD NATIVE ENVIRONMENTS	M	IAMCNE	3	0	0	0	3	3	
352	PEC		23CNS3407M	NETWORK SECURITY IN CLOUD NATIVE ARCHITECTURES	M	NSCNA	3	0	0	0	3	3	
353	PEC		23CNS3508	MONITORING AND LOGGING FOR CLOUD NATIVE SECURITY	R	MLCNS	3	0	0	0	3	3	
354	PEC		23CNS3509	COMPLIANCE AND GOVERNANCE IN CLOUD NATIVE ENVIRONMENTS	R	CGCNE	3	0	0	0	3	3	
355	PEC		23CNS3510	SERVERLESS SECURITY	R	SLSY	3	0	0	0	3	3	
356	PEC		23CNS3511	CLOUD NATIVE SECURITY TOOLS AND SOLUTIONS	R	CNSTAS	3	0	0	0	3	3	
357	PEC		23CNS3512	FUTURE TRENDS IN CLOUD NATIVE SECURITY	R	FTCNS	3	0	0	0	3	3	
358	PEC		23SDM3405M	DIGITAL MEDIA ANALYTICS	M	DMA	3	0	0	0	3	3	
359	PEC		23SDM3406M	ETHICAL SOCIAL MEDIA	M	ESM	3	0	0	0	3	3	
360	PEC		23SDM3507	INTELLIGENT SOCIAL MEDIA MONITORING SYSTEMS	R	ISMMS	3	0	0	0	3	3	
361	PEC		23CPS3404M	FOUNDATIONS OF HYBRID AND EMBEDED SYSTEMS	M	DVP	3	0	0	0	3	3	
362	PEC		23CPS3505	CLOUD COMPUTING FOR IOT ENGINEERS	R	CCIOTE	3	0	0	0	3	3	
363	PEC		23CPS3506	WIRELESS SENSOR NETWORKS	R	WSN	3	0	0	0	3	3	
364	PEC		23CPS3507	EDGE COMPUTING	R	EC	3	0	0	0	3	3	
365	PEC		23HDA3510	GENOMIC DATA SCIENCE & CLUSTERING	R	GDSC	3	0	0	0	3	3	
366	PEC		23DSB3404M	BIG DATA OPTIMIZATION	M	BDO	3	0	0	0	3	3	
367	PEC		23DSB3407M	DATA ANALYTICS ON CLOUD	M	DAC	3	0	0	0	3	3	
368	PEC		23DSB3408M	DIGITAL MEDIA ANALYTICS	M	DMA	3	0	0	0	3	3	
369	PEC		23DSB3509	ADVANCED DATABASES	R	AD	3	0	0	0	3	3	
370	PEC		23DSB3510	BUSINESS ANALYTICS	R	BA	3	0	0	0	3	3	
371	PEC		23DSB3511	GRAPH & WEB ANALYTICS	R	GWA	3	0	0	0	3	3	
372	PEC		23DSB3512	DATA GOVERNANCE ON CLOUD	R	DGC	3	0	0	0	3	3	
373	PEC		23DCS3404M	OPTICAL WIRELESS COMMUNICATIONS	M	PWC	3	0	0	0	3	3	
374	PEC		23DCS3505	MACHINE LEARNING FOR WIRELESS COMMUNICATION	R	MLWC	3	0	0	0	3	3	
375	PEC		23DLA3405M	BLOCKCHAIN ANALYTICS	M	BCA	3	0	0	0	3	3	

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376	PEC		23DLA3406M	CRYPTOCURRENCY AND BLOCKCHAIN TECHNOLOGY	M	CBT	3	0	0	0	3	3	
377	PEC		23DLA3507	DISTRIBUTED LEDGER ARCHITECTURE FOR AUTOMATION	R	DLAA	3	0	0	0	3	3	
378	PEC		23DLA3508	PERMISSIONED DISTRIBUTED LEDGER	R	PDL	3	0	0	0	3	3	
379	PEC		23ADE3404M	EDGE AI AND 5G	M	EAI5G	3	0	0	0	3	3	
380	PEC		23ADE3405M	EDGE AI SECURITY AND PROTECTION	M	EAISP	3	0	0	0	3	3	
381	PEC		23ADE3506	EDGE AI DEVELOPMENT FRAMEWORKS AND TOOLS	R	EAIDFT	3	0	0	0	3	3	
382	PEC		23ADE3507	EDGE AI ANALYTICS AND DATA MANAGEMENT	R	EAIADM	3	0	0	0	3	3	
383	PEC		23ADE3508	EDGE AI AND SUSTAINABILITY	R	EAIAS	3	0	0	0	3	3	
384	PEC		23SDM3508	SEARCH ENGINE OPTIMIZATION	R	SEO	3	0	0	0	3	3	
385	PEC		23HDA3407M	INTRODUCTION TO GENOMIC TECHNOLOGIES	M	IGT	3	0	0	0	3	3	
386	PEC		23HDA3511	EPI GENETIC CONTROL OF GENE EXPRESSION	R	ECBI	3	0	0	0	3	3	
387	PEC		23HSS3404M	SOFTWARE SECURITY PRINCIPLES	M	SSP	3	0	0	0	3	3	
388	PEC		23HSS3405M	SECURE CO-DESIGN METHODOLOGIES	M	SCDM	3	0	0	0	3	3	
389	PEC		23HSS3406M	HARDWARE TROJAN DETECTION AND PREVENTION	M	HTDAP	3	0	0	0	3	3	
390	PEC		23HSS3507	SIDE-CHANNEL ATTACKS AND COUNTERMEASURES	R	SCACM	3	0	0	0	3	3	
391	PEC		23HSS3508	FORMAL METHODS FOR HARDWARE-SOFTWARE SECURITY	R	FMHSS	3	0	0	0	3	3	
392	PEC		23HSS3509	TRUSTED PLATFORM MODULES AND SECURE ELEMENTS	R	TPMASE	3	0	0	0	3	3	
393	PEC		23HSS3510	SECURE COMMUNICATION PROTOCOLS AND APIS	R	SCPA	3	0	0	0	3	3	
394	PEC		23HSS3511	HARDWARE-SOFTWARE CO-DESIGN	R	HSCCS	3	0	0	0	3	3	
395	PEC		23HSS3512	FUTURE TRENDS IN HARDWARE-SOFTWARE CO-DESIGN FOR SECURITY	R	FTHSCS	3	0	0	0	3	3	
396	PEC		23AIP3406M	COGNITIVE COMPUTING	M	CC	3	0	0	0	3	3	
397	PEC		23AIP3407M	PERCEPTION AND COMPUTER VISION	M	PCV	3	0	0	0	3	3	
398	PEC		23AIP3408M	MACHINE LEARNING ON CLOUD	M	MLC	3	0	0	0	3	3	
399	PEC		23AIP3509	COMPUTATIONAL EPIDEMIOLOGY	R	CE	3	0	0	0	3	3	

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400	PEC		23AIP3510	NATURAL LANGUAGE PROCESSING	R	NLP	3	0	0	0	3	3	
401	PEC		23AIP3511	SPEECH PROCESSING	R	SP	2	0	2	0	3	4	
402	PEC		23AIP3512	DESIGN & MANAGEMENT OF DISTRIBUTED APPLICATIONS FOR AI ON CLOUD	R	DMDAAC	3	0	0	0	3	3	
403	PEC		23AIP3513	ARCHITECTING DEEP LEARNING WORKLOADS ON CLOUD	R	ADLWC	3	0	0	0	3	3	
404	PEC		23ALT3404M	TEXT UNDERSTANDING	M	TUS	3	0	0	0	3	3	
405	PEC		23ALT3405M	NATURAL LANGUAGE PROCESSING	M	NLP	3	0	0	0	3	3	
406	PEC		23ALT3506	LANGUAGE UNDERSTANDING WITH PRE-TRAINED MODELS	R	LUWPTM	3	0	0	0	3	3	
407	PEC		23ALT3507	LARGE LANGUAGE MODEL FOR SPEECH PROCESSING	R	LLMFSP	3	0	0	0	3	3	
408	PEC		23AVI3404M	VISUAL RECOGNITION AND SCENE UNDERSTANDING	M	VRASU	3	0	0	0	3	3	
409	PEC		23AVI3405M	DEEP REINFORCEMENT LEARNING FOR VISION	M	DRLV	3	0	0	0	3	3	
410	PEC		23AVI3506	HUMAN COMPUTER INTERACTION	R	HCI	3	0	0	0	3	3	
411	PEC		23AVI3507	OBJECT LOCALIZATION	R	OL	3	0	0	0	3	3	
412	PEC		23AVI3508	ADVANCED IMAGE PROCESSING AND ANALYSIS	R	AIPA	3	0	0	0	3	3	
413	PEC		23CNE3405M	SERVERLESS COMPUTING AND EVENT-DRIVEN ARCHITECTURES	M	SCEDA	3	0	0	0	3	3	
414	PEC		23CNE3507	CLOUD NATIVE NETWORKING AND STORAGE SYSTEMS	R	CNNSS	3	0	0	0	3	3	
415	PEC		23BIS3405M	APPLIED BIOINFORMATICS	M	ABI	3	0	0	0	3	3	
416	PEC		23BIS3406M	NGS SEQUENCING AND DATA ANALYSIS	M	NGSDA	3	0	0	0	3	3	
417	PEC		23BIS3507	SYSTEMS BIOLOGY	R	SSB	3	0	0	0	3	3	
418	PEC		23BIS3508	DATABASE MANAGEMENT SYSTEM FOR BIOLOGIST	R	DBMS	3	0	0	0	3	3	
419	PEC		23HDA3406M	NGS SEQUENCING AND DATA ANALYSIS	M	NGSDA	3	0	0	0	3	3	
420	PEC		23HDA3509	MOLECULAR MODELING AND DRUG DESIGN	R	MMDD	3	0	0	0	3	3	
421	PEC		23BMI3404M	NANOTECHNOLOGY AND NANOSENSORS	M	NTNS	3	0	0	0	3	3	
422	PEC		23BMI3505	BIOSENSING AND BIOELECTRONICS	R	BSBE	3	0	0	0	3	3	
423	PEC		23CID3405M	RELIABLE CLOUD INFRASTRUCTURE: DESIGN & PROCESS	M	RID	3	0	0	0	3	3	

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424	PEC		23CID3507	CLOUD ENGINEERING	R	CE	3	0	0	0	3	3	
425	PEC		23CCF3404M	5G MOBILE AND IEEE STANDARDS	M	5GMI	3	0	0	0	3	3	
426	PEC		23CCF3505	IP MULTIMEDIA SUB-SYSTEM & EMERGING TECHNOLOGIES	R	IMSET	3	0	0	0	3	3	
427	PEC		23CCF3506	IT SECURITY: DEFENCE AGAINST THE DIGITAL DARK ARTS	R	IMSET	3	0	0	0	3	3	
428	PEC		23CTM3405M	CONSTRUCTION CONTRACTS	M	CC	3	0	0	0	3	3	
429	PEC		23CTM3406M	CONSTRUCTION FORMULATION APPRAISAL	M	CFA	3	0	0	0	3	3	
430	PEC		23CTM3507	QUALITY AND SAFETY IN CONSTRUCTION	R	QSC	3	0	0	0	3	3	
431	PEC		23CTM3508	GREEN BUILDING	R	GB	3	0	0	0	3	3	
432	PEC		23ABT3406M	DATA ACQUISITION AND COMMUNICATION SYSTEMS FOR AGRICULTURE	M	DACSA	3	0	0	0	3	3	
433	PEC		23ACI3404M	HEURISTIC ALGORITHMS	M	HAG	3	0	0	0	3	3	AIML(1) Rule:3
434	PEC		23ACI3405M	SWARM INTELLIGENCE APPROCAHES	M	SIA	3	0	0	0	3	3	AIML(1) Rule:3
435	PEC		23ACI3506	DATA MANIPULATION	R	DMP	3	0	0	0	3	3	AIML(1) Rule:3
436	PEC		23ACI3507	REINFORCEMENT LEARNING	R	RLG	3	0	0	0	3	3	AIML(1) Rule:3
437	PEC		23ACI3508	EVOLUTIONARY COMPUTATION	R	ECP	3	0	0	0	3	3	
438	PEC		23CEC3406M	ADVANCED COMPUTER ARCHITECTURE	M	ACA	3	0	0	0	3	3	
439	PEC		23CEC3407M	PARALLEL ALGORITHMS	M	PA	3	0	0	0	3	3	
440	PEC		23CEC3408M	CLOUD SECURITY	M	CS	3	0	0	0	3	3	
441	PEC		23CEC3409M	ARCHITECTING CLOUD SOLUTIONS*	M	ACS	3	0	0	0	3	3	
442	PEC		23CEC3510	EDGE COMPUTING	R	EC	3	0	0	0	3	3	
443	PEC		23CEC3511	HIGH PERFORMANCE COMPUTING	R	HPC	3	0	0	0	3	3	
444	PEC		23CEC3512	DESIGN OF DISTRIBUTED APPLICATIONS ON CLOUD (DDA)	R	DDAC	3	0	0	0	3	3	
445	PEC		23CEC3513	CLOUD NETWORKING	R	CN	3	0	0	0	3	3	
446	PEC		23GTE3405M	URBAN TRANSPORTATION SYSTEMS PLANNING	M	UTSP	3	0	0	0	3	3	
447	PEC		23GTE3406M	GEOTECHNICAL EARTHQUAKE ENGINEERING	M	BIE	3	0	0	0	3	3	
448	PEC		23GTE3507	TRAFFIC ENGINEERING AND MANAGEMENT	R	TEM	3	0	0	0	3	3	

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449	PEC		23GTE3508	DESIGN OF EARTH RETAINING STRUCTURES	R	DERS	3	0	0	0	3	3	
450	PEC		23SCI3404M	SPATIAL AND SOCIAL IMPLICATIONS OF IMMERSIVE TECHNOLOGIES	M	SSIIT	3	0	0	0	3	3	
451	PEC		23SCI3405M	SPATIAL AUDIO DESIGN FOR GAMES	M	SADG	3	0	0	0	3	3	
452	PEC		23SCI3506	SPATIAL USER INTERFACE DESIGN	R	SUID	3	0	0	0	3	3	
453	PEC		23SCI3507	INTRODUCTION TO SPATIAL COMPUTING	R	ITSC	3	0	0	0	3	3	
454	PEC		23GDU3405M	3D MODELLING & ANIMATION	M	3DMA	3	0	0	0	3	3	CTSD(1) Rule:1
455	PEC		23GDU3506	PRINCIPLES OF GAME DESIGN	R	PRGD	3	0	0	0	3	3	
456	PEC		23GDU3507	BUSINESS OF GAMES & ENTREPRENEURSHIP	R	BGE	3	0	0	0	3	3	
457	PEC		23GET3405M	ENERGY MANAGEMENT AND GREEN BUILDING	M	EMGB	3	0	0	0	3	3	
458	PEC		23GET3406M	HYDROGEN FUEL CELL TECHNOLOGY	M	HFCT	3	0	0	0	3	3	
459	PEC		23GET3507	AI AND IOT FOR GREEN ENERGY INTEGRATION	R	AIGEI	3	0	0	0	3	3	
460	PEC		23GET3508	POWER ELECTRONICS FOR RENEWABLE ENERGY SYSTEMS	R	PERES	3	0	0	0	3	3	
461	PEC		23GEG3405M	GENOMICS AND PROTEOMICS	M	GP	3	0	0	0	3	3	
462	PEC		23GEG3406M	DNA FORENSICS	M	DNF	3	0	0	0	3	3	
463	PEC		23GEG3507	MICROBIAL GENETICS	R	MBG	3	0	0	0	3	3	
464	PEC		23GEG3508	GENE AND ENVIRONMENT	R	BI	3	0	0	0	3	3	
465	PEC		23RFM3404M	RF AND MILLIMETER-WAVE CIRCUIT DESIGN	M	RFMECD	3	0	0	0	3	3	
466	PEC		23RFM3505	SATELLITE DESIGN	R	SD	3	0	0	0	3	3	
467	PEC		23MBT3405M	CANCER BIOLOGY	M	CB	3	0	0	0	3	3	
468	PEC		23MBT3406M	NEUROBIOLOGY	M	NB	3	0	0	0	3	3	
469	PEC		23MBT3507	BIOELECTRONICS & BIOSENSORS	R	BB	3	0	0	0	3	3	
470	PEC		23RAN3405M	ARTIFICIAL INTELLIGENCE FOR ROBOTICS	M	AIR	3	0	0	0	3	3	
471	PEC		23RAN3406M	HUMAN MACHINE INTERFACE & BRAIN MACHINE INTERFACE	M	HMIBMI	3	0	0	0	3	3	
472	PEC		23RAN3507	COMPUTER VISION & APPLICATIONS	R	CVA	3	0	0	0	3	3	
473	PEC		23SMF3405M	ROBOTICS & INDUSTRIAL AUTOMATION	M	RIA	3	0	0	0	3	3	

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474	PEC		23SMF3406M	MECHANICAL MEASUREMENTS AND METROLOGY	M	MMM	3	0	0	0	3	3	
475	PEC		23SMF3507	MACHINE TO MACHINE COMMUNICATION	R	MMC	3	0	0	0	3	3	
476	PEC		23SMF3508	FLEXIBLE MANUFACTURING SYSTEMS	R	FMS	3	0	0	0	3	3	
477	PEC		23AEA3405M	VEHICLE CONTROL SYSTEMS	M	VCS	3	0	0	0	3	3	
478	PEC		23AEA3406M	AUTOMOTIVE ELECTRICAL AND ELECTRONIC SYSTEMS	M	AEES	3	0	0	0	3	3	
479	PEC		23AEA3507	SOFT COMPUTING TECHNIQUES FOR AUTOMOTIVE APPLICATIONS	R	SCTAA	3	0	0	0	3	3	
480	PEC		23AEA3508	AUTOMOTIVE NETWORKING AND PROTOCOLS	R	ANP	3	0	0	0	3	3	
481	PEC		23EME3405M	INTRODUCTION TO BATTERY-MANAGEMENT SYSTEMS	M	IBMS	3	0	0	0	3	3	
482	PEC		23EME3406M	BATTERY STATE ESTIMATION ALGORITHMS FOR ELECTRIC VEHICLE	M	BSAEV	3	0	0	0	3	3	
483	PEC		23EME3507	AI AND IOT FOR ELECTRIC VEHICLE	R	AIEV	3	0	0	0	3	3	
484	PEC		23EME3508	EV SYSTEM AND WIRING DESIGN	R	ESWS	3	0	0	0	3	3	
485	PEC		23SMD3404M	SOFTWARE PROJECT MANAGEMENT	M	SPM	3	0	0	0	3	3	
486	PEC		23SMD3405M	SOFTWARE ARCHITECTURE & DESIGN	M	SAD	3	0	0	0	3	3	
487	PEC		23SMD3506	SOFTWARE RELIABILITY	R	SR	3	0	0	0	3	3	
488	PEC		23SMD3507	CROSS-PLATFORM USER INTERFACE DESIGN	R	CPUIF	3	0	0	0	3	3	
489	PEC		23ILA3405M	INDUSTRIAL COMMUNICATION PROTOCOLS AND CYBER SECURITY	M	ICPCS	3	0	0	0	3	3	
490	PEC		23ILA3507	SMART SENSORS AND SENSOR NETWORKING	R	SSSN	3	0	0	0	3	3	
491	PEC		23ASS3405M	EXPERT SYSTEMS	M	ES	3	0	0	0	3	3	
492	PEC		23ASS3406M	SELF-DRIVING CARS	M	SDC	3	0	0	0	3	3	
493	PEC		23ASS3507	LOCALIZATION & PROGRAMMING REAL-TIME AUTONOMOUS SYSTEMS	R	LPRAS	3	0	0	0	3	3	
494	PEC		23ASS3508	REINFORCEMENT LEARNING FOR AUTONOMOUS SYSTEM	R	RLA	3	0	0	0	3	3	
495	PEC		23DEA3404M	DATA WAREHOUSING AND BUSINESS INTELLIGENCE	M	DWBI	3	0	0	0	3	3	
496	PEC		23DEA3505R	MACHINE LEARNING ENGINEERING FOR BIG DATA	R	MLEBD	3	0	0	0	3	3	
497	PEC		23CSC3406M	CLOUD COMPUTING FOR SCIENTIFIC DISCOVERY	M	CCFSD	3	0	0	0	3	3	

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498	PEC		23CSC3508	PARALLEL COMPUTING FOR SCIENTISTS USING CLOUD PLATFORMS	R	PCSCP	3	0	0	0	3	3	
499	PEC		23CSC3507	CLOUD-BASED SCALABLE COMPUTING AND BIG DATA ANALYTICS	R	CSCBD	3	0	0	0	3	3	
500	PEC		23ILA3406M	DIGITAL MANUFACTURING AND DESIGN	M	DMD	3	0	0	0	3	3	
501	PEC		23CID3406M	HYBRID CLOUD INTEGRATION AND MANAGEMENT	M	HCIM	3	0	0	0	3	3	
502	PEC		23CID3508	CLOUD DATA MANAGEMENT AND STORAGE SOLUTIONS	R	CDMSS	3	0	0	0	3	3	
503	PEC		23CNE3406M	CLOUD NATIVE SOFTWARE ARCHITECTURES	M	CNSA	3	0	0	0	3	3	
504	PEC		23CNE3508	CLOUD INFRASTRUCTURE AND VIRTUALIZATION	R	CIAV	3	0	0	0	3	3	
505	PEC		23IOT3407M	APPLIED MACHINE LEARNING FOR AGRICULTURE	M	AMLA	3	0	0	0	3	3	
506	PEC		23VLS3404M	SYSTEM-ON-CHIP	M	SOC	3	0	0	0	3	3	DVD(1) Rule:3
507	PEC		23VLS3505	MIXED SIGNAL IC DESIGN	R	MSID	3	0	0	0	3	3	
508	PEC		23WRE3405M	URBAN WATER HYDROLOGY AND HYDRAULICS	M	UWHH	3	0	0	0	3	3	
509	PEC		23WRE3406M	ENVIRONMENTAL IMPACT ASSESSMENT AND LIFE CYCLE ANALYSES	M	EIALCA	3	0	0	0	3	3	
510	PEC		23WRE3507	PHYSICO-CHEMICAL PROCESSES FOR WATER AND WASTEWATER TREATMENT	R	PCPWWT	3	0	0	0	3	3	
511	PEC		23WRE3508	SUSTAINABLE ENGINEERING AND TECHNOLOGY	R	SET	3	0	0	0	3	3	
512	PEC		23STE3405M	PRESTRESSED CONCRETE	M	PC	3	0	0	0	3	3	
513	PEC		23STE3406M	PRECAST AND PREFABRICATED STRUCTURES	M	PPS	3	0	0	0	3	3	
514	PEC		23STE3507	PRE ENGINEERING STRUCTURES	R	PES	3	0	0	0	3	3	
515	PEC		23STE3508	ADVANCED DESIGN OF REINFORCED CONCRETE STRUCTURES	R	ADRCS	3	0	0	0	3	3	
516	PEC	PE-1	23VLS3101A	ANALOG VLSI DESIGN	A	AVD	4	0	4	4	7	12	DVD(1) Rule:3
517	PEC	PE-1	23VLS3101E	ANALOG VLSI DESIGN	E	AVD	4	0	4	4	7	12	DVD(1) Rule:3
518	PEC	PE-1	23VLS3101R	ANALOG VLSI DESIGN	R	AVD	3	0	2	4	5	9	DVD(1) Rule:3
519	PEC	PE-1	23WRE3101A	RIVER ENGINEERING	A	RE	4	0	4	4	7	12	FMH(1) Rule:3

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520	PEC	PE-1	23WRE3101E	RIVER ENGINEERING	E	RE	4	0	4	4	7	12	FMH(1) Rule:3
521	PEC	PE-1	23WRE3101R	RIVER ENGINEERING	R	RE	3	0	2	4	5	9	FMH(1) Rule:3
522	PEC	PE-1	23AIP3101A	DEEP LEARNING	A	DL	4	0	4	4	7	12	
523	PEC	PE-1	23AIP3101E	DEEP LEARNING	E	DL	4	0	4	4	7	12	
524	PEC	PE-1	23AIP3101R	DEEP LEARNING	R	DL	3	0	2	4	5	9	
525	PEC	PE-1	23DEA3101A	FUNDAMENTALS OF DATA ENGINEERING	A	FDE	4	0	4	4	7	12	DBMS(1) Rule:3
526	PEC	PE-1	23DEA3101E	FUNDAMENTALS OF DATA ENGINEERING	E	FDE	4	0	4	4	7	12	DBMS(1) Rule:3
527	PEC	PE-1	23DEA3101R	FUNDAMENTALS OF DATA ENGINEERING	R	FDE	3	0	2	4	5	9	DBMS(1) Rule:3
528	PEC	PE-1	23ASS3102A	AI AND CONTROLS FOR AUTONOMUS FUTURE VEHICLE	A	AICAFT	4	0	4	4	7	12	
529	PEC	PE-1	23ASS3102E	AI AND CONTROLS FOR AUTONOMUS FUTURE VEHICLE	E	AICAFT	4	0	4	4	7	12	
530	PEC	PE-1	23ASS3102R	AI AND CONTROLS FOR AUTONOMUS FUTURE VEHICLE	R	AICAFT	3	0	2	4	5	9	
531	PEC	PE-1	23EME3101A	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	A	PTDEV	4	0	4	4	7	12	ELM(1) Rule:3
532	PEC	PE-1	23EME3101E	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	E	PTDEV	4	0	4	4	7	12	ELM(1) Rule:3
533	PEC	PE-1	23EME3101R	POWER TRAIN DESIGN FOR ELECTRIC VEHICLE	R	PTDEV	3	0	2	4	5	9	ELM(1) Rule:3
534	PEC	PE-1	23SMD3101A	SOFTWARE VERIFICATION & VALIDATION	A	SVV	4	0	4	4	7	12	
535	PEC	PE-1	23SMD3101E	SOFTWARE VERIFICATION & VALIDATION	E	SVV	4	0	4	4	7	12	
536	PEC	PE-1	23SMD3101R	SOFTWARE VERIFICATION & VALIDATION	R	SVV	3	0	2	4	5	9	
537	PEC	PE-1	23STE3101A	ADVANCED CONCRETE TECHNOLOGY	A	ACT	4	0	4	4	7	12	EM(1) Rule:3
538	PEC	PE-1	23STE3101E	ADVANCED CONCRETE TECHNOLOGY	E	ACT	4	0	4	4	7	12	EM(1) Rule:3
539	PEC	PE-1	23STE3101R	ADVANCED CONCRETE TECHNOLOGY	R	ACT	3	0	2	4	5	9	EM(1) Rule:3
540	PEC	PE-1	23ASS3101A	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	A	ADAS	4	0	4	4	7	12	AIML(1) Rule:3
541	PEC	PE-1	23ASS3101E	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	E	ADAS	4	0	4	4	7	12	AIML(1) Rule:3
542	PEC	PE-1	23ASS3101R	AUTONOMOUS DRIVER ASSISTIVE SYSTEMS	R	ADAS	3	0	2	4	5	9	AIML(1) Rule:3

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543	PEC	PE-1	23AEA3101A	AUTOMOTIVE SENSOR AND APPLICATIONS	A	ASA	4	0	4	4	7	12	ELM(1) Rule:3
544	PEC	PE-1	23AEA3101E	AUTOMOTIVE SENSOR AND APPLICATIONS	E	ASA	4	0	4	4	7	12	ELM(1) Rule:3
545	PEC	PE-1	23AEA3101R	AUTOMOTIVE SENSOR AND APPLICATIONS	R	ASA	3	0	2	4	5	9	ELM(1) Rule:3
546	PEC	PE-1	23SGT3101A	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	A	DERSG	4	0	4	4	7	12	ELC(1) Rule:1
547	PEC	PE-1	23SGT3101E	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	E	DERSG	4	0	4	4	7	12	ELC(1) Rule:1
548	PEC	PE-1	23SGT3101R	DISTRIBUTED ENERGY RESOURCES AND SMART GRIDS	R	DERSG	3	0	2	4	5	9	ELC(1) Rule:1
549	PEC	PE-1	23SMF3101A	REVERSE ENGINEERING & RAPID PROTOTYPING	A	MMC	4	0	4	4	7	12	MSM(1) Rule:3
550	PEC	PE-1	23SMF3101E	REVERSE ENGINEERING & RAPID PROTOTYPING	E	MMC	4	0	4	4	7	12	MSM(1) Rule:3
551	PEC	PE-1	23SMF3101R	REVERSE ENGINEERING & RAPID PROTOTYPING	R	MMC	3	0	2	4	5	9	MSM(1) Rule:3
552	PEC	PE-1	23RAN3101A	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	A	RMPDC	4	0	4	4	7	12	FOR(1) Rule:3
553	PEC	PE-1	23RAN3101E	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	E	RMPDC	4	0	4	4	7	12	FOR(1) Rule:3
554	PEC	PE-1	23RAN3101R	ROBOT MOTION PLANNING, DYNAMICS AND CONTROL	R	RMPDC	3	0	2	4	5	9	FOR(1) Rule:3
555	PEC	PE-1	23RAN3102A	AUTONOMOUS MOBILE ROBOT SYSTEMS	A	AMRS	4	0	4	4	7	12	FOR(1) Rule:3
556	PEC	PE-1	23RAN3102E	AUTONOMOUS MOBILE ROBOT SYSTEMS	E	AMRS	4	0	4	4	7	12	FOR(1) Rule:3
557	PEC	PE-1	23RAN3102R	AUTONOMOUS MOBILE ROBOT SYSTEMS	R	AMRS	3	0	2	4	5	9	FOR(1) Rule:3
558	PEC	PE-1	23RFM3101A	MICROWAVE ENGINEERING	A	ME	4	0	4	4	7	12	
559	PEC	PE-1	23RFM3101E	MICROWAVE ENGINEERING	E	ME	4	0	4	4	7	12	
560	PEC	PE-1	23RFM3101R	MICROWAVE ENGINEERING	R	ME	3	0	2	4	5	9	
561	PEC	PE-1	23MBT3101A	STEM CELL TECHNOLOGY	A	SCT	4	0	4	4	7	12	RACT(1) Rule:3
562	PEC	PE-1	23MBT3101E	STEM CELL TECHNOLOGY	E	SCT	4	0	4	4	7	12	RACT(1) Rule:3
563	PEC	PE-1	23MBT3101R	STEM CELL TECHNOLOGY	R	SCT	3	0	2	4	5	9	RACT(1) Rule:3
564	PEC	PE-1	23GEG3101A	MOLECULAR GENETICS	A	MG	4	0	4	4	7	12	GN(1) Rule:3
565	PEC	PE-1	23GEG3101E	MOLECULAR GENETICS	E	MG	4	0	4	4	7	12	GN(1) Rule:3

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566	PEC	PE-1	23GEG3101R	MOLECULAR GENETICS	R	MG	3	0	2	4	5	9	GN(1) Rule:3
567	PEC	PE-1	23GET3101A	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	A	SPMET	4	0	4	4	7	12	ELC(1) Rule:3
568	PEC	PE-1	23GET3101E	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	E	SPMET	4	0	4	4	7	12	ELC(1) Rule:3
569	PEC	PE-1	23GET3101R	SOLAR PV AND MICRO ENERGY TECHNOLOGIES	R	SPMET	3	0	2	4	5	9	ELC(1) Rule:3
570	PEC	PE-1	23SCI3101A	SPATIAL DATA VISUALIZATION	A	SDV	4	0	4	4	7	12	
571	PEC	PE-1	23SCI3101E	SPATIAL DATA VISUALIZATION	E	SDV	4	0	4	4	7	12	
572	PEC	PE-1	23SCI3101R	SPATIAL DATA VISUALIZATION	R	SDV	3	0	2	4	5	9	
573	PEC	PE-1	23GTE3101A	ADVANCED FOUNDATION ENGINEERING	A	AFE	4	0	4	4	7	12	SM(1) Rule:3
574	PEC	PE-1	23GTE3101E	ADVANCED FOUNDATION ENGINEERING	E	AFE	4	0	4	4	7	12	SM(1) Rule:3
575	PEC	PE-1	23GTE3101R	ADVANCED FOUNDATION ENGINEERING	R	AFE	3	0	2	4	5	9	SM(1) Rule:3
576	PEC	PE-1	23CID3101A	CLOUD INFRASTRUCTURE ENGINEERING	A	CIE	4	0	4	4	7	12	OS(1) Rule:3
577	PEC	PE-1	23CID3101E	CLOUD INFRASTRUCTURE ENGINEERING	E	CIE	4	0	4	4	7	12	OS(1) Rule:3
578	PEC	PE-1	23CID3101R	CLOUD INFRASTRUCTURE ENGINEERING	R	CIE	3	0	2	4	5	9	OS(1) Rule:3
579	PEC	PE-1	23CEC3101A	CLOUD INFRASTRUCTURE AND SERVICES	A	CIS	4	0	4	4	7	12	OS(1) Rule:3
580	PEC	PE-1	23CEC3101E	CLOUD INFRASTRUCTURE AND SERVICES	E	CIS	4	0	4	4	7	12	OS(1) Rule:3
581	PEC	PE-1	23CEC3101R	CLOUD INFRASTRUCTURE AND SERVICES	R	CIS	3	0	2	4	5	9	OS(1) Rule:3
582	PEC	PE-1	23BMI3101A	BIOMEDICAL SIGNAL AND IMAGE PROCESSING	A	BSIP	4	0	4	4	7	12	
583	PEC	PE-1	23BMI3101E	BIOMEDICAL SIGNAL AND IMAGE PROCESSING	E	BSIP	4	0	4	4	7	12	
584	PEC	PE-1	23BMI3101R	BIOMEDICAL SIGNAL AND IMAGE PROCESSING	R	BSIP	3	0	2	4	5	9	
585	PEC	PE-1	23CCF3101A	TCP/IP & OTHER PROTOCOL SUITE	A	TCP	4	0	4	4	7	12	RNW(1) Rule:3
586	PEC	PE-1	23CCF3101E	TCP/IP & OTHER PROTOCOL SUITE	E	TCP	4	0	4	4	7	12	RNW(1) Rule:3
587	PEC	PE-1	23CCF3101R	TCP/IP & OTHER PROTOCOL SUITE	R	TCP	3	0	2	4	5	9	RNW(1) Rule:3
588	PEC	PE-1	23CTM3101A	BUILDING INFORMATION MODELLING	A	BIM	4	0	4	4	7	12	

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589	PEC	PE-1	23CTM3101E	BUILDING INFORMATION MODELLING	E	BIM	4	0	4	4	7	12	
590	PEC	PE-1	23CTM3101R	BUILDING INFORMATION MODELLING	R	BIM	3	0	2	4	5	9	
591	PEC	PE-1	23CNE3101A	FOUNDATIONS OF CLOUD NATIVE COMPUTING	A	FCNC	4	0	4	4	7	12	OS(1) Rule:3
592	PEC	PE-1	23CNE3101E	FOUNDATIONS OF CLOUD NATIVE COMPUTING	E	FCNC	4	0	4	4	7	12	OS(1) Rule:3
593	PEC	PE-1	23CNE3101R	FOUNDATIONS OF CLOUD NATIVE COMPUTING	R	FCNC	3	0	2	4	5	9	OS(1) Rule:3
594	PEC	PE-1	23CSC3101A	FUNDAMENTALS OF CLOUD-BASED SCIENTIFIC COMPUTING	A	FCS	4	0	4	4	7	12	OS(1) Rule:3
595	PEC	PE-1	23CSC3101E	FUNDAMENTALS OF CLOUD-BASED SCIENTIFIC COMPUTING	E	FCS	4	0	4	4	7	12	OS(1) Rule:3
596	PEC	PE-1	23CSC3101R	FUNDAMENTALS OF CLOUD-BASED SCIENTIFIC COMPUTING	R	FCS	3	0	2	4	5	9	OS(1) Rule:3
597	PEC	PE-1	23HDA3101A	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	A	ISDPDD	4	0	4	4	7	12	CDS(1) Rule:3
598	PEC	PE-1	23HDA3101E	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	E	ISDPDD	4	0	4	4	7	12	CDS(1) Rule:3
599	PEC	PE-1	23HDA3101R	INTELLIGENT SYSTEMS FOR DISEASE PREDICTION & DRUG DISCOVERY	R	ISDPDD	3	0	2	4	5	9	CDS(1) Rule:3
600	PEC	PE-1	23AVI3101A	DEEP LEARNING	A	DL	4	0	4	4	7	12	AIML(1) Rule:3
601	PEC	PE-1	23AVI3101E	DEEP LEARNING	E	DL	4	0	4	4	7	12	AIML(1) Rule:3
602	PEC	PE-1	23AVI3101R	DEEP LEARNING	R	DL	3	0	2	4	5	9	AIML(1) Rule:3
603	PEC	PE-1	23ALT3101A	APPLIED MACHINE LEARNING FOR TEXT ANALYSIS	A	AMLFTA	4	0	4	4	7	12	AIML(1) Rule:3
604	PEC	PE-1	23ALT3101E	APPLIED MACHINE LEARNING FOR TEXT ANALYSIS	E	AMLFTA	4	0	4	4	7	12	AIML(1) Rule:3
605	PEC	PE-1	23ALT3101R	APPLIED MACHINE LEARNING FOR TEXT ANALYSIS	R	AMLFTA	3	0	2	4	5	9	AIML(1) Rule:3
606	PEC	PE-1	23HSS3101A	INTRODUCTION TO HARDWARE-SOFTWARE CO-DESIGN	A	ITHSCD	4	0	4	4	7	12	NPS(1) Rule:3
607	PEC	PE-1	23HSS3101E	INTRODUCTION TO HARDWARE-SOFTWARE CO-DESIGN	E	ITHSCD	4	0	4	4	7	12	NPS(1) Rule:3
608	PEC	PE-1	23HSS3101R	INTRODUCTION TO HARDWARE-SOFTWARE CO-DESIGN	R	ITHSCD	3	0	2	4	5	9	NPS(1) Rule:3
609	PEC	PE-1	23BIS3101A	MOLECULAR MODELLING AND DRUG DESIGN	A	MMDD	4	0	4	4	7	12	CB(1) Rule:3
610	PEC	PE-1	23BIS3101E	MOLECULAR MODELLING AND DRUG DESIGN	E	MMDD	4	0	4	4	7	12	CB(1) Rule:3
611	PEC	PE-1	23BIS3101R	MOLECULAR MODELLING AND DRUG DESIGN	R	MMDD	3	0	2	4	5	9	CB(1) Rule:3

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612	PEC	PE-1	23ADE3101A	EDGE COMPUTING FUNDAMENTALS	A	ECF	4	0	4	4	7	12	OS(1) Rule:3
613	PEC	PE-1	23ADE3101E	EDGE COMPUTING FUNDAMENTALS	E	ECF	4	0	4	4	7	12	OS(1) Rule:3
614	PEC	PE-1	23ADE3101R	EDGE COMPUTING FUNDAMENTALS	R	ECF	3	0	2	4	5	9	OS(1) Rule:3
615	PEC	PE-1	23ABT3101A	BIOSENSORS AND BIOELECTRONICS	A	BSBE	4	0	4	4	7	12	GN(1) Rule:3
616	PEC	PE-1	23ABT3101E	BIOSENSORS AND BIOELECTRONICS	E	BSBE	4	0	4	4	7	12	GN(1) Rule:3
617	PEC	PE-1	23ABT3101R	BIOSENSORS AND BIOELECTRONICS	R	BSBE	3	0	2	4	5	9	GN(1) Rule:3
618	PEC	PE-1	23ACI3101A	GENERATIVE ADVERSARIAL NETWORKS	A	GANS	4	0	4	4	7	12	AIML(1) Rule:3
619	PEC	PE-1	23ACI3101E	GENERATIVE ADVERSARIAL NETWORKS	E	GANS	4	0	4	4	7	12	AIML(1) Rule:3
620	PEC	PE-1	23ACI3101R	GENERATIVE ADVERSARIAL NETWORKS	R	GANS	3	0	2	4	5	9	AIML(1) Rule:3
621	PEC	PE-1	23IBT3101A	PHARMACEUTICAL BIOTECHNOLOGY	A	PBT	4	0	4	4	7	12	BO(1) Rule:3
622	PEC	PE-1	23IBT3101E	PHARMACEUTICAL BIOTECHNOLOGY	E	PBT	4	0	4	4	7	12	BO(1) Rule:3
623	PEC	PE-1	23IBT3101R	PHARMACEUTICAL BIOTECHNOLOGY	R	PBT	3	0	2	4	5	9	BO(1) Rule:3
624	PEC	PE-1	23DSB3101A	DATA ANALYTICS AND VISUALIZATION	A	DAV	4	0	4	4	7	12	DBMS(1) Rule:3
625	PEC	PE-1	23DSB3101E	DATA ANALYTICS AND VISUALIZATION	E	DAV	4	0	4	4	7	12	DBMS(1) Rule:3
626	PEC	PE-1	23DSB3101R	DATA ANALYTICS AND VISUALIZATION	R	DAV	3	0	2	4	5	9	DBMS(1) Rule:3
627	PEC	PE-1	23CPS3101A	IOT SENSING AND ACTUATING DEVICES	A	ISAD	4	0	4	4	7	12	NPS(1) Rule:3
628	PEC	PE-1	23CPS3101E	IOT SENSING AND ACTUATING DEVICES	E	ISAD	4	0	4	4	7	12	NPS(1) Rule:3
629	PEC	PE-1	23CPS3101R	IOT SENSING AND ACTUATING DEVICES	R	ISAD	3	0	2	4	5	9	NPS(1) Rule:3
630	PEC	PE-1	23SDM3101A	SENTIMENT ANALYSIS	A	SA	4	0	4	4	7	12	DBMS(1) Rule:3
631	PEC	PE-1	23SDM3101E	SENTIMENT ANALYSIS	E	SA	4	0	4	4	7	12	DBMS(1) Rule:3
632	PEC	PE-1	23SDM3101R	SENTIMENT ANALYSIS	R	SA	3	0	2	4	5	9	DBMS(1) Rule:3
633	PEC	PE-1	23CSB3101A	CRYPT ANALYSIS & CYBER DEFENSE	A	CACD	4	0	4	4	7	12	NPS(1) Rule:3
634	PEC	PE-1	23CSB3101E	CRYPT ANALYSIS & CYBER DEFENSE	E	CACD	4	0	4	4	7	12	NPS(1) Rule:3

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635	PEC	PE-1	23CSB3101R	CRYPT ANALYSIS & CYBER DEFENSE	R	CACD	3	0	2	4	5	9	NPS(1) Rule:3
636	PEC	PE-1	23BEW3101A	INTRODUCTION TO BLOCKCHAIN TECHNOLOGY, CRYPTOCURRENCIES AND TOKENS	A	ITBTCT	4	0	4	4	7	12	
637	PEC	PE-1	23BEW3101E	INTRODUCTION TO BLOCKCHAIN TECHNOLOGY, CRYPTOCURRENCIES AND TOKENS	E	ITBTCT	4	0	4	4	7	12	
638	PEC	PE-1	23BEW3101R	INTRODUCTION TO BLOCKCHAIN TECHNOLOGY, CRYPTOCURRENCIES AND TOKENS	R	ITBTCT	3	0	2	4	5	9	
639	PEC	PE-1	23DLA3101A	SYSTEM & NETWORK TRAFFIC SECURITY ANALYTICS	A	SNTSA	4	0	4	4	7	12	DBMS(1) Rule:3
640	PEC	PE-1	23DLA3101E	SYSTEM & NETWORK TRAFFIC SECURITY ANALYTICS	E	SNTSA	4	0	4	4	7	12	DBMS(1) Rule:3
641	PEC	PE-1	23DLA3101R	SYSTEM & NETWORK TRAFFIC SECURITY ANALYTICS	R	SNTSA	3	0	2	4	5	9	DBMS(1) Rule:3
642	PEC	PE-1	23CNS3101A	INTRODUCTION TO CLOUD NATIVE COMPUTING	A	ITCNC	4	0	4	4	7	12	OS(1) Rule:3
643	PEC	PE-1	23CNS3101E	INTRODUCTION TO CLOUD NATIVE COMPUTING	E	ITCNC	4	0	4	4	7	12	OS(1) Rule:3
644	PEC	PE-1	23CNS3101R	INTRODUCTION TO CLOUD NATIVE COMPUTING	R	ITCNC	3	0	2	4	5	9	OS(1) Rule:3
645	PEC	PE-1	23DCS3101A	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	A	4GW	4	0	4	4	7	12	WC(1) Rule:3
646	PEC	PE-1	23DCS3101E	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	E	4GW	4	0	4	4	7	12	WC(1) Rule:3
647	PEC	PE-1	23DCS3101R	4G WIRELESS TECHNOLOGIES AND CELLULAR COMMUNICATION	R	4GW	3	0	2	4	5	9	WC(1) Rule:3
648	PEC	PE-1	23GDU3101A	PROGRAMMING FOR GAME DEVELOPMENT	A	PGD	4	0	4	4	7	12	CTSD(1) Rule:1
649	PEC	PE-1	23GDU3101E	PROGRAMMING FOR GAME DEVELOPMENT	E	PGD	4	0	4	4	7	12	CTSD(1) Rule:1
650	PEC	PE-1	23GDU3101R	PROGRAMMING FOR GAME DEVELOPMENT	R	PGD	3	0	2	4	5	9	CTSD(1) Rule:1
651	PEC	PE-1	23CPD3101A	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	A	FMAD	4	0	4	4	7	12	
652	PEC	PE-1	23CPD3101E	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	E	FMAD	4	0	4	4	7	12	
653	PEC	PE-1	23CPD3101R	FUNDAMENTALS OF MOBILE APPLICATION DEVELOPMENT	R	FMAD	3	0	2	4	5	9	
654	PEC	PE-1	23IMP3101A	NATURAL LANGUAGE PROCESSING & APPLICATIONS	A	NLPA	4	0	4	4	7	12	DNA(1) Rule:3
655	PEC	PE-1	23IMP3101E	NATURAL LANGUAGE PROCESSING & APPLICATIONS	E	NLPA	4	0	4	4	7	12	DNA(1) Rule:3

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656	PEC	PE-1	23IMP3101R	NATURAL LANGUAGE PROCESSING & APPLICATIONS	R	NLPA	3	0	2	4	5	9	DNA(1) Rule:3
657	PEC	PE-1	23EGD3101A	MODELING ANALYSIS & DESIGN OF ROBOTIC SYSTEMS	A	MADRS	4	0	4	4	7	12	EM(1) Rule:3
658	PEC	PE-1	23EGD3101E	MODELING ANALYSIS & DESIGN OF ROBOTIC SYSTEMS	E	MADRS	4	0	4	4	7	12	EM(1) Rule:3
659	PEC	PE-1	23EGD3101R	MODELING ANALYSIS & DESIGN OF ROBOTIC SYSTEMS	R	MADRS	3	0	2	4	5	9	EM(1) Rule:3
660	PEC	PE-1	23ILA3101A	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	A	IIIoT	4	0	4	4	7	12	ELM(1) Rule:3
661	PEC	PE-1	23ILA3101E	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	E	IIIoT	4	0	4	4	7	12	ELM(1) Rule:3
662	PEC	PE-1	23ILA3101R	INTRODUCTION TO INDUSTRIAL INTERNET OF THINGS	R	IIIoT	3	0	2	4	5	9	ELM(1) Rule:3
663	PEC	PE-1	23EDS3101A	ADVANCED EMBEDDED SYSTEMS	A	AES	4	0	4	4	7	12	ESD(1) Rule:3
664	PEC	PE-1	23EDS3101E	ADVANCED EMBEDDED SYSTEMS	E	AES	4	0	4	4	7	12	ESD(1) Rule:3
665	PEC	PE-1	23EDS3101R	ADVANCED EMBEDDED SYSTEMS	R	AES	3	0	2	4	5	9	ESD(1) Rule:3
666	PEC	PE-1	23IOT3101A	INDUSTRIAL INTERNET OF THINGS	A	IIOT	4	0	4	4	7	12	FITS(1) Rule:3
667	PEC	PE-1	23IOT3101E	INDUSTRIAL INTERNET OF THINGS	E	IIOT	4	0	4	4	7	12	FITS(1) Rule:3
668	PEC	PE-1	23IOT3101R	INDUSTRIAL INTERNET OF THINGS	R	IIOT	3	0	2	4	5	9	FITS(1) Rule:3
669	PEC	PE-1	23ECF3101A	AUTOMOBILE ENGINEERING	A	AE	4	0	4	4	7	12	TD(1) Rule:3
670	PEC	PE-1	23ECF3101E	AUTOMOBILE ENGINEERING	E	AE	4	0	4	4	7	12	TD(1) Rule:3
671	PEC	PE-1	23ECF3101R	AUTOMOBILE ENGINEERING	R	AE	3	0	2	4	5	9	TD(1) Rule:3
672	PEC	PE-2	23ECF3202A	AUTOTRONICS & SAFETY	A	ATS	5	0	0	0	5	5	TD(1) Rule:3
673	PEC	PE-2	23ECF3202E	AUTOTRONICS & SAFETY	E	ATS	5	0	0	0	5	5	TD(1) Rule:3
674	PEC	PE-2	23ECF3202R	AUTOTRONICS & SAFETY	R	ATS	3	0	0	0	3	3	TD(1) Rule:3
675	PEC	PE-2	23ECF3203A	AUTONOMOUS VEHICLES	A	AV	5	0	0	0	5	5	TD(1) Rule:3
676	PEC	PE-2	23ECF3203E	AUTONOMOUS VEHICLES	E	AV	5	0	0	0	5	5	TD(1) Rule:3
677	PEC	PE-2	23ECF3203R	AUTONOMOUS VEHICLES	R	AV	3	0	0	0	3	3	TD(1) Rule:3
678	PEC	PE-2	23IOT3202A	EDGE COMPUTING	A	EC	5	0	0	0	5	5	FITS(1) Rule:3

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679	PEC	PE-2	23IOT3202E	EDGE COMPUTING	E	EC	5	0	0	0	5	5	FITS(1) Rule:3
680	PEC	PE-2	23IOT3202R	EDGE COMPUTING	R	EC	3	0	0	0	3	3	FITS(1) Rule:3
681	PEC	PE-2	23EDS3202A	EMBEDDED SYSTEMS FOR IOT	A	ESIOT	5	0	0	0	5	5	ESD(1) Rule:3
682	PEC	PE-2	23EDS3202E	EMBEDDED SYSTEMS FOR IOT	E	ESIOT	5	0	0	0	5	5	ESD(1) Rule:3
683	PEC	PE-2	23EDS3202R	EMBEDDED SYSTEMS FOR IOT	R	ESIOT	3	0	0	0	3	3	ESD(1) Rule:3
684	PEC	PE-2	23ILA3202A	INDUSTRIAL AUTOMATION AND ROBOTICS	A	IAR	5	0	0	0	5	5	ELM(1) Rule:3
685	PEC	PE-2	23ILA3202E	INDUSTRIAL AUTOMATION AND ROBOTICS	E	IAR	5	0	0	0	5	5	ELM(1) Rule:3
686	PEC	PE-2	23ILA3202R	INDUSTRIAL AUTOMATION AND ROBOTICS	R	IAR	3	0	0	0	3	3	ELM(1) Rule:3
687	PEC	PE-2	23ILA3203A	EDGE COMPUTING FOR INDUSTRY 4.0	A	ECI	5	0	0	0	5	5	ELM(1) Rule:3
688	PEC	PE-2	23ILA3203E	EDGE COMPUTING FOR INDUSTRY 4.0	E	ECI	5	0	0	0	5	5	ELM(1) Rule:3
689	PEC	PE-2	23ILA3203R	EDGE COMPUTING FOR INDUSTRY 4.0	R	ECI	3	0	0	0	3	3	ELM(1) Rule:3
690	PEC	PE-2	23EGD3202A	CREEP, FATIGUE AND FRACTURE MECHANICS	A	CFFM	5	0	0	0	5	5	EM(1) Rule:3
691	PEC	PE-2	23EGD3202E	CREEP, FATIGUE AND FRACTURE MECHANICS	E	CFFM	5	0	0	0	5	5	EM(1) Rule:3
692	PEC	PE-2	23EGD3202R	CREEP, FATIGUE AND FRACTURE MECHANICS	R	CFFM	3	0	0	0	3	3	EM(1) Rule:3
693	PEC	PE-2	23EGD3203A	THEORY OF ELASTICITY AND PLASTICITY	A	TEP	5	0	0	0	5	5	EM(1) Rule:3
694	PEC	PE-2	23EGD3203E	THEORY OF ELASTICITY AND PLASTICITY	E	TEP	5	0	0	0	5	5	EM(1) Rule:3
695	PEC	PE-2	23EGD3203R	THEORY OF ELASTICITY AND PLASTICITY	R	TEP	3	0	0	0	3	3	EM(1) Rule:3
696	PEC	PE-2	23CPD3202A	REACT NATIVE FOR ANDROID AND IOS DEVELOPMENT	A	RNA	5	0	0	0	5	5	
697	PEC	PE-2	23CPD3202E	REACT NATIVE FOR ANDROID AND IOS DEVELOPMENT	E	RNA	5	0	0	0	5	5	
698	PEC	PE-2	23CPD3202R	REACT NATIVE FOR ANDROID AND IOS DEVELOPMENT	R	RNA	3	0	0	0	3	3	
699	PEC	PE-2	23CPD3203A	FRAMEWORK BASED CROSS PLATFORM APP DEVELOPMENT	A	FBCPD	5	0	0	0	5	5	
700	PEC	PE-2	23CPD3203E	FRAMEWORK BASED CROSS PLATFORM APP DEVELOPMENT	E	FBCPD	5	0	0	0	5	5	
701	PEC	PE-2	23CPD3203R	FRAMEWORK BASED CROSS PLATFORM APP DEVELOPMENT	R	FBCPD	3	0	0	0	3	3	

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702	PEC	PE-2	23GDU3202A	UX DESIGN	A	UD	5	0	0	0	5	5	CTSD(1) Rule:1
703	PEC	PE-2	23GDU3202E	UX DESIGN	E	UD	5	0	0	0	5	5	CTSD(1) Rule:1
704	PEC	PE-2	23GDU3202R	UX DESIGN	R	UD	3	0	0	0	3	3	CTSD(1) Rule:1
705	PEC	PE-2	23DCS3202A	MODERN SATELLITE COMMUNICATION SYSTEMS	A	MSCS	5	0	0	0	5	5	WC(1) Rule:3
706	PEC	PE-2	23DCS3202E	MODERN SATELLITE COMMUNICATION SYSTEMS	E	MSCS	5	0	0	0	5	5	WC(1) Rule:3
707	PEC	PE-2	23DCS3202R	MODERN SATELLITE COMMUNICATION SYSTEMS	R	MSCS	3	0	0	0	3	3	WC(1) Rule:3
708	PEC	PE-2	23CNS3202A	FUNDAMENTALS OF CLOUD SECURITY	A	FOCS	5	0	0	0	5	5	OS(1) Rule:3
709	PEC	PE-2	23CNS3202E	FUNDAMENTALS OF CLOUD SECURITY	E	FOCS	5	0	0	0	5	5	OS(1) Rule:3
710	PEC	PE-2	23CNS3202R	FUNDAMENTALS OF CLOUD SECURITY	R	FOCS	3	0	0	0	3	3	OS(1) Rule:3
711	PEC	PE-2	23DLA3202A	AUTOMATED NETWORK ANALYSIS	A	ANA	5	0	0	0	5	5	DBMS(1) Rule:3
712	PEC	PE-2	23DLA3202E	AUTOMATED NETWORK ANALYSIS	E	ANA	5	0	0	0	5	5	DBMS(1) Rule:3
713	PEC	PE-2	23DLA3202R	AUTOMATED NETWORK ANALYSIS	R	ANA	3	0	0	0	3	3	DBMS(1) Rule:3
714	PEC	PE-2	23DLA3203A	BLOCKCHAIN TECHNOLOGY FOR DIGITAL TRANSFORMATION	A	BTDT	5	0	0	0	5	5	DBMS(1) Rule:3
715	PEC	PE-2	23DLA3203E	BLOCKCHAIN TECHNOLOGY FOR DIGITAL TRANSFORMATION	E	BTDT	5	0	0	0	5	5	DBMS(1) Rule:3
716	PEC	PE-2	23DLA3203R	BLOCKCHAIN TECHNOLOGY FOR DIGITAL TRANSFORMATION	R	BTDT	3	0	0	0	3	3	DBMS(1) Rule:3
717	PEC	PE-2	23BEW3202A	SMART CONTRACTS	A	SCR	5	0	0	0	5	5	
718	PEC	PE-2	23BEW3202E	SMART CONTRACTS	E	SCR	5	0	0	0	5	5	
719	PEC	PE-2	23BEW3202R	SMART CONTRACTS	R	SCR	3	0	0	0	3	3	
720	PEC	PE-2	23CSB3202A	NETWORK AND INFRASTRUCTURE SECURITY	A	NIS	5	0	0	0	5	5	NPS(1) Rule:3
721	PEC	PE-2	23CSB3202E	NETWORK AND INFRASTRUCTURE SECURITY	E	NIS	5	0	0	0	5	5	NPS(1) Rule:3
722	PEC	PE-2	23CSB3202R	NETWORK AND INFRASTRUCTURE SECURITY	R	NIS	3	0	0	0	3	3	NPS(1) Rule:3
723	PEC	PE-2	23CSB3203A	INTRODUCTION TO BLOCKCHAIN AND CRYPTO CURRENCIES	A	IBCC	3	0	4	0	5	7	NPS(1) Rule:3
724	PEC	PE-2	23CSB3203E	INTRODUCTION TO BLOCKCHAIN AND CRYPTO CURRENCIES	E	IBCC	3	0	4	0	5	7	NPS(1) Rule:3

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725	PEC	PE-2	23CSB3203R	INTRODUCTION TO BLOCKCHAIN AND CRYPTO CURRENCIES	R	IBCC	2	0	2	0	3	4	NPS(1) Rule:3
726	PEC	PE-2	23SDM3202A	OPINION MINING & RECOMMENDER SYSTEMS	A	OMRS	5	0	0	0	5	5	DBMS(1) Rule:3
727	PEC	PE-2	23SDM3202E	OPINION MINING & RECOMMENDER SYSTEMS	E	OMRS	5	0	0	0	5	5	DBMS(1) Rule:3
728	PEC	PE-2	23SDM3202R	OPINION MINING & RECOMMENDER SYSTEMS	R	OMRS	3	0	0	0	3	3	DBMS(1) Rule:3
729	PEC	PE-2	23SDM3203A	META SOCIAL MEDIA ANALYTICS	A	MSMA	5	0	0	0	5	5	DBMS(1) Rule:3
730	PEC	PE-2	23CPS3202A	INTERNET OF THINGS ARCHITECTURES AND PROTOCOLS	A	IOTAP	5	0	0	0	5	5	NPS(1) Rule:3
731	PEC	PE-2	23CPS3202E	INTERNET OF THINGS ARCHITECTURES AND PROTOCOLS	E	IOTAP	5	0	0	0	5	5	NPS(1) Rule:3
732	PEC	PE-2	23CPS3202R	INTERNET OF THINGS ARCHITECTURES AND PROTOCOLS	R	IOTAP	3	0	0	0	3	3	NPS(1) Rule:3
733	PEC	PE-2	23SDM3203R	META SOCIAL MEDIA ANALYTICS	R	MSMA	3	0	0	0	3	3	DBMS(1) Rule:3
734	PEC	PE-2	23DSB3202A	DATA WAREHOUSING AND MINING	A	DWHM	5	0	0	0	5	5	DBMS(1) Rule:3
735	PEC	PE-2	23DSB3202E	DATA WAREHOUSING AND MINING	E	DWHM	5	0	0	0	5	5	DBMS(1) Rule:3
736	PEC	PE-2	23DSB3202R	DATA WAREHOUSING AND MINING	R	DWHM	3	0	0	0	3	3	DBMS(1) Rule:3
737	PEC	PE-2	23HDA3204A	PYTHON FOR GENOMIC DATA SCIENCE	A	PFGDS	5	0	0	0	5	5	CDS(1) Rule:3
738	PEC	PE-2	23HDA3204E	PYTHON FOR GENOMIC DATA SCIENCE	E	PFGDS	5	0	0	0	5	5	CDS(1) Rule:3
739	PEC	PE-2	23HDA3204R	PYTHON FOR GENOMIC DATA SCIENCE	R	PFGDS	3	0	0	0	3	3	CDS(1) Rule:3
740	PEC	PE-2	23IMP3202A	DATA ENGINEERING	A	DE	5	0	0	0	5	5	DNA(1) Rule:3
741	PEC	PE-2	23IMP3202E	DATA ENGINEERING	E	DE	5	0	0	0	5	5	DNA(1) Rule:3
742	PEC	PE-2	23IMP3202R	DATA ENGINEERING	R	DE	3	0	0	0	3	3	DNA(1) Rule:3
743	PEC	PE-2	23IBT3202A	PHARMACOVIGILANCE AND SAFETY	A	PCS	5	0	0	0	5	5	BO(1) Rule:3
744	PEC	PE-2	23IBT3202E	PHARMACOVIGILANCE AND SAFETY	E	PCS	5	0	0	0	5	5	BO(1) Rule:3
745	PEC	PE-2	23IBT3202R	PHARMACOVIGILANCE AND SAFETY	R	PCS	3	0	0	0	3	3	BO(1) Rule:3
746	PEC	PE-2	23IBT3203A	BIOPROCESS ECONOMICS AND PLANT DESIGN	A	BEPD	5	0	0	0	5	5	BO(1) Rule:3
747	PEC	PE-2	23IBT3203E	BIOPROCESS ECONOMICS AND PLANT DESIGN	E	BEPD	5	0	0	0	5	5	BO(1) Rule:3

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748	PEC	PE-2	23IBT3203R	BIOPROCESS ECONOMICS AND PLANT DESIGN	R	BEPD	3	0	0	0	3	3	BO(1) Rule:3
749	PEC	PE-2	23ACI3202A	EXPLAINABLE AI AND COMMUNICATIONS	A	EAIC	5	0	0	0	5	5	AIML(1) Rule:3
750	PEC	PE-2	23ACI3202E	EXPLAINABLE AI AND COMMUNICATIONS	E	EAIC	5	0	0	0	5	5	AIML(1) Rule:3
751	PEC	PE-2	23ACI3202R	EXPLAINABLE AI AND COMMUNICATIONS	R	EAIC	3	0	0	0	3	3	AIML(1) Rule:3
752	PEC	PE-2	23ABT3202A	IOT APPLICATIONS IN PRECISION AGRICULTURE	A	IOTAPA	5	0	0	0	5	5	GN(1) Rule:3
753	PEC	PE-2	23ABT3202E	IOT APPLICATIONS IN PRECISION AGRICULTURE	E	IOTAPA	5	0	0	0	5	5	GN(1) Rule:3
754	PEC	PE-2	23ABT3202R	IOT APPLICATIONS IN PRECISION AGRICULTURE	R	IOTAPA	3	0	0	0	3	3	GN(1) Rule:3
755	PEC	PE-2	23ABT3203A	MACHINE LEARNING FOR PRECISION AGRICULTURE	A	MLPA	5	0	0	0	5	5	GN(1) Rule:3
756	PEC	PE-2	23ABT3203E	MACHINE LEARNING FOR PRECISION AGRICULTURE	E	MLPA	5	0	0	0	5	5	GN(1) Rule:3
757	PEC	PE-2	23ABT3203R	MACHINE LEARNING FOR PRECISION AGRICULTURE	R	MLPA	3	0	0	0	3	3	GN(1) Rule:3
758	PEC	PE-2	23ADE3202A	AI AT THE EDGE	A	AIAE	5	0	0	0	5	5	OS(1) Rule:3
759	PEC	PE-2	23ADE3202E	AI AT THE EDGE	E	AIAE	5	0	0	0	5	5	OS(1) Rule:3
760	PEC	PE-2	23ADE3202R	AI AT THE EDGE	R	AIAE	3	0	0	0	3	3	OS(1) Rule:3
761	PEC	PE-2	23AIP3202A	SOFT COMPUTING	A	SC	5	0	0	0	5	5	
762	PEC	PE-2	23AIP3202E	SOFT COMPUTING	E	SC	5	0	0	0	5	5	
763	PEC	PE-2	23AIP3202R	SOFT COMPUTING	R	SC	3	0	0	0	3	3	
764	PEC	PE-2	23AIP3203A	MULTI MODAL INFORMATION PROCESSING	A	MMIP	3	0	4	0	5	7	
765	PEC	PE-2	23AIP3203E	MULTI MODAL INFORMATION PROCESSING	E	MMIP	3	0	4	0	5	7	
766	PEC	PE-2	23AIP3203R	MULTI MODAL INFORMATION PROCESSING	R	MMIP	2	0	2	0	3	4	
767	PEC	PE-2	23AIP3204A	ARTIFICIAL NEURAL NETWORKS	A	ANN	5	0	0	0	5	5	
768	PEC	PE-2	23AIP3204E	ARTIFICIAL NEURAL NETWORKS	E	ANN	5	0	0	0	5	5	
769	PEC	PE-2	23AIP3204R	ARTIFICIAL NEURAL NETWORKS	R	ANN	3	0	0	0	3	3	
770	PEC	PE-2	23BIS3202A	BIOMEDICAL INFORMATICS	A	BMI	5	0	0	0	5	5	CB(1) Rule:3
771	PEC	PE-2	23BIS3202E	BIOMEDICAL INFORMATICS	E	BMI	5	0	0	0	5	5	CB(1) Rule:3

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772	PEC	PE-2	23BIS3202R	BIOMEDICAL INFORMATICS	R	BMI	3	0	0	0	3	3	CB(1) Rule:3
773	PEC	PE-2	23BIS3203A	PYTHON AND R PROGRAMMING	A	P&RP	5	0	0	0	5	5	CB(1) Rule:3
774	PEC	PE-2	23BIS3203E	PYTHON AND R PROGRAMMING	E	P&RP	5	0	0	0	5	5	CB(1) Rule:3
775	PEC	PE-2	23BIS3203R	PYTHON AND R PROGRAMMING	R	P&RP	3	0	0	0	3	3	CB(1) Rule:3
776	PEC	PE-2	23HSS3202A	FUNDAMENTALS OF COMPUTER SECURITY	A	FOCS	5	0	0	0	5	5	NPS(1) Rule:3
777	PEC	PE-2	23HSS3202E	FUNDAMENTALS OF COMPUTER SECURITY	E	FOCS	5	0	0	0	5	5	NPS(1) Rule:3
778	PEC	PE-2	23HSS3202R	FUNDAMENTALS OF COMPUTER SECURITY	R	FOCS	3	0	0	0	3	3	NPS(1) Rule:3
779	PEC	PE-2	23ALT3202A	DEEP LEARNING FOR NATURAL LANGUAGE PROCESSING	A	DLFNLP	5	0	0	0	5	5	AIML(1) Rule:3
780	PEC	PE-2	23ALT3202E	DEEP LEARNING FOR NATURAL LANGUAGE PROCESSING	E	DLFNLP	5	0	0	0	5	5	AIML(1) Rule:3
781	PEC	PE-2	23ALT3202R	DEEP LEARNING FOR NATURAL LANGUAGE PROCESSING	R	DLFNLP	3	0	0	0	3	3	AIML(1) Rule:3
782	PEC	PE-2	23AVI3202A	COMPUTER VISION	A	CV	5	0	0	0	5	5	AIML(1) Rule:3
783	PEC	PE-2	23AVI3202E	COMPUTER VISION	E	CV	5	0	0	0	5	5	AIML(1) Rule:3
784	PEC	PE-2	23AVI3202R	COMPUTER VISION	R	CV	3	0	0	0	3	3	AIML(1) Rule:3
785	PEC	PE-2	23CSC3202A	DEVELOPMENT OF SCIENTIFIC APPLICATIONS USING CLOUD-BASED TECHNOLOGY	A	DSA	5	0	0	0	5	5	OS(1) Rule:3
786	PEC	PE-2	23CSC3202E	DEVELOPMENT OF SCIENTIFIC APPLICATIONS USING CLOUD-BASED TECHNOLOGY	E	DSA	5	0	0	0	5	5	OS(1) Rule:3
787	PEC	PE-2	23CSC3202R	DEVELOPMENT OF SCIENTIFIC APPLICATIONS USING CLOUD-BASED TECHNOLOGY	R	DSA	3	0	0	0	3	3	OS(1) Rule:3
788	PEC	PE-2	23CNE3202A	CLOUD NATIVE APPLICATION DEVELOPMENT	A	CNAD	5	0	0	0	5	5	OS(1) Rule:3
789	PEC	PE-2	23CNE3202E	CLOUD NATIVE APPLICATION DEVELOPMENT	E	CNAD	5	0	0	0	5	5	OS(1) Rule:3
790	PEC	PE-2	23CNE3202R	CLOUD NATIVE APPLICATION DEVELOPMENT	R	CNAD	3	0	0	0	3	3	OS(1) Rule:3
791	PEC	PE-2	23CTM3202A	ADVANCED CONSTRUCTION TECHNOLOGY	A	ACT	5	0	0	0	5	5	
792	PEC	PE-2	23CTM3202E	ADVANCED CONSTRUCTION TECHNOLOGY	E	ACT	5	0	0	0	5	5	

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793	PEC	PE-2	23CTM3202R	ADVANCED CONSTRUCTION TECHNOLOGY	R	ACT	3	0	0	0	3	3	
794	PEC	PE-2	23CTM3203A	SUSTAINABLE CONSTRUCTION TECHNOLOGY	A	SCT	5	0	0	0	5	5	
795	PEC	PE-2	23CTM3203E	SUSTAINABLE CONSTRUCTION TECHNOLOGY	E	SCT	5	0	0	0	5	5	
796	PEC	PE-2	23CTM3203R	SUSTAINABLE CONSTRUCTION TECHNOLOGY	R	SCT	3	0	0	0	3	3	
797	PEC	PE-2	23CCF3202A	CLOUD COMPUTING AND NETWORKS SECURITY	A	CCNS	5	0	0	0	5	5	RNW(1) Rule:3
798	PEC	PE-2	23CCF3202E	CLOUD COMPUTING AND NETWORKS SECURITY	E	CCNS	5	0	0	0	5	5	RNW(1) Rule:3
799	PEC	PE-2	23CCF3202R	CLOUD COMPUTING AND NETWORKS SECURITY	R	CCNS	3	0	0	0	3	3	RNW(1) Rule:3
800	PEC	PE-2	23BMI3202A	ADVANCED BIOMEDICAL SIGNAL PROCESSING	A	ABSP	5	0	0	0	5	5	
801	PEC	PE-2	23BMI3202E	ADVANCED BIOMEDICAL SIGNAL PROCESSING	E	ABSP	5	0	0	0	5	5	
802	PEC	PE-2	23BMI3202R	ADVANCED BIOMEDICAL SIGNAL PROCESSING	R	ABSP	3	0	0	0	3	3	
803	PEC	PE-2	23HDA3202A	BIO MEDICAL INFORMATICS	A	BMI	5	0	0	0	5	5	CDS(1) Rule:3
804	PEC	PE-2	23HDA3202E	BIO MEDICAL INFORMATICS	E	BMI	5	0	0	0	5	5	CDS(1) Rule:3
805	PEC	PE-2	23HDA3202R	BIO MEDICAL INFORMATICS	R	BMI	3	0	0	0	3	3	CDS(1) Rule:3
806	PEC	PE-2	23HDA3203A	GENETIC PROGRAMMING	A	GP	5	0	0	0	5	5	CDS(1) Rule:3
807	PEC	PE-2	23HDA3203E	GENETIC PROGRAMMING	E	GP	5	0	0	0	5	5	CDS(1) Rule:3
808	PEC	PE-2	23HDA3203R	GENETIC PROGRAMMING	R	GP	3	0	0	0	3	3	CDS(1) Rule:3
809	PEC	PE-2	23CEC3202A	ADVANCED OPERATING SYSTEMS	A	AOS	5	0	0	0	5	5	OS(1) Rule:3
810	PEC	PE-2	23CEC3202E	ADVANCED OPERATING SYSTEMS	E	AOS	5	0	0	0	5	5	OS(1) Rule:3
811	PEC	PE-2	23CEC3202R	ADVANCED OPERATING SYSTEMS	R	AOS	3	0	0	0	3	3	OS(1) Rule:3
812	PEC	PE-2	23CEC3203A	FUNCTIONAL & CONCURRENT PROGRAMMING	A	FCP	5	0	0	0	5	5	OS(1) Rule:3
813	PEC	PE-2	23CEC3203E	FUNCTIONAL & CONCURRENT PROGRAMMING	E	FCP	5	0	0	0	5	5	OS(1) Rule:3
814	PEC	PE-2	23CEC3203R	FUNCTIONAL & CONCURRENT PROGRAMMING	R	FCP	3	0	0	0	3	3	OS(1) Rule:3
815	PEC	PE-2	23CEC3204A	CLOUD DEVOPS	A	CD	5	0	0	0	5	5	OS(1) Rule:3

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816	PEC	PE-2	23CEC3204E	CLOUD DEVOPS	E	CD	5	0	0	0	5	5	OS(1) Rule:3
817	PEC	PE-2	23CEC3204R	CLOUD DEVOPS	R	CD	3	0	0	0	3	3	OS(1) Rule:3
818	PEC	PE-2	23CID3202A	ENTERPRISE CLOUD COMPUTING: TECHNOLOGY, ARCHITECTURE, APPLICATIONS	A	ECT	5	0	0	0	5	5	OS(1) Rule:3
819	PEC	PE-2	23CID3202E	ENTERPRISE CLOUD COMPUTING: TECHNOLOGY, ARCHITECTURE, APPLICATIONS	E	ECT	5	0	0	0	5	5	OS(1) Rule:3
820	PEC	PE-2	23CID3202R	ENTERPRISE CLOUD COMPUTING: TECHNOLOGY, ARCHITECTURE, APPLICATIONS	R	ECT	3	0	0	0	3	3	OS(1) Rule:3
821	PEC	PE-2	23GTE3202A	INTELLIGENT TRANSPORTATION SYSTEMS	A	ITS	5	0	0	0	5	5	SM(1) Rule:3
822	PEC	PE-2	23GTE3202E	INTELLIGENT TRANSPORTATION SYSTEMS	E	ITS	5	0	0	0	5	5	SM(1) Rule:3
823	PEC	PE-2	23GTE3202R	INTELLIGENT TRANSPORTATION SYSTEMS	R	ITS	3	0	0	0	3	3	SM(1) Rule:3
824	PEC	PE-2	23GTE3203A	GROUND IMPROVEMENT TECHNIQUES	A	GIT	5	0	0	0	5	5	SM(1) Rule:3
825	PEC	PE-2	23GTE3203E	GROUND IMPROVEMENT TECHNIQUES	E	GIT	5	0	0	0	5	5	SM(1) Rule:3
826	PEC	PE-2	23GTE3203R	GROUND IMPROVEMENT TECHNIQUES	R	GIT	3	0	0	0	3	3	SM(1) Rule:3
827	PEC	PE-2	23SCI3202A	SPATIAL COMPUTING FOR MULTIPLAYER GAMES	A	SCMG	5	0	0	0	5	5	
828	PEC	PE-2	23SCI3202E	SPATIAL COMPUTING FOR MULTIPLAYER GAMES	E	SCMG	5	0	0	0	5	5	
829	PEC	PE-2	23SCI3202R	SPATIAL COMPUTING FOR MULTIPLAYER GAMES	R	SCMG	3	0	0	0	3	3	
830	PEC	PE-2	23CPD3405M	UX DESIGN	M	UXD	3	0	0	0	3	3	
831	PEC	PE-2	23GET3202A	WIND AND ENERGY STORAGE TECHNOLOGIES	A	WEST	5	0	0	0	5	5	ELC(1) Rule:3
832	PEC	PE-2	23GET3202E	WIND AND ENERGY STORAGE TECHNOLOGIES	E	WEST	5	0	0	0	5	5	ELC(1) Rule:3
833	PEC	PE-2	23GET3202R	WIND AND ENERGY STORAGE TECHNOLOGIES	R	WEST	3	0	0	0	3	3	ELC(1) Rule:3
834	PEC	PE-2	23GET3203A	ENERGY ECONOMICS AND POLICY	A	EEP	5	0	0	0	5	5	ELC(1) Rule:3
835	PEC	PE-2	23GET3203E	ENERGY ECONOMICS AND POLICY	E	EEP	5	0	0	0	5	5	ELC(1) Rule:3
836	PEC	PE-2	23GET3203R	ENERGY ECONOMICS AND POLICY	R	EEP	3	0	0	0	3	3	ELC(1) Rule:3
837	PEC	PE-2	23GEG3202A	MOLECULAR EXPRESSION TECHNOLOGY	A	MET	5	0	0	0	5	5	GN(1) Rule:3

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838	PEC	PE-2	23GEG3202E	MOLECULAR EXPRESSION TECHNOLOGY	E	MET	5	0	0	0	5	5	GN(1) Rule:3
839	PEC	PE-2	23GEG3202R	MOLECULAR EXPRESSION TECHNOLOGY	R	MET	3	0	0	0	3	3	GN(1) Rule:3
840	PEC	PE-2	23GEG3203A	TRANSGENIC TECHNOLOGY	A	TT	5	0	0	0	5	5	GN(1) Rule:3
841	PEC	PE-2	23GEG3203E	TRANSGENIC TECHNOLOGY	E	TT	5	0	0	0	5	5	GN(1) Rule:3
842	PEC	PE-2	23GEG3203R	TRANSGENIC TECHNOLOGY	R	TT	3	0	0	0	3	3	GN(1) Rule:3
843	PEC	PE-2	23MBT3202A	VIROLOGY	A	VR	5	0	0	0	5	5	RACT(1) Rule:3
844	PEC	PE-2	23MBT3202E	VIROLOGY	E	VR	5	0	0	0	5	5	RACT(1) Rule:3
845	PEC	PE-2	23MBT3202R	VIROLOGY	R	VR	3	0	0	0	3	3	RACT(1) Rule:3
846	PEC	PE-2	23MBT3203A	NANOBIOTECHNOLOGY	A	NBT	5	0	0	0	5	5	RACT(1) Rule:3
847	PEC	PE-2	23MBT3203E	NANOBIOTECHNOLOGY	E	NBT	5	0	0	0	5	5	RACT(1) Rule:3
848	PEC	PE-2	23MBT3203R	NANOBIOTECHNOLOGY	R	NBT	3	0	0	0	3	3	RACT(1) Rule:3
849	PEC	PE-2	23RFM3202A	ADVANCED ANTENNA DESIGN FOR WIRELESS AND 5G APPLICATIONS	A	AADWA	5	0	0	0	5	5	
850	PEC	PE-2	23RFM3202E	ADVANCED ANTENNA DESIGN FOR WIRELESS AND 5G APPLICATIONS	E	AADWA	5	0	0	0	5	5	
851	PEC	PE-2	23RFM3202R	ADVANCED ANTENNA DESIGN FOR WIRELESS AND 5G APPLICATIONS	R	AADWA	3	0	0	0	3	3	
852	PEC	PE-2	23RAN3202A	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	A	AVAE	5	0	0	0	5	5	FOR(1) Rule:3
853	PEC	PE-2	23RAN3202E	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	E	AVAE	5	0	0	0	5	5	FOR(1) Rule:3
854	PEC	PE-2	23RAN3202R	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	R	AVAE	3	0	0	0	3	3	FOR(1) Rule:3
855	PEC	PE-2	23RAN3203A	ROBOT MANIPULATION AND WHEELED MOBILE ROBOTS	A	RMWR	5	0	0	0	5	5	FOR(1) Rule:3
856	PEC	PE-2	23RAN3203E	ROBOT MANIPULATION AND WHEELED MOBILE ROBOTS	E	RMWR	5	0	0	0	5	5	FOR(1) Rule:3
857	PEC	PE-2	23RAN3203R	ROBOT MANIPULATION AND WHEELED MOBILE ROBOTS	R	RMWR	3	0	0	0	3	3	FOR(1) Rule:3
858	PEC	PE-2	23SMF3202A	ADVANCED MATERIALS MANUFACTURING & TESTING	A	AMMT	5	0	0	0	5	5	MSM(1) Rule:3
859	PEC	PE-2	23SMF3202E	ADVANCED MATERIALS MANUFACTURING & TESTING	E	AMMT	5	0	0	0	5	5	MSM(1) Rule:3
860	PEC	PE-2	23SMF3202R	ADVANCED MATERIALS MANUFACTURING & TESTING	R	AMMT	3	0	0	0	3	3	MSM(1) Rule:3

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861	PEC	PE-2	23SMF3203A	MODERN MANUFACTURING PROCESSES	A	MMP	5	0	0	0	5	5	MSM(1) Rule:3
862	PEC	PE-2	23SMF3203E	MODERN MANUFACTURING PROCESSES	E	MMP	5	0	0	0	5	5	MSM(1) Rule:3
863	PEC	PE-2	23SMF3203R	MODERN MANUFACTURING PROCESSES	R	MMP	3	0	0	0	3	3	MSM(1) Rule:3
864	PEC	PE-2	23SGT3202A	DISTRIBUTION SYSTEM PRACTICES	A	DSP	5	0	0	0	5	5	ELC(1) Rule:3
865	PEC	PE-2	23SGT3202E	DISTRIBUTION SYSTEM PRACTICES	E	DSP	5	0	0	0	5	5	ELC(1) Rule:3
866	PEC	PE-2	23SGT3202R	DISTRIBUTION SYSTEM PRACTICES	R	DSP	3	0	0	0	3	3	ELC(1) Rule:3
867	PEC	PE-2	23SGT3203A	MICROGRID DYNAMICS AND CONTROL	A	MDC	5	0	0	0	5	5	ELC(1) Rule:1
868	PEC	PE-2	23SGT3203E	MICROGRID DYNAMICS AND CONTROL	E	MDC	5	0	0	0	5	5	ELC(1) Rule:1
869	PEC	PE-2	23SGT3203R	MICROGRID DYNAMICS AND CONTROL	R	MDC	3	0	0	0	3	3	ELC(1) Rule:1
870	PEC	PE-2	23AEA3202A	AUTOTRONICS	A	AT	5	0	0	0	5	5	ELM(1) Rule:3
871	PEC	PE-2	23AEA3202E	AUTOTRONICS	E	AT	5	0	0	0	5	5	ELM(1) Rule:3
872	PEC	PE-2	23AEA3202R	AUTOTRONICS	R	AT	3	0	0	0	3	3	ELM(1) Rule:3
873	PEC	PE-2	23AEA3203A	AUTOMOTIVE POLLUTION AND ITS CONTROL	A	APC	5	0	0	0	5	5	ELM(1) Rule:3
874	PEC	PE-2	23AEA3203E	AUTOMOTIVE POLLUTION AND ITS CONTROL	E	APC	5	0	0	0	5	5	ELM(1) Rule:3
875	PEC	PE-2	23AEA3203R	AUTOMOTIVE POLLUTION AND ITS CONTROL	R	APC	3	0	0	0	3	3	ELM(1) Rule:3
876	PEC	PE-2	23ASS3202A	INTRODUCTION TO INTELLIGENT DRONES	A	IID	5	0	0	0	5	5	AIML(1) Rule:3
877	PEC	PE-2	23ASS3202E	INTRODUCTION TO INTELLIGENT DRONES	E	IID	5	0	0	0	5	5	AIML(1) Rule:3
878	PEC	PE-2	23ASS3202R	INTRODUCTION TO INTELLIGENT DRONES	R	IID	3	0	0	0	3	3	AIML(1) Rule:3
879	PEC	PE-2	23ASS3203A	AI AND IOT FOR AUTONOMOUS VEHICLE	A	AIAV	5	0	0	0	5	5	AIML(1) Rule:3
880	PEC	PE-2	23ASS3203E	AI AND IOT FOR AUTONOMOUS VEHICLE	E	AIAV	5	0	0	0	5	5	AIML(1) Rule:3
881	PEC	PE-2	23ASS3203R	AI AND IOT FOR AUTONOMOUS VEHICLE	R	AIAV	3	0	0	0	3	3	AIML(1) Rule:3
882	PEC	PE-2	23STE3202A	ADVANCED STRUCTURAL ANALYSIS	A	ASA	5	0	0	0	5	5	EM(1) Rule:3
883	PEC	PE-2	23STE3202E	ADVANCED STRUCTURAL ANALYSIS	E	ASA	5	0	0	0	5	5	EM(1) Rule:3

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884	PEC	PE-2	23STE3202R	ADVANCED STRUCTURAL ANALYSIS	R	ASA	3	0	0	0	3	3	EM(1) Rule:3
885	PEC	PE-2	23STE3203A	ADVANCED DESIGN OF STEEL STRUCTURE	A	ADSS	5	0	0	0	5	5	EM(1) Rule:3
886	PEC	PE-2	23STE3203E	ADVANCED DESIGN OF STEEL STRUCTURE	E	ADSS	5	0	0	0	5	5	EM(1) Rule:3
887	PEC	PE-2	23STE3203R	ADVANCED DESIGN OF STEEL STRUCTURE	R	ADSS	3	0	0	0	3	3	EM(1) Rule:3
888	PEC	PE-2	23SMD3202A	DESIGN PATTERNS & CLEAN CODING TECHNIQUES	A	DPCT	5	0	0	0	5	5	
889	PEC	PE-2	23SMD3202E	DESIGN PATTERNS & CLEAN CODING TECHNIQUES	E	DPCT	5	0	0	0	5	5	
890	PEC	PE-2	23SMD3202R	DESIGN PATTERNS & CLEAN CODING TECHNIQUES	R	DPCT	3	0	0	0	3	3	
891	PEC	PE-2	23EME3202A	COMMUNICATION PROTOCOLS & TESTING OF ELECTRIC VEHICLE	A	CPTEV	5	0	0	0	5	5	ELM(1) Rule:3
892	PEC	PE-2	23EME3202E	COMMUNICATION PROTOCOLS & TESTING OF ELECTRIC VEHICLE	E	CPTEV	5	0	0	0	5	5	ELM(1) Rule:3
893	PEC	PE-2	23EME3202R	COMMUNICATION PROTOCOLS & TESTING OF ELECTRIC VEHICLE	R	CPTEV	3	0	0	0	3	3	ELM(1) Rule:3
894	PEC	PE-2	23EME3203A	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	A	AVAE	5	0	0	0	5	5	ELM(1) Rule:3
895	PEC	PE-2	23EME3203E	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	E	AVAE	5	0	0	0	5	5	ELM(1) Rule:3
896	PEC	PE-2	23EME3203R	AUTONOMOUS VEHICLES & AUTOMOTIVE ELECTRONICS	R	AVAE	3	0	0	0	3	3	ELM(1) Rule:3
897	PEC	PE-2	23IOT3203A	PRECISION AGRICULTURE	A	PA	5	0	0	0	5	5	FITS(1) Rule:3
898	PEC	PE-2	23IOT3203E	PRECISION AGRICULTURE	E	PA	5	0	0	0	5	5	FITS(1) Rule:3
899	PEC	PE-2	23IOT3203R	PRECISION AGRICULTURE	R	PA	3	0	0	0	3	3	FITS(1) Rule:3
900	PEC	PE-2	23IOT3204A	SMART FARMING	A	SF	5	0	0	0	5	5	FITS(1) Rule:3
901	PEC	PE-2	23IOT3204E	SMART FARMING	E	SF	5	0	0	0	5	5	FITS(1) Rule:3
902	PEC	PE-2	23IOT3204R	SMART FARMING	R	SF	3	0	0	0	3	3	FITS(1) Rule:3
903	PEC	PE-2	23ASS3205A	AUTONOMOUS VEHICLE ECU DESIGN WITH AUTOSAR	A	AVECUDA	3	0	4	0	5	7	
904	PEC	PE-2	23ASS3205E	AUTONOMOUS VEHICLE ECU DESIGN WITH AUTOSAR	E	AVECUDA	3	0	4	0	5	7	
905	PEC	PE-2	23ASS3205R	AUTONOMOUS VEHICLE ECU DESIGN WITH AUTOSAR	R	AVECUDA	2	0	2	0	3	4	
906	PEC	PE-2	23DEA3202A	DATA EXPLORATION AND PREPARATION	A	DEP	5	0	0	0	5	5	DBMS(1) Rule:3

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907	PEC	PE-2	23DEA3202E	DATA EXPLORATION AND PREPARATION	E	DEP	5	0	0	0	5	5	DBMS(1) Rule:3
908	PEC	PE-2	23DEA3202R	DATA EXPLORATION AND PREPARATION	R	DEP	3	0	0	0	3	3	DBMS(1) Rule:3
909	PEC	PE-2	23CSC3203A	DISTRIBUTED SCIENTIFIC COMPUTING IN THE CLOUD	A	DSCC	5	0	0	0	5	5	OS(1) Rule:3
910	PEC	PE-2	23CSC3203E	DISTRIBUTED SCIENTIFIC COMPUTING IN THE CLOUD	E	DSCC	5	0	0	0	5	5	OS(1) Rule:3
911	PEC	PE-2	23CSC3203R	DISTRIBUTED SCIENTIFIC COMPUTING IN THE CLOUD	R	DSCC	3	0	0	0	3	3	OS(1) Rule:3
912	PEC	PE-2	23CNE3203A	CLOUD NATIVE DESIGN PROCESS	A	CNDP	5	0	0	0	5	5	OS(1) Rule:3
913	PEC	PE-2	23CNE3203E	CLOUD NATIVE DESIGN PROCESS	E	CNDP	5	0	0	0	5	5	OS(1) Rule:3
914	PEC	PE-2	23CNE3203R	CLOUD NATIVE DESIGN PROCESS	R	CNDP	3	0	0	0	3	3	OS(1) Rule:3
915	PEC	PE-2	23CID3203A	ARCHITECTING HIGHLY AVAILABLE AND SCALABLE CLOUD ENVIRONMENTS	A	AHASCE	5	0	0	0	5	5	OS(1) Rule:3
916	PEC	PE-2	23CID3203E	ARCHITECTING HIGHLY AVAILABLE AND SCALABLE CLOUD ENVIRONMENTS	E	AHASCE	5	0	0	0	5	5	OS(1) Rule:3
917	PEC	PE-2	23CID3203R	ARCHITECTING HIGHLY AVAILABLE AND SCALABLE CLOUD ENVIRONMENTS	R	AHASCE	3	0	0	0	3	3	OS(1) Rule:3
918	PEC	PE-2	23WRE3202A	SOLID WASTE MANAGEMENT AND LANDFILLS	A	SWML	5	0	0	0	5	5	FMH(1) Rule:3
919	PEC	PE-2	23WRE3202E	SOLID WASTE MANAGEMENT AND LANDFILLS	E	SWML	5	0	0	0	5	5	FMH(1) Rule:3
920	PEC	PE-2	23WRE3202R	SOLID WASTE MANAGEMENT AND LANDFILLS	R	SWML	3	0	0	0	3	3	FMH(1) Rule:3
921	PEC	PE-2	23WRE3203A	DESIGN OF HYDRAULIC STRUCTURES	A	DHS	5	0	0	0	5	5	FMH(1) Rule:3
922	PEC	PE-2	23WRE3203E	DESIGN OF HYDRAULIC STRUCTURES	E	DHS	5	0	0	0	5	5	FMH(1) Rule:3
923	PEC	PE-2	23WRE3203R	DESIGN OF HYDRAULIC STRUCTURES	R	DHS	3	0	0	0	3	3	FMH(1) Rule:3
924	PEC	PE-2	23VLS3202A	TESTING AND VERIFICATION OF VLSI CIRCUITS	A	TVVC	5	0	0	0	5	5	DVD(1) Rule:3
925	PEC	PE-2	23VLS3202E	TESTING AND VERIFICATION OF VLSI CIRCUITS	E	TVVC	5	0	0	0	5	5	DVD(1) Rule:3
926	PEC	PE-2	23VLS3202R	TESTING AND VERIFICATION OF VLSI CIRCUITS	R	TVVC	3	0	0	0	3	3	DVD(1) Rule:3
927	PEC	PE-3	23VLS3303A	VLSI PHYSICAL DESIGN AUTOMATION	A	VPDA	4	0	4	4	7	12	DVD(1) Rule:3

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928	PEC	PE-3	23VLS3303E	VLSI PHYSICAL DESIGN AUTOMATION	E	VPDA	4	0	4	4	7	12	DVD(1) Rule:3
929	PEC	PE-3	23VLS3303R	VLSI PHYSICAL DESIGN AUTOMATION	R	VPDA	3	0	2	4	5	9	DVD(1) Rule:3
930	PEC	PE-3	23WRE3304A	WATER RESOURCES FIELD METHODS	A	WRFM	4	0	4	4	7	12	FMH(1) Rule:3
931	PEC	PE-3	23WRE3304E	WATER RESOURCES FIELD METHODS	E	WRFM	4	0	4	4	7	12	FMH(1) Rule:3
932	PEC	PE-3	23WRE3304R	WATER RESOURCES FIELD METHODS	R	WRFM	3	0	2	4	5	9	FMH(1) Rule:3
933	PEC	PE-3	23DEA3303A	BIG DATA TECHNOLOGIES	A	BDT	4	0	4	4	7	12	DBMS(1) Rule:3
934	PEC	PE-3	23DEA3303E	BIG DATA TECHNOLOGIES	E	BDT	4	0	4	4	7	12	DBMS(1) Rule:3
935	PEC	PE-3	23DEA3303R	BIG DATA TECHNOLOGIES	R	BDT	3	0	2	4	5	9	DBMS(1) Rule:3
936	PEC	PE-3	23ASS3309A	AUTONOMOUS ELECTRIC MOBILITY - SYSTEMS AND APPLICATIONS	A	AAAV	4	0	4	4	7	12	
937	PEC	PE-3	23ASS3309E	AUTONOMOUS ELECTRIC MOBILITY - SYSTEMS AND APPLICATIONS	E	AAAV	4	0	4	4	7	12	
938	PEC	PE-3	23ASS3309R	AUTONOMOUS ELECTRIC MOBILITY - SYSTEMS AND APPLICATIONS	R	AAAV	3	0	2	4	5	9	
939	PEC	PE-3	23EME3304A	CHARGING STATIONS FOR ELECTRIC VEHICLES	A	CSEV	4	0	4	4	7	12	ELM(1) Rule:3
940	PEC	PE-3	23EME3304E	CHARGING STATIONS FOR ELECTRIC VEHICLES	E	CSEV	4	0	4	4	7	12	ELM(1) Rule:3
941	PEC	PE-3	23EME3304R	CHARGING STATIONS FOR ELECTRIC VEHICLES	R	CSEV	3	0	2	4	5	9	ELM(1) Rule:3
942	PEC	PE-3	23SMD3303A	CONTINUOUS DELIVERY & DEVOPS	A	CDD	4	0	4	4	7	12	
943	PEC	PE-3	23SMD3303E	CONTINUOUS DELIVERY & DEVOPS	E	CDD	4	0	4	4	7	12	
944	PEC	PE-3	23SMD3303R	CONTINUOUS DELIVERY & DEVOPS	R	CDD	3	0	2	4	5	9	
945	PEC	PE-3	23ILA3304A	INDUSTRIAL DRIVES AND CONTROL	A	ID&C	4	0	4	4	7	12	ELM(1) Rule:3
946	PEC	PE-3	23ILA3304E	INDUSTRIAL DRIVES AND CONTROL	E	ID&C	4	0	4	4	7	12	ELM(1) Rule:3
947	PEC	PE-3	23ILA3304R	INDUSTRIAL DRIVES AND CONTROL	R	ID&C	3	0	2	4	5	9	ELM(1) Rule:3
948	PEC	PE-3	23STE3304A	BRIDGE ENGINEERING	A	BE	4	0	4	4	7	12	EM(1) Rule:3
949	PEC	PE-3	23STE3304E	BRIDGE ENGINEERING	E	BE	4	0	4	4	7	12	EM(1) Rule:3
950	PEC	PE-3	23STE3304R	BRIDGE ENGINEERING	R	BE	3	0	2	4	5	9	EM(1) Rule:3

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951	PEC	PE-3	23ASS3304A	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	A	ADLAS	4	0	4	4	7	12	AIML(1) Rule:3
952	PEC	PE-3	23ASS3304E	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	E	ADLAS	4	0	4	4	7	12	AIML(1) Rule:3
953	PEC	PE-3	23ASS3304R	APPLIED DEEP LEARNING FOR AUTONOMOUS SYSTEMS	R	ADLAS	3	0	2	4	5	9	AIML(1) Rule:3
954	PEC	PE-3	23AEA3304A	ALTERNATE DRIVES, TRACTION AND CONTROLS	A	ADTC	4	0	4	4	7	12	ELM(1) Rule:3
955	PEC	PE-3	23AEA3304E	ALTERNATE DRIVES, TRACTION AND CONTROLS	E	ADTC	4	0	4	4	7	12	ELM(1) Rule:3
956	PEC	PE-3	23AEA3304R	ALTERNATE DRIVES, TRACTION AND CONTROLS	R	ADTC	3	0	2	4	5	9	ELM(1) Rule:3
957	PEC	PE-3	23SGT3304A	ENERGY MANAGEMENT SYSTEMS AND SCADA	A	EMSAS	4	0	4	4	7	12	ELC(1) Rule:3
958	PEC	PE-3	23SGT3304E	ENERGY MANAGEMENT SYSTEMS AND SCADA	E	EMSAS	4	0	4	4	7	12	ELC(1) Rule:3
959	PEC	PE-3	23SGT3304R	ENERGY MANAGEMENT SYSTEMS AND SCADA	R	EMSAS	3	0	2	4	5	9	ELC(1) Rule:3
960	PEC	PE-3	23SMF3304A	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN SMART MANUFACTURING	A	SDSISM	4	0	4	4	7	12	MSM(1) Rule:3
961	PEC	PE-3	23SMF3304E	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN SMART MANUFACTURING	E	SDSISM	4	0	4	4	7	12	MSM(1) Rule:3
962	PEC	PE-3	23SMF3304R	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN SMART MANUFACTURING	R	SDSISM	3	0	2	4	5	9	MSM(1) Rule:3
963	PEC	PE-3	23RAN3304A	ADVANCED ROBOTICS	A	AR	4	0	4	4	7	12	FOR(1) Rule:3
964	PEC	PE-3	23RAN3304E	ADVANCED ROBOTICS	E	AR	4	0	4	4	7	12	FOR(1) Rule:3
965	PEC	PE-3	23RAN3304R	ADVANCED ROBOTICS	R	AR	3	0	2	4	5	9	FOR(1) Rule:3
966	PEC	PE-3	23RFM3303A	MODERN RADAR SYSTEMS & NAVIGATIONAL AIDS	A	MRSNA	4	0	4	4	7	12	
967	PEC	PE-3	23RFM3303E	MODERN RADAR SYSTEMS & NAVIGATIONAL AIDS	E	MRSNA	4	0	4	4	7	12	
968	PEC	PE-3	23RFM3303R	MODERN RADAR SYSTEMS & NAVIGATIONAL AIDS	R	MRSNA	3	0	2	4	5	9	
969	PEC	PE-3	23MBT3508	TISSUE ENGINEERING	R	NBT	3	0	0	0	3	3	RACT(1) Rule:3
970	PEC	PE-3	23MBT3304A	HEALTHCARE BIOTECHNOLOGY	A	HBT	4	0	4	4	7	12	RACT(1) Rule:3
971	PEC	PE-3	23MBT3304E	HEALTHCARE BIOTECHNOLOGY	E	HBT	4	0	4	4	7	12	RACT(1) Rule:3

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972	PEC	PE-3	23MBT3304R	HEALTHCARE BIOTECHNOLOGY	R	HBT	3	0	2	4	5	9	RACT(1) Rule:3
973	PEC	PE-3	23GEG3304A	MOLECULAR MARKERS AND DIAGNOSTICS	A	MMD	4	0	4	4	7	12	GN(1) Rule:3
974	PEC	PE-3	23GEG3304E	MOLECULAR MARKERS AND DIAGNOSTICS	E	MMD	4	0	4	4	7	12	GN(1) Rule:3
975	PEC	PE-3	23GEG3304R	MOLECULAR MARKERS AND DIAGNOSTICS	R	MMD	3	0	2	4	5	9	GN(1) Rule:3
976	PEC	PE-3	23GET3304A	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	A	GIRES	4	0	4	4	7	12	ELC(1) Rule:3
977	PEC	PE-3	23GET3304E	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	E	GIRES	4	0	4	4	7	12	ELC(1) Rule:3
978	PEC	PE-3	23GET3304R	GRID INTEGRATION OF RENEWABLE ENERGY SOURCES	R	GIRES	3	0	2	4	5	9	ELC(1) Rule:3
979	PEC	PE-3	23SCI3303A	SPATIAL COMPUTING PLATFORMS AND DEVELOPMENT	A	SCPD	4	0	4	4	7	12	
980	PEC	PE-3	23SCI3303E	SPATIAL COMPUTING PLATFORMS AND DEVELOPMENT	E	SCPD	4	0	4	4	7	12	
981	PEC	PE-3	23SCI3303R	SPATIAL COMPUTING PLATFORMS AND DEVELOPMENT	R	SCPD	3	0	2	4	5	9	
982	PEC	PE-3	23GTE3304A	PAVEMENT MATERIALS &DESIGN	A	PMD	4	0	4	4	7	12	SM(1) Rule:3
983	PEC	PE-3	23GTE3304E	PAVEMENT MATERIALS &DESIGN	E	PMD	4	0	4	4	7	12	SM(1) Rule:3
984	PEC	PE-3	23GTE3304R	PAVEMENT MATERIALS &DESIGN	R	PMD	3	0	2	4	5	9	SM(1) Rule:3
985	PEC	PE-3	23CID3304A	CLOUD INFRASTRUCTURE ARCHITECTURE AND ENGINEERING	A	CIA	4	0	4	4	7	12	OS(1) Rule:3
986	PEC	PE-3	23CID3304E	CLOUD INFRASTRUCTURE ARCHITECTURE AND ENGINEERING	E	CIA	4	0	4	4	7	12	OS(1) Rule:3
987	PEC	PE-3	23CID3304R	CLOUD INFRASTRUCTURE ARCHITECTURE AND ENGINEERING	R	CIA	3	0	2	4	5	9	OS(1) Rule:3
988	PEC	PE-3	23CEC3305A	CLOUD & SERVERLESS COMPUTING	A	CSC	4	0	4	4	7	12	
989	PEC	PE-3	23CEC3305E	CLOUD & SERVERLESS COMPUTING	E	CSC	4	0	4	4	7	12	
990	PEC	PE-3	23CEC3305R	CLOUD & SERVERLESS COMPUTING	R	CSC	3	0	2	4	5	9	
991	PEC	PE-3	23BMI3303A	MATERIALS FOR BIO-MEDICAL APPLICATIONS	A	MBMA	4	0	4	4	7	12	
992	PEC	PE-3	23BMI3303E	MATERIALS FOR BIO-MEDICAL APPLICATIONS	E	MBMA	4	0	4	4	7	12	
993	PEC	PE-3	23BMI3303R	MATERIALS FOR BIO-MEDICAL APPLICATIONS	R	MBMA	3	0	2	4	5	9	
994	PEC	PE-3	23CCF3303A	VOIP AND BROADBAND NETWORKS	A	VBN	4	0	4	4	7	12	RNW(1) Rule:3

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995	PEC	PE-3	23CCF3303E	VOIP AND BROADBAND NETWORKS	E	VBN	4	0	4	4	7	12	RNW(1) Rule:3
996	PEC	PE-3	23CCF3303R	VOIP AND BROADBAND NETWORKS	R	VBN	3	0	2	4	5	9	RNW(1) Rule:3
997	PEC	PE-3	23CTM3304A	CONSTRUCTION PLANNING & SCHEDULING	A	CPS	4	0	4	4	7	12	
998	PEC	PE-3	23CTM3304E	CONSTRUCTION PLANNING & SCHEDULING	E	CPS	4	0	4	4	7	12	
999	PEC	PE-3	23CTM3304R	CONSTRUCTION PLANNING & SCHEDULING	R	CPS	3	0	2	4	5	9	
1000	PEC	PE-3	23CNE3304A	SOFTWARE ENGINEERING FOR CLOUD COMPUTING	A	SEC	4	0	4	4	7	12	OS(1) Rule:3
1001	PEC	PE-3	23CNE3304E	SOFTWARE ENGINEERING FOR CLOUD COMPUTING	E	SEC	4	0	4	4	7	12	OS(1) Rule:3
1002	PEC	PE-3	23CNE3304R	SOFTWARE ENGINEERING FOR CLOUD COMPUTING	R	SEC	3	0	2	4	5	9	OS(1) Rule:3
1003	PEC	PE-3	23CSC3304A	CLOUD BASED HIGH PERFORMANCE COMPUTING	A	CHC	4	0	4	4	7	12	OS(1) Rule:3
1004	PEC	PE-3	23CSC3304E	CLOUD BASED HIGH PERFORMANCE COMPUTING	E	CHC	4	0	4	4	7	12	OS(1) Rule:3
1005	PEC	PE-3	23CSC3304R	CLOUD BASED HIGH PERFORMANCE COMPUTING	R	CHC	3	0	2	4	5	9	OS(1) Rule:3
1006	PEC	PE-3	23AVI3303A	OBJECT DETECTION	A	OD	4	0	4	4	7	12	AIML(1) Rule:3
1007	PEC	PE-3	23AVI3303E	OBJECT DETECTION	E	OD	4	0	4	4	7	12	AIML(1) Rule:3
1008	PEC	PE-3	23AVI3303R	OBJECT DETECTION	R	OD	3	0	2	4	5	9	AIML(1) Rule:3
1009	PEC	PE-3	23HDA3305A	COMPUTATIONAL NEUROSCIENCE	A	CNSE	4	0	4	4	7	12	
1010	PEC	PE-3	23HDA3305E	COMPUTATIONAL NEUROSCIENCE	E	CNSE	4	0	4	4	7	12	
1011	PEC	PE-3	23HDA3305R	COMPUTATIONAL NEUROSCIENCE	R	CNSE	3	0	2	4	5	9	
1012	PEC	PE-3	23ALT3303A	CONVERSATIONAL AI AND CHATBOT DEVELOPMENT	A	CAICBD	4	0	4	4	7	12	AIML(1) Rule:3
1013	PEC	PE-3	23ALT3303E	CONVERSATIONAL AI AND CHATBOT DEVELOPMENT	E	CAICBD	4	0	4	4	7	12	AIML(1) Rule:3
1014	PEC	PE-3	23ALT3303R	CONVERSATIONAL AI AND CHATBOT DEVELOPMENT	R	CAICBD	3	0	2	4	5	9	AIML(1) Rule:3
1015	PEC	PE-3	23HSS3303A	HARDWARE SECURITY MECHANISMS	A	HSM	4	0	4	4	7	12	NPS(1) Rule:3
1016	PEC	PE-3	23HSS3303E	HARDWARE SECURITY MECHANISMS	E	HSM	4	0	4	4	7	12	NPS(1) Rule:3
1017	PEC	PE-3	23HSS3303R	HARDWARE SECURITY MECHANISMS	R	HSM	3	0	2	4	5	9	NPS(1) Rule:3

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1018	PEC	PE-3	23BIS3304A	STRUCTURAL BIOLOGY	A	SB	4	0	4	4	7	12	CB(1) Rule:3
1019	PEC	PE-3	23BIS3304E	STRUCTURAL BIOLOGY	E	SB	4	0	4	4	7	12	CB(1) Rule:3
1020	PEC	PE-3	23BIS3304R	STRUCTURAL BIOLOGY	R	SB	3	0	2	4	5	9	CB(1) Rule:3
1021	PEC	PE-3	23AIP3305A	GENERATIVE DEEP LEARNING	A	GDL	4	0	4	4	7	12	
1022	PEC	PE-3	23AIP3305E	GENERATIVE DEEP LEARNING	E	GDL	4	0	4	4	7	12	
1023	PEC	PE-3	23AIP3305R	GENERATIVE DEEP LEARNING	R	GDL	3	0	2	4	5	9	
1024	PEC	PE-3	23ADE3303A	EDGE AI ARCHITECTURES AND APPLICATIONS	A	EAIAA	4	0	4	4	7	12	OS(1) Rule:3
1025	PEC	PE-3	23ADE3303E	EDGE AI ARCHITECTURES AND APPLICATIONS	E	EAIAA	4	0	4	4	7	12	OS(1) Rule:3
1026	PEC	PE-3	23ADE3303R	EDGE AI ARCHITECTURES AND APPLICATIONS	R	EAIAA	3	0	2	4	5	9	OS(1) Rule:3
1027	PEC	PE-3	23ABT3304A	IMAGE PROCESSING FOR AGRICULTURAL APPLICATIONS	A	IPAA	4	0	4	4	7	12	GN(1) Rule:3
1028	PEC	PE-3	23ABT3304E	IMAGE PROCESSING FOR AGRICULTURAL APPLICATIONS	E	IPAA	4	0	4	4	7	12	GN(1) Rule:3
1029	PEC	PE-3	23ABT3304R	IMAGE PROCESSING FOR AGRICULTURAL APPLICATIONS	R	IPAA	3	0	2	4	5	9	GN(1) Rule:3
1030	PEC	PE-3	23ACI3303A	FUZZY LOGIC WITH SET THEORY	A	FLST	4	0	4	4	7	12	AIML(1)
1031	PEC	PE-3	23ACI3303E	FUZZY LOGIC WITH SET THEORY	E	FLST	4	0	4	4	7	12	AIML(1)
1032	PEC	PE-3	23ACI3303R	FUZZY LOGIC WITH SET THEORY	R	FLST	3	0	2	4	5	9	AIML(1)
1033	PEC	PE-3	23IBT3304A	ENZYME ENGINEERING	A	EE	4	0	4	4	7	12	BO(1) Rule:3
1034	PEC	PE-3	23IBT3304E	ENZYME ENGINEERING	E	EE	4	0	4	4	7	12	BO(1) Rule:3
1035	PEC	PE-3	23IBT3304R	ENZYME ENGINEERING	R	EE	3	0	2	4	5	9	BO(1) Rule:3
1036	PEC	PE-3	23DSB3303A	BIG DATA ANALYTICS	A	BDA	4	0	4	4	7	12	DBMS(1) Rule:3
1037	PEC	PE-3	23DSB3303E	BIG DATA ANALYTICS	E	BDA	4	0	4	4	7	12	DBMS(1) Rule:3
1038	PEC	PE-3	23DSB3303R	BIG DATA ANALYTICS	R	BDA	3	0	2	4	5	9	DBMS(1) Rule:3
1039	PEC	PE-3	23SDM3304A	SOCIAL MEDIA MARKETING ANALYTICS	A	SMMA	4	0	4	4	7	12	DBMS(1) Rule:3
1040	PEC	PE-3	23SDM3304E	SOCIAL MEDIA MARKETING ANALYTICS	E	SMMA	4	0	4	4	7	12	DBMS(1) Rule:3
1041	PEC	PE-3	23SDM3304R	SOCIAL MEDIA MARKETING ANALYTICS	R	SMMA	3	0	2	4	5	9	DBMS(1) Rule:3

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1042	PEC	PE-3	23CPS3303A	CYBER PHYSICAL SYSTEMS	A	CPS	4	0	4	4	7	12	NPS(1) Rule:3
1043	PEC	PE-3	23CPS3303E	CYBER PHYSICAL SYSTEMS	E	CPS	4	0	4	4	7	12	NPS(1) Rule:3
1044	PEC	PE-3	23CPS3303R	CYBER PHYSICAL SYSTEMS	R	CPS	3	0	2	4	5	9	NPS(1) Rule:3
1045	PEC	PE-3	23SDM3203E	META SOCIAL MEDIA ANALYTICS	E	MSMA	5	0	0	0	5	5	DBMS(1) Rule:3
1046	PEC	PE-3	23CSB3304A	DIGITAL FORENSICS	A	DF	4	0	4	4	7	12	NPS(1) Rule:3
1047	PEC	PE-3	23CSB3304E	DIGITAL FORENSICS	E	DF	4	0	4	4	7	12	NPS(1) Rule:3
1048	PEC	PE-3	23CSB3304R	DIGITAL FORENSICS	R	DF	3	0	2	4	5	9	NPS(1) Rule:3
1049	PEC	PE-3	23BEW3303A	DECENTRALIZED APPLICATIONS AND DECENTRALIZED WEB	A	DADW	4	0	4	4	7	12	
1050	PEC	PE-3	23BEW3303E	DECENTRALIZED APPLICATIONS AND DECENTRALIZED WEB	E	DADW	4	0	4	4	7	12	
1051	PEC	PE-3	23BEW3303R	DECENTRALIZED APPLICATIONS AND DECENTRALIZED WEB	R	DADW	3	0	2	4	5	9	
1052	PEC	PE-3	23DLA3304A	MULTI AGENT SYSTEMS	A	MAS	4	0	4	4	7	12	DBMS(1) Rule:3
1053	PEC	PE-3	23DLA3304E	MULTI AGENT SYSTEMS	E	MAS	4	0	4	4	7	12	DBMS(1) Rule:3
1054	PEC	PE-3	23DLA3304R	MULTI AGENT SYSTEMS	R	MAS	3	0	2	4	5	9	DBMS(1) Rule:3
1055	PEC	PE-3	23CNS3303A	CONTAINER SECURITY	A	CTSY	4	0	4	4	7	12	OS(1) Rule:3
1056	PEC	PE-3	23CNS3303E	CONTAINER SECURITY	E	CTSY	4	0	4	4	7	12	OS(1) Rule:3
1057	PEC	PE-3	23CNS3303R	CONTAINER SECURITY	R	CTSY	3	0	2	4	5	9	OS(1) Rule:3
1058	PEC	PE-3	23DCS3303A	5G WIRELESS TECHNOLOGIES	A	5GWT	4	0	4	4	7	12	WC(1) Rule:3
1059	PEC	PE-3	23DCS3303E	5G WIRELESS TECHNOLOGIES	E	5GWT	4	0	4	4	7	12	WC(1) Rule:3
1060	PEC	PE-3	23DCS3303R	5G WIRELESS TECHNOLOGIES	R	5GWT	3	0	2	4	5	9	WC(1) Rule:3
1061	PEC	PE-3	23GDU3303A	AR & VR APPLICATION DEVELOPMENT	A	AR&VR	4	0	4	4	7	12	CTSD(1) Rule:1
1062	PEC	PE-3	23GDU3303E	AR & VR APPLICATION DEVELOPMENT	E	AR&VR	4	0	4	4	7	12	CTSD(1) Rule:1
1063	PEC	PE-3	23GDU3303R	AR & VR APPLICATION DEVELOPMENT	R	AR&VR	3	0	2	4	5	9	CTSD(1) Rule:1
1064	PEC	PE-3	23CPD3304A	SECURE MOBILE APPLICATION DEVELOPMENT	A	SMAD	4	0	4	4	7	12	

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1065	PEC	PE-3	23CPD3304E	SECURE MOBILE APPLICATION DEVELOPMENT	E	SMAD	4	0	4	4	7	12	
1066	PEC	PE-3	23CPD3304R	SECURE MOBILE APPLICATION DEVELOPMENT	R	SMAD	3	0	2	4	5	9	
1067	PEC	PE-3	23EGD3304A	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN ENGINEERING DESIGN	A	SDSIED	4	0	4	4	7	12	EM(1) Rule:3
1068	PEC	PE-3	23EGD3304E	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN ENGINEERING DESIGN	E	SDSIED	4	0	4	4	7	12	EM(1) Rule:3
1069	PEC	PE-3	23EGD3304R	SUSTAINABLE DESIGN & SOCIAL INNOVATION IN ENGINEERING DESIGN	R	SDSIED	3	0	2	4	5	9	EM(1) Rule:3
1070	PEC	PE-3	23IMP3303A	BIO MEDICAL SIGNAL AND IMAGE ANALYSIS	A	AMSIA	4	0	4	4	7	12	DNA(1) Rule:3
1071	PEC	PE-3	23IMP3303E	BIO MEDICAL SIGNAL AND IMAGE ANALYSIS	E	AMSIA	4	0	4	4	7	12	DNA(1) Rule:3
1072	PEC	PE-3	23IMP3303R	BIO MEDICAL SIGNAL AND IMAGE ANALYSIS	R	AMSIA	3	0	2	4	5	9	DNA(1) Rule:3
1073	PEC	PE-3	23EDS3303A	EMBEDDED AND REAL-TIME SYSTEMS	A	ERTS	4	0	4	4	7	12	ESD(1) Rule:3
1074	PEC	PE-3	23EDS3303E	EMBEDDED AND REAL-TIME SYSTEMS	E	ERTS	4	0	4	4	7	12	ESD(1) Rule:3
1075	PEC	PE-3	23EDS3303R	EMBEDDED AND REAL-TIME SYSTEMS	R	ERTS	3	0	2	4	5	9	ESD(1) Rule:3
1076	PEC	PE-3	23IOT3305A	DEEP LEARNING	A	DL	4	0	4	4	7	12	FITS(1) Rule:3
1077	PEC	PE-3	23IOT3305E	DEEP LEARNING	E	DL	4	0	4	4	7	12	FITS(1) Rule:3
1078	PEC	PE-3	23IOT3305R	DEEP LEARNING	R	DL	3	0	2	4	5	9	FITS(1) Rule:3
1079	PEC	PE-3	23ECF3304A	HYBRID AND ELECTRIC VEHICLE DESIGN	A	HEVD	4	0	4	4	7	12	TD(1) Rule:3
1080	PEC	PE-3	23ECF3304E	HYBRID AND ELECTRIC VEHICLE DESIGN	E	HEVD	4	0	4	4	7	12	TD(1) Rule:3
1081	PEC	PE-3	23ECF3304R	HYBRID AND ELECTRIC VEHICLE DESIGN	R	HEVD	3	0	2	4	5	9	TD(1) Rule:3
1082	PEC	PE-4	23GDU3404M	COMPUTER GRAPHICS	M	CG	3	0	0	0	3	3	CTSD(1) Rule:1
1083	PEC	PE-4	23IBT3405M	BIOPROCESS VALIDATION AND CGMP	M	BVcGMP	3	0	0	0	3	3	BO(1) Rule:3
1084	PEC	PE-4	23IBT3406M	FOOD TECHNOLOGY	M	FT	3	0	0	0	3	3	BO(1) Rule:3
1085	PEC	PE-4	23ABT3405M	BIOINSTRUMENTATION	M	BIM	4	0	0	0	4	4	
1086	PEC	PE-4	23CSC3405M	CLOUD-BASED GRID COMPUTING	M	CGC	3	0	0	0	3	3	

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1087	PEC	PE-4	23SGT3405M	SMART GRID COMMUNICATION AND CYBERSECURITY	M	SGCCS	3	0	0	0	3	3	ELC(1) Rule:1
1088	PEC	PE-4	23SGT3406M	SMART METERS AND SMART CITIES	M	SMSC	3	0	0	0	3	3	ELC(1) Rule:1
1089	PEC	PE-4	23ASS3410M	CYBERSECURITY IN AUTONOMUS VEHICLE	M	CAV	3	0	0	0	3	3	
1090	PEC	PE-5	23ASS3511	AI DRIVEN ECU DESIGN FOR AUTONOMOUS VEHICLES	R	AEDATT	2	0	2	0	3	4	
1091	PEC	PE-5	23ABT3507	MICROFLUIDICS FOR AGRICULTURAL APPLICATIONS	R	MAP	3	0	0	0	3	3	
1092	PEC	PE-5	23IBT3507	MICROBIAL TECHNOLOGY	R	MBT	3	0	0	0	3	3	BO(1) Rule:3
1093	PEC	PE-5	23IBT3508	METABOLIC ENGINEERING	R	MBE	3	0	0	0	3	3	BO(1) Rule:3
1094	PRI	PRI-CORE	23IE2040	SOCIAL INTERNSHIP	R	SIP	0	0	0	4	0	4	
1095	OEC	OE-1	23OEDT01	INNOVATIVE PRODUCT DEVELOPMENT FOR ENTREPRENEURS	R	IPDFE	4	0	0	0	4	4	
1096	OEC	OE-1	23OEEC01	WIRELESS AD-HOC NETWORKS	R	WAHN	4	0	0	0	4	4	
1097	OEC	OE-1	23OEEC05	ML FOR ENGINEERING AND SCIENTIFIC APPLICATIONS	R	MLESA	4	0	0	0	4	4	
1098	OEC	OE-1	23OEAD01	FUNDAMENTALS OF BIG DATA	R	FBDA	4	0	0	0	4	4	
1099	OEC	OE-2	23OEEC04	SATELLITE SUB-SYSTEMS	R	SSS	4	0	0	0	4	4	
1100	OEC	OE-2	23OEEC03	DATA SCIENCE: DL AND NN	R	DSAINN	4	0	0	0	4	4	
1101	OEC	OE-2	23OEDT02	STRATEGIC FINANCIAL AND MARKETING PLANNING FOR ENTREPRENEURS	R	SFMPE	4	0	0	0	4	4	
1102	OEC	OE-2	23OEEC08	ELECTRONIC WARFARE, EMI & EMC	R	EWEE	4	0	0	0	4	4	
1103	OEC	OE-2	23OEEC02	SWAM ROBOTICS CONTROL SYSTEMS	R	SRCS	4	0	0	0	4	4	
1104	OEC	OE-3	23OEEC06	INTRODUCTION TO MEMS	R	IMEMS	4	0	0	0	4	4	
1105	OEC	OE-3	23OEEC11	IMAGE PROCESSING	R	IMP	4	0	0	0	4	4	
1106	OEC	OE-3	23OEEC07	ENERGY HARVESTING TECHNOLOGIES FOR IOT	R	EHTI	4	0	0	0	4	4	
1107	VAC	VAC-	23SP2101	ATHLETICS	R	ATH	0	0	0	2	0	2	
1108	VAC	VAC-	23SP2103	BADMINTON	R	BMT	0	0	0	2	0	2	
1109	VAC	VAC-	23SP2102	BASKETBALL	R	BKB	0	0	0	2	0	2	
1110	VAC	VAC-	23SP2105	CHESS	R	CHS	0	0	0	2	0	2	
1111	VAC	VAC-	23SP2104	CRICKET	R	CRKT	0	0	0	2	0	2	

S#	Cat	Sub-Cat	CourseCode	Course Title	Mode	Acrym	L	T	P	S	CR	CH	Pre-req
1112	VAC	VAC-	23SP2108	KABADDI	R	KBD	0	0	0	2	0	2	
1113	VAC	VAC-	23SP2109	KHO-KHO	R	KHO	0	0	0	2	0	2	
1114	VAC	VAC-	23SP2111	TABLE TENNIS	R	TTS	0	0	0	2	0	2	
1115	VAC	VAC-	23SP2110	TENNIS	R	TNS	0	0	0	2	0	2	
1116	VAC	VAC-	23SP2113	THROW BALL	R	THB	0	0	0	2	0	2	
1117	VAC	VAC-	23SP2114	VOLLEYBALL	R	VOB	0	0	0	2	0	2	
1118	VAC	VAC-	23SP2116	YOGA	R	YOG	0	0	0	2	0	2	
1119	VAC	VAC-CERT	23CC3005	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING USING PYTHON [INDUSTRIAL AUTOMATION]-L1 (TESSOLVE)	R	AIML1	0	0	0	8	0	8	
1120	VAC	VAC-CERT	23CC3008	AUTOCAD	R	ACAD	0	0	0	8	0	8	
1121	VAC	VAC-CERT	23CC3026	EMBEDDED SYSTEM APPLICATION & IOT PROGRAMMING (TESSOLVE-L1)	R	ESAIP	0	0	0	8	0	8	
1122	AUC	AUC-CORE	23UC0014	GLOBAL LOGIC BUILDING CONTEST PRACTICUM	R	GLBCP	0	0	0	2	0	2	
1123	AUC	AUC-CORE	24UC0017	INDIAN KNOWLEDGE SYSTEMS: VEDIC MATHEMATICS	R	IKSVM	2	0	0	0	0	2	
1124	SIL	SIL-CORE	22UC0021	SOCIAL IMMERSIVE LEARNING	R	SIL-1	0	0	0	4	1	4	
1125	SIL	SIL-CORE	22UC0022	SOCIAL IMMERSIVE LEARNING	R	SIL-2	0	0	0	4	1	4	
1126	SIL	SIL-CORE	22UC0023	SOCIAL IMMERSIVE LEARNING	R	SIL-3	0	0	0	4	1	4	

Program Articulation Matrix

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

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
9	HAS	23FL3058 - JLG	CO1	Classify Hiragana, Katakana, and basic Kanji characters used in greetings and simple scripts					2		2					
10	HAS	23FL3058 - JLG	CO2	Apply their knowledge of essential daily expressions, numbers, months, dates, time, body parts, colors, and common vocabulary to effectively communicate in basic everyday situations									3			
11	HAS	23FL3058 - JLG	CO3	Utilize their understanding of present, past, and future tenses, along with the ability to construct interrogative sentences, to express themselves in various timeframes and ask questions effectively in different conversational contexts. pen_spark							2		2			
12	HAS	23FL3058 - JLG	CO4	Develop their knowledge of verbs, including negative conjugations, and prepositions to discuss hobbies, deliver self-introductions, and navigate basic interview scenarios in Japanese							2			3		
13	HAS	23MB0001 - BME	CO1	Understand the basic concepts of marketing management		2										
14	HAS	23MB0001 - BME	CO2	Understand the concepts of Marketing environment, consumer behaviour and Segmentation, Targeting and Positioning (STP)		2										
15	HAS	23MB0001 - BME	CO3	Apply the marketing mix strategies with special focus on technology products			2									
16	HAS	23MB0001 - BME	CO4	Apply promotion and distribution strategies for marketing of high tech products and services						2						
17	HAS	23MB0002 - PIMT	CO1	Understand the basic management concepts along with an insight into levels of management								2				
18	HAS	23MB0002 - PIMT	CO2	Understand the key contributions of classical approach to Management										2		

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
19	HAS	23MB0002 - PIMT	CO3	Understand and apply Quantitative methods to improve Management performance.								2				
20	HAS	23MB0002 - PIMT	CO4	Understand the key contributions of Behavioural and contemporary approaches to Management.								2				
21	HAS	23MB0003 - FMFE	CO1	Understanding the comprehension of finance functions and diverse business models to facilitate informed decision-making processes within financial management.		2										
22	HAS	23MB0003 - FMFE	CO2	Analyzing the investment decisions through an understanding of capital budgeting techniques, both traditional and modern, emphasizing long-term implications.				2								
23	HAS	23MB0003 - FMFE	CO3	Analyze and make informed decisions regarding working capital management, considering the short-term financial health of organizations through practical case studies.				2								
24	HAS	23MB0003 - 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								
25	HAS	23MB0004 - OMG	CO1	Remember and understand the various management theories and management approaches.								2				
26	HAS	23MB0004 - OMG	CO2	Remember and understand organization theories, structures and organization principles									2			

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
27	HAS	23MB0004 - 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				
28	HAS	23MB0004 - OMG	CO4	Remember and understand the various issues in industrial relations, trade unions and college bargaining and industrial safety								2				
29	HAS	23MB0005 - MPF	CO1	Understanding Personal Finance	2											
30	HAS	23MB0005 - MPF	CO2	Applying and Building a Budget and Tracking Your Money		3										
31	HAS	23MB0005 - MPF	CO3	Applying and Managing Debt and Credit in present context			3									
32	HAS	23MB0005 - MPF	CO4	Applying Saving and Investment to present scenario			3									
33	HAS	23MB4062 - CPM	CO1	Understand construction principles and techniques to effectively plan and execute construction projects.	1										1	
34	HAS	23MB4062 - CPM	CO2	Understand about construction project scheduling, cost estimation, and resource allocation for a particular project	1										1	
35	HAS	23MB4062 - CPM	CO3	Understand about the Construction Methods and Techniques	1										1	
36	HAS	23MB4062 - CPM	CO4	Understand about the Construction Project Cost Estimation and Control.	1										1	
37	HAS	23MB4062 - CPM	CO5	Understand about project cost control and monitoring, earned value management in construction.	1										1	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
38	HAS	23MB4063 - RSQM	CO1	Demonstrate an understanding of resource management principles and the importance of resource optimization in construction projects by applying best practices to enhance efficiency.	2		3			2						2
39	HAS	23MB4063 - RSQM	CO2	Interpret and ensure compliance with construction safety regulations and standards set by regulatory bodies, ensuring legal and regulatory adherence in project execution.	2		3			2						2
40	HAS	23MB4063 - RSQM	CO3	Apply hazard identification techniques and conduct comprehensive risk assessments to prioritize and mitigate risks in construction environments, enhancing safety management.	2		3			2						2
41	HAS	23MB4063 - RSQM	CO4	Develop and implement safety management systems and quality assurance strategies, including safety policies, training, and communication, to ensure high safety standards and quality control in construction projects.	2		3			2						2
42	HAS	23MB4064 - SDM	CO1	Understand the concepts of digital marketing and search engine optimization		2										
43	HAS	23MB4064 - SDM	CO2	Apply the search engine optimization technique to website			2									
44	HAS	23MB4064 - SDM	CO3	Apply the key PPC concepts to draw visitors to a business websites			2									
45	HAS	23MB4064 - SDM	CO4	Analyse the search engine optimization technique for marketing strtegy		2										
46	HAS	23MB4065 - DET	CO1	Introduction to Digital Economics	2											
47	HAS	23MB4065 - DET	CO2	Digital Business Models		2										
48	HAS	23MB4065 - DET	CO3	Tokenomics Fundamentals			3									

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
49	HAS	23MB4065 - DET	CO4	Economic Implications of Cryptocurrencies			3									
50	HAS	23MB4066 - DFDFS	CO1	Define and explain the key concepts of DeFi, including decentralization, blockchain technology, smart contracts, and decentralized applications (DApps). Differentiate between traditional financial systems and DeFi ecosystems, identifying the advantages and challenges of each.	2										2	
51	HAS	23MB4066 - DFDFS	CO2	Describe the fundamentals of blockchain technology, including consensus mechanisms, cryptographic principles, and transaction processing. Evaluate different blockchain platforms and their suitability for supporting DeFi applications.			2								2	
52	HAS	23MB4066 - DFDFS	CO3	Analyze and evaluate various decentralized financial protocols, such as decentralized exchanges (DEXs), lending platforms, liquidity provision mechanisms, and asset management protocols. Demonstrate the ability to interact with DeFi protocols through hands-on exercises and practical applications.						3						3
53	HAS	23MB4066 - DFDFS	CO4	Explain the concept of stablecoins and synthetic assets, including their design principles, use cases, and implications for the broader financial ecosystem. Assess the role of stablecoins and synthetic assets in mitigating volatility and enabling new financial services in DeFi.						3						3
54	HAS	23MB4067 - IMPP	CO1	Understand the basic management concepts along with an insight into production and control								2				2

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
55	HAS	23MB4067 - IMPP	CO2	Select best forecasting models to predict future demand	2											2
56	HAS	23MB4067 - IMPP	CO3	Solve various production scheduling problems to optimize productivity				2								2
57	HAS	23MB4067 - IMPP	CO4	Understand concept of Inventory control, Method study and time study								2				2
58	HAS	23MB4068 - IMG	CO1	Identify and analyze market needs and gaps, using tools such as SWOT and PESTLE analysis, to pinpoint real-world problems suitable for entrepreneurial solutions.		1			1							1
59	HAS	23MB4068 - IMG	CO2	Develop innovative solutions through creative thinking and apply lean startup principles to build and iterate a minimum viable product (MVP).		1			2							1
60	HAS	23MB4068 - IMG	CO3	Create a comprehensive lean business model canvas that outlines customer segments, value propositions, channels, revenue streams, and key metrics.		1			2							1
61	HAS	23MB4068 - IMG	CO4	Create a compelling business plan and investor pitch, including financial projections and funding strategies, demonstrating effective communication and persuasion skills.		1			1							1
62	HAS	23UC0026 - HGP	CO1	Understanding the basic concepts of value education							2	1				
63	HAS	23UC0026 - HGP	CO2	Gain basic understanding of the principles in harmony among the human beings							2	1				
64	HAS	23UC0026 - HGP	CO3	Gain knowledge in the concept of Harmony in the family and society							3	3				
65	HAS	23UC0026 - HGP	CO4	Acquire knowledge in the concepts of harmony in the nature							3	3				

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
66	HAS	23UC0027 - LAMS	CO1	Understand basic leadership, skills and perspectives and leadership styles								2				
67	HAS	23UC0027 - LAMS	CO2	Understand different managerial skills and apply them to develop high performance teams									3			
68	HAS	23UC0027 - LAMS	CO3	Analyse effective communicative strategies and apply them in team tasks									3			
69	HAS	23UC0027 - LAMS	CO4	Apply strategic planning fundamentals and decision-making techniques, through exercises and case studies								3				
70	HAS	24UC1102 - LSE	CO1	Understand the essential listening, speaking, and reading skills, preparing them for effective communication in various personal and professional contexts.									2			
71	HAS	24UC1102 - LSE	CO2	Apply essential writing and non-verbal communication skills, preparing them for effective written and non-verbal interactions in various personal and professional contexts									2			
72	HAS	24UC1203 - DTI	CO1	Understand the importance of Design thinking mindset for identifying contextualized problems		1										
73	HAS	24UC1203 - DTI	CO2	Analyze the problem statement by empathizing with user				2								
74	HAS	24UC1203 - DTI	CO3	Develop ideation and test the prototypes made			2									
75	HAS	24UC1203 - DTI	CO4	Explore the fundamentals of entrepreneurship skills for transforming the challenge into an opportunity									1			

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
76	HAS	24UC1204 - CSFE	CO1	Understand the essential career skills, including resume writing, interview techniques, group discussions, and exploring career opportunities, preparing them for successful career advancement.									2	2		
77	HAS	24UC1204 - CSFE	CO2	Apply a comprehensive understanding of essential team skills, preparing them for successful collaboration and contribution in professional team environments.									2	2		
78	BSC	23MT1001 - LACE	CO1	Apply matrix algebra to the real-world applications in engineering, physical and biological sciences, computer science, finance, economics and solving the system of equations.	3											
79	BSC	23MT1001 - LACE	CO2	Apply multivariate differential calculus to find maxima & minima of functions and understand the concepts of second order differential equations and its applications.	3											
80	BSC	23MT1001 - LACE	CO3	Apply beta and gamma functions to evaluate improper integrals. Evaluate double and triple integrals techniques over a region in two dimensional and three-dimensional geometry.	3											
81	BSC	23MT1001 - LACE	CO4	interpret the physical meaning of different operators such as gradient, curl and compute the line integrals of vector functions and learn their applications.	3											
82	BSC	23MT2003 - MMNM	CO1	Modeling and solution of algrebraic and transcendental equations.	3	3									3	
83	BSC	23MT2003 - MMNM	CO2	Applying numerical methods to solve ordinary differential equations.	3	3									3	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
84	BSC	23MT2003 - MMNM	CO3	Solving of Linear and non-linear Partial Differential Equations.	3	3									3	
85	BSC	23MT2003 - MMNM	CO4	Applications of Partial Differential Equations.	3	3									3	
86	ESC	23AD2001O - AIML	CO1	Apply a variety of artificial intelligence algorithms and techniques to effectively solve complex problems in diverse real-world environments												
87	ESC	23AD2001O - AIML	CO2	Solve constraint satisfaction problems, employ knowledge engineering principles to perform inferencing, reasoning and probability theory.												
88	ESC	23AD2001O - AIML	CO3	Apply various machine learning techniques to analyze and solve real-world problems												
89	ESC	23AD2001O - AIML	CO4	solve complex real-world problems using advanced supervised and unsupervised learning techniques.												
90	ESC	23AD2001O - AIML	CO5	Evaluate solutions for various AI & ML related problems.												
91	ESC	23EC1202 - DDCA	CO1	Build the combinational and programmable digital logic circuits using logic gates and optimization methods	2	2									3	
92	ESC	23EC1202 - DDCA	CO2	Construct the sequential and memory circuits using flip-flops	2	2									3	
93	ESC	23EC1202 - DDCA	CO3	Organize computer architecture and instructions sequence	2	2									3	
94	ESC	23EC1202 - DDCA	CO4	Model the Memory Architecture and I/O Organization modules	2	2									3	
95	ESC	23EC1202 - DDCA	CO5	Develop and analyze computer architecture modules using basic combinational, sequential and memory logics	2		2		2						3	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
96	ESC	23EC1203 - BEEC	CO1	Understand the basic concepts of circuits and its fundamentals	2										3	
97	ESC	23EC1203 - BEEC	CO2	Grasp the principles of AC circuits, including sinusoidal waveforms, impedance, and power factor.	2										3	
98	ESC	23EC1203 - BEEC	CO3	Comprehend the behavior of basic electronic components, such as diodes, and transistors.	2										3	
99	ESC	23EC1203 - BEEC	CO4	Understand the basic functional Principles of analog and digital ICs.	2										3	
100	ESC	23EE2101R - ELC	CO1	Understand two-port network parameters (Z, Y, H, ABCD) and their interrelations for circuit design.	2				2						1	
101	ESC	23EE2101R - ELC	CO2	Apply transient responses of resistors, capacitors, and inductors under AC and DC conditions.	2				2						2	
102	ESC	23EE2101R - ELC	CO3	Apply network topology techniques (node and mesh analysis) to solve circuit problems.	3				3						2	
103	ESC	23EE2101R - ELC	CO4	Apply Kirchhoff\'s laws to calculate power in three-phase circuits, both balanced and unbalanced. This involves understanding voltage, current distributions, and power factor calculations.	3				3						2	
104	ESC	23EE2101R - ELC	CO6	Analyze network theorems like Thevenin\'s and Norton\'s, three-phase power flows, and circuit transients. This comprehensive analysis is key to solving complex electrical engineering problems.	3				3						2	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
105	ESC	23ME1103 - DTW	CO1	Demonstrate proficiency in typing sentence , paragraph , report , presentations along spread sheets using office tools, LaTeX tools and PowerBI					2							2
106	ESC	23ME1103 - DTW	CO2	Build a static website and blog with using html along with Special features of HTML5, CSS and Javascript					3					3		
107	ESC	23ME1103 - DTW	CO3	Develop a virtual environment with cospace and construct a marker based Augumented Reality			3								3	
108	ESC	23ME1103 - DTW	CO4	Utilising the softwares of Autodesk Fusion 360 and the same can be printed in 3D printer as physical prototype			3								3	
109	ESC	23SC1101 - CTSD	CO1	Develop and apply logical building blocks to solve real world problems	3	3	3									
110	ESC	23SC1101 - CTSD	CO2	Apply computational thinking for designing solutions	3	3	3									
111	ESC	23SC1101 - CTSD	CO3	Develop and apply the CRUD operations on arrays	3	3	3									
112	ESC	23SC1101 - CTSD	CO4	Apply CRUD operations on Linear Data Structures	3	3	3									
113	ESC	23SC1101 - CTSD	CO5	Apply the structured programming paradigm with logic building skills onBasic and Linear Data Structures for solving real world problems	3	3	3		3							
114	ESC	23SC1101 - CTSD	CO6	Skill the students in such a way that students will be able to develop logicthat help them to create programs as well as applications in C	3	3	3		3							
115	ESC	24AD2001R - AIML	CO1	Apply a variety of artificial intelligence algorithms and techniques to effectively solve complex problems in diverse real-world environments		3	3	3							3	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
116	ESC	24AD2001R - AIML	CO2	Demonstrate proficiency in formulating and solving constraint satisfaction problems, employing knowledge engineering principles to perform inferencing, reasoning and probability theory.		3	3	3							3	
117	ESC	24AD2001R - AIML	CO3	Proficient in understanding and applying various machine learning techniques to analyze and solve real-world problems		3	3	3							3	
118	ESC	24AD2001R - AIML	CO4	Demonstrate proficiency in advanced supervised learning techniques and unsupervised learning techniques to solve complex real-world problems.		3	3	3							3	
119	ESC	24AD2001R - AIML	CO5	Build solutions for various AI & ML related problems			3	3	3						3	
120	ESC	24EC1101 - FIS	CO1	Apply the basic concepts of IoT and its implementation using the Development Hardware.	3	3										3
121	ESC	24EC1101 - FIS	CO2	Apply the different sensors interfacing with Development Hardware.		3	3									3
122	ESC	24EC1101 - FIS	CO3	Apply the different actuators interfacing with Development Hardware.		3	3									3
123	ESC	24EC1101 - FIS	CO4	Analyze the IoT concepts to solve real time insights using Arduino / ESP32.		3	3	3								3
124	ESC	24EC1101 - FIS	CO5	Analyze the concepts of IoT devices and systems by examining how they interface with sensors, actuators, and cloud platforms.		3	3									3
125	ESC	24SC1203 - DS	CO1	Understand various sorting algorithms and analyse the efficiency of the algorithms.	3	3										
126	ESC	24SC1203 - DS	CO2	Implement and evaluate Linear Data Structures and Demonstrate their applications.	3	3	3									

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
127	ESC	24SC1203 - DS	CO3	Implement and evaluate tree data structures and understand hashing techniques	3	3	3						3			
128	ESC	24SC1203 - DS	CO4	Understand graph data structures and apply graphs to solve problems	3	3							3			
129	ESC	24SC1203 - DS	CO5	Design, Develop and evaluate common practical applications for linear and nonlinear data structures.			3						3			
130	ESC	24SC1203 - DS	CO6	Skill the students in such a way that students will be able to develop logic that help them to create programs on both linear and non-linear datastructuresand its applications.			3						3			
131	ESC	24SC2006 - OOP	CO1	Apply the concepts of Basic Data types, Operators, Decision andLooping Control Statements, Strings			3		3							
132	ESC	24SC2006 - OOP	CO2	Apply the concepts of Lists, Tuples, Dictionaries. Functions,Modules,Class, Object, OOPS principles.			3		3							
133	ESC	24SC2006 - OOP	CO3	Apply Concepts of OOP principles, classes and objects, Call byvalue vs. Call by reference, recursion, and Nested classes			3		3							
134	ESC	24SC2006 - OOP	CO4	Apply Concepts of Files, Interfaces, Packages, Threads			3		3							
135	ESC	24SC2006 - OOP	CO5	Design, implement, and evaluate Python programs using basicdata types, variables, expressions, conditional statements, loops,functions, built-in data structures, object-oriented programmingconcepts, Python libraries and modules, debugging techniques,and file I/O to solve programming problems.							3		3		3	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
136	PCC	23EC2104R - AECD	CO1	Apply the knowledge of Semiconductor physics and discuss BJT biasing and amplifiers.	3										2	
137	PCC	23EC2104R - AECD	CO2	Apply the limitations of BJT, discuss the characteristics and applications of JFET and MOSFET.	3										2	
138	PCC	23EC2104R - AECD	CO3	Analyse the characteristics of operational Amplifiers and its applications.		2									2	
139	PCC	23EC2104R - AECD	CO4	Analyse the behaviour and applications of Oscillators and multivibrators.		2									2	
140	PCC	23EC2104R - AECD	CO6	Conduct, Experiment, and analyse Analog Electronic circuits using myDAQ.		2									2	
141	PCC	23EC2104R - AECD	CO7	Simulate and analyze Analog Electronic Circuit using Multisim.		2									2	
142	PCC	23EC2106R - PRC	CO1	Apply the foundational concepts of the 8086 microprocessor, including its architecture, pinout, addressing modes, instruction set, timing diagrams for different modes, ALU programming, and practical examples."		2					3				2	
143	PCC	23EC2106R - PRC	CO2	Apply the core aspects of the 8051 microcontroller, focusing on its architecture, pin diagram, addressing modes, instruction sets, and programs involving arithmetic and logical operations, as well as the use of timers and counters."		2					3				2	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
144	PCC	23EC2106R - PRC	CO3	Analyse the 8051 microcontroller applications through assembly-level programming, exploring interrupts, serial port operations, and peripherals like timers, seven-segment displays, LCDs, ADCs, DACs, and stepper motor control, with case studies in keypad interfacing, traffic signals, home automation, and industrial use cases."					3		3				2	
145	PCC	23EC2106R - PRC	CO4	Apply the architectures and features of PIC and ARM microcontrollers, examining the ARM series\' evolution, core features, pipeline processing, processor modes and registers, exception handling, and ARM\'s Thumb mode of execution."		2					3				2	
146	PCC	23EC2106R - PRC	CO5	Analyse the 8051 microcontroller applications through assembly-level programming, exploring interrupts, serial port operations, and peripherals like timers, seven-segment displays, LCDs.					3		3				2	
147	PCC	23EE2102 - ELM	CO1	Analyze the performance of single-phase and three-phase Transformers.	3										2	
148	PCC	23EE2102 - ELM	CO2	Apply the basic principles of electromechanical energy conversion and DC Generators.	3										2	
149	PCC	23EE2102 - ELM	CO3	Apply the basic principles of electromechanical energy conversion to DC Machines and induction machines.		3									2	
150	PCC	23EE2102 - ELM	CO4	Apply the basic principles of electromechanical energy conversion to Synchronous Machines.		3									2	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
151	PCC	23EE2102 - ELM	CO5	Test the performance of Electrical Machines: single-phase and three-phase Transformers, DC Machines, induction machines and Synchronous Machines.	3				1						2	
152	PCC	23EE2204R - EPGTD	CO1	Understand the working of various generating stations and the economic aspects of generation.	2		2								1	
153	PCC	23EE2204R - EPGTD	CO2	Apply field concepts to calculate the over-head transmission line and underground cable electrical parameters.	2	3									1	
154	PCC	23EE2204R - EPGTD	CO3	Analyse the performance of overhead transmission lines and AC/DC distribution.	2		2								1	
155	PCC	23EE2204R - EPGTD	CO4	Analyse mechanical sag, corona, Insulators, and substation layouts.	2		3								1	
156	PCC	23EE2205R - PES	CO1	Select appropriate switch for a given power converter	3						2					1
157	PCC	23EE2205R - PES	CO2	Analyze the steady state performance of Basic DC-DC converters			3	2							1	
158	PCC	23EE2205R - PES	CO3	Analyze the performance of Basic Switch-Mode PWM Inverter			3	2							2	
159	PCC	23EE2205R - PES	CO4	Understand the operation of basic phase-controlled converters	3						2				2	
160	PCC	23EE2205R - PES	CO5	Test the basic power electronic converters by hardware realization and MATLAB software.					3						1	
161	PCC	23EE2207R - CS	CO1	Model physical systems and control system components	3				2						2	
162	PCC	23EE2207R - CS	CO2	Analyse the control systems under time domain and stability analysis.	3				2						2	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
163	PCC	23EE2207R - CS	CO3	Analyse the control systems under frequency domain analysis.		3			2						2	
164	PCC	23EE2207R - CS	CO4	Analyse the state space models of LTI systems		3			2						2	
165	PCC	23EE2207R - CS	CO5	Test the principles of control systems using software & prototype models	2				3							2
166	PCC	23EE3106R - PSAS	CO1	Apply the knowledge of network matrices for solution of power flow problems	2											
167	PCC	23EE3106R - PSAS	CO2	Apply the reactance diagrams for Symmetrical short circuit faults in power system					3							
168	PCC	23EE3106R - PSAS	CO3	Aalyze symmetrical components for unsymmetrical fault analysis in a power system					3							
169	PCC	23EE3106R - PSAS	CO4	Analyze rotor angle stability	2											
170	PCC	23EE3208R - PSPC	CO1	Understand the principle of protective relays & circuit breakers	2				2						2	
171	PCC	23EE3208R - PSPC	CO2	Apply overcurrent, distance and differential schemes for the protection of power system equipment	2				2						2	
172	PCC	23EE3208R - PSPC	CO3	Analyze over voltage protection and economic operation of power system	3				3						3	
173	PCC	23EE3208R - PSPC	CO4	Understand automatic generation control and voltage regulators	2				2						2	
174	PCC	23EE3208R - PSPC	CO5	Test the characteristics of power system protective relays and Operation of power systems through programming/simulation	3				3						3	
175	PCC	23EE3208R - PSPC	CO6	Build the protection system for electrical distribution system	3				3						3	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
176	PRI	23IE2040 - SIP	CO1	Remember the fundamentals of the science of water cycle along with powerful tools that students can use to diagnose the health of the local water cycle as well as develop targeted action plans to restore the local natural water cycle and bring water prosperity			3								3	
177	PRI	23IE2040 - SIP	CO2	Remember the water sustainability and water resilience of village, city, residential facilities and households using multi-level water scorecards				3							3	
178	PRI	23IE2040 - SIP	CO3	Apply the design thinking positive action plan for a village, campus, residential facility and community neighbourhood.					3						3	
179	PRI	23IE2040 - SIP	CO4	Apply the water positive solutions within an urban watershed, a rural watershed, residential institutional and corporate community						3					3	
180	SIL	22UC0021 - SIL-1	CO1	Apply effective communication and collaboration skills to work with diverse populations in addressing social issues within the community.							3	3				
181	SIL	22UC0021 - SIL-1	CO2	Build technological solutions to real-world problems or challenges with peers to achieve common goals.							3	3				
182	SIL	22UC0021 - SIL-1	CO3	Plan effectively to communicate ideas and collaborate with others to achieve artistic or recreational goals.				3				3				
183	SIL	22UC0021 - SIL-1	CO4	Develop innovative solutions by thinking critically and creatively within a collaborative social immersive learning environment.				3						3		

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

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
193	SIL	22UC0023 - SIL-3	CO4	Develop innovative solutions by thinking critically and creatively within a collaborative social immersive learning environment.						3		3				
194	SIL	22UC0023 - SIL-3	CO5	Identify the strategies to promote personal well-being for healthy living through social interaction and shared experiences.			3			3						
					2.4	2.5	2.8	2.6	2.5	2.6	2.5	2.4	2.5	2.8	2.2	2.1

Stakeholder's Feedback

Q#	Question	No. of Stakeholder's						Rating (%)				
		STU	ALU	IE	AP	FAC	TOT	[5]	[4]	[3]	[2]	[1]
Q1	How would you rate the relevance of the current syllabus content in addressing industry needs and trends?	501	217	158	148	562	1586	56.2	33.6	9.3	0.8	0
Q2	How well do the course outcomes align with the skills required in the industry?	501	217	158	148	562	1586	52.1	37.5	9.8	0.7	0
Q3	How would you rate the inclusion of emerging technologies or methodologies in the syllabus?	501	217	158	148	562	1586	54.2	34.3	10.5	1	0
Q4	How effectively are the latest tools integrated into the curriculum?	501	217	158	0	0	876	65.3	23.7	9.2	1.7	0
Q5	How beneficial are the global certifications included in the curriculum for industry readiness?	501	217	158	0	562	1438	58.3	30.8	9.5	1.2	0.1
Q6	How effectively does the curriculum incorporate practical lab experiments relevant to industry practices?	0	217	158	0	0	375	53.6	34.1	11.7	0.5	0
Q7	How does this curriculum compare with similar curricula at other institutions in terms of content and quality?	0	0	0	148	0	148	34.5	48.6	16.9	0	0
Q8	How effective is the integration of research opportunities into the curriculum?	0	0	0	148	562	710	39.3	45.4	13.7	1.7	0
Q9	How beneficial were the MOOCs recommended as part of the curriculum?	501	217	0	148	562	1428	53.7	34.5	10.8	1	0.1
Q10	How well does the course content map to skill council recommendations?	0	0	158	148	562	868	41.1	46.8	11.6	0.3	0.1