

TKM COLLEGE OF ENGINEERING

(Government Aided and Autonomous)

celebrating 60 years of excellence



B.Tech Curriculum 2022

THANGAL KUNJU MUSALIAR COLLEGE OF ENGINEERING
(Government Aided and Autonomous)
KOLLAM-691005, KERALA

TKMCE-Academics- B.Tech Curriculum 2022 -orders issued

No: ACU3/1077/2022

Date: 01/10/2022

Order

Read:

1. UGC order Ref: F. 22-1/2022(AC) dated 26th May 2022
2. U.O. No. KTU/ASST11(ADMIN)/3212/2022 dated 2nd September 2022
3. ACU3/1010/2022 dated 16th September 2022

The TKM College of Engineering was conferred with autonomous status by the UGC on 26th May 2022 vide Ref: 1 and the same was notified by the APJ Abdul Kalam Technological University, on 2nd September 2022, vide ref.2

The first meeting of the Governing Body after the notification of autonomous status was held on 15th September 2022, authorized the Principal to constitute the Academic council as per the UGC (Conferment of Autonomous Status upon Colleges and Measures for Maintenance of Standards in Autonomous Colleges) Regulations, 2018. As per the resolution of the Governing Body, the Principal has constituted the Academic council on 16th September 2022 vide ref.3. The first Academic council meeting held on 24th September 2022, approved' the B.Tech Curriculum for the academic year 2022-23. The academic curriculum for the B.Tech programmes, 2022 approved by the Academic Council, is hereby notified as the **TKM College of Engineering (Aided and Autonomous) B.Tech Curriculum 2022.**




PRINCIPAL
THANGAL KUNJU MUSALIAR
COLLEGE OF ENGINEERING
KOLLAM-5

Copy to: Copy to: All HODs, Deans, IQAC, COE, AA, AO, SS, JS(A)

TKM College of Engineering (Government Aided and Autonomous)
B.Tech Curriculum 2022.

This will be known as the **TKM College of Engineering B.Tech, Curriculum 2022**. These are subject to the provisions of the UGC (Conferment of Autonomous Status upon Colleges and Measures for Maintenance of Standards in Autonomous Colleges) Regulations, 2018 and APJ Abdul Kalam Technological University Act, 2015, the statutes and ordinances if any issued in the subject from time to time. All the rules specified herein, approved by the Academic council, will be in force and applicable to the students admitted from the Academic year 2022-23 onwards.




PRINCIPAL
THANGAL KUNJU MUSALIAR
COLLEGE OF ENGINEERING
KOLLAM-5

COURSE CODE AND PATTERN

Every course of B. Tech. Programme shall be placed in one of the eleven categories and the details of course types are listed in table below

COURSE CODE		
SL NO	CODE	CATEGORY
01	BS	BASIC SCIENCE COURSE
02	ES	ENGINEERING SCIENCE COURSE
03	MNC	MANDATORY NON-CREDIT COURSE
04	HU	HUMANITIES AND MANAGEMENT COURSE
05	HR	HONORS COURSE
06	MR	MINOR COURSE
07	MP	MINI PROJECT
08	S	SEMINAR
09	V	COMPREHENSIVE VIVA
10	O	OPEN ELECTIVE
11	P	PROJECT WORK

Basic Science Courses: Maths, Physics, Chemistry, Biology for Engineers, Life Science etc

Engineering Science Courses: Engineering Graphics, Programming in C, Basics of Electrical and Electronics Engineering, Basics of Civil and Mechanical Engineering, Engineering Mechanics, Thermodynamics, Design Engineering, Materials Engineering, Workshops etc.

Humanities and Social Sciences including Management courses: English, Humanities, Professional Ethics, Management, Finance & Accounting, Life Skills, Professional Communication, Economics etc

Mandatory Non-credit Courses: Environmental Science, Constitution of India/Essence of Indian Knowledge Tradition, Industrial Safety Engineering, Disaster Management etc. The pattern to be followed for course naming the BTech Degree programme is illustrated below:

For S1 AND S2 Semester, following pattern should be used

CODE: **YYCCXSNN**

YY - YEAR OF REGULATION

CC - FIRST TWO ALPHABETS OF THE DEPARTMENT OFFERING THE COURSE/COURSE CATEGORY CODE

X - TYPE OF COURSE T- THEORY L- LAB

S - SEMESTER 1- FIRST SEMESTER 2 - SECOND SEMESTER 3 – THIRD SEMESTER

NN - COURSE SEQUENCE NUMBER

Based on the above, the course code of few courses of S1 and S2 semester are listed below

COURSE CODE		
SEMESTER -1/2		
Sl No.	Code	Name of the course
01	22MAT101	ENGINEERING MATHS – I
02	22PHT102	ENGINEERING PHYSICS
03	22CYT103	ENGINEERING CHEMISTRY
04	22EST104	ENGINEERING MECHANICS
05	22EST105	ENGINEERING GRAPHICS
06	22MNC108	LIFE SKILLS
07	22HUT208	PROFESSIONAL COMMUNICATION
08	22PHL111	ENGINEERING PHYSICS LAB
09	22ESL112	CIVIL & MECHANICAL WORKSHOP
10	22CYL114	ENGINEERING CHEMISTRY LAB

For S3 to S8, the following pattern should be used

CODE : YY DD X S NN

YY - YEAR OF REGULATION

DD - FIRST TWO ALPHABETS OF THE DEPARTMENT

X - TYPE OF COURSE -> T- THEORY L - LAB S - SEMINAR P- PROJECT

E – PROGRAM ELECTIVE V- VIVA H - HONORS M – MINOR

O – OPEN ELECTIVE

S - SEMESTER 1- FIRST SEMESTER 2 - SECOND SEMESTER 3 - THIRD SEMESTER

NN - COURSE SEQUENCE NUMBER

DEPARTMENTS

Each course is offered by a department and their two-letter course prefix is given in Table.

Sl No.	Code	Name of the department
01	AR	ARCHITECTURE
02	CE	CIVIL ENGINEERING
03	CH	CHEMICAL ENGINEERING
04	CS	COMPUTER SCIENCE & ENGINEERING
05	EC	ELECTRONICS AND COMMUNICATION ENGINEERING
06	EE	ELECTRICAL AND ELECTRONICS ENGINEERING
07	ME	MECHANICAL ENGINEERING
08	ER	ELECTRICAL & COMPUTER ENGINEERING

For eg: **22CET303-** is a theory course offered by civil engineering department in the third semester.

22MEL408 is a laboratory course offered by mechanical engineering department in the fourth semester.

CREDIT DISTRIBUTION TABLE

Semester	No. & Details of Courses	Total Hours/week	Total Credits
I	Theory Course – 4 (Non-Credit -1) Lab Courses – 2	23/24	17
II	Theory Course – 6 (Non-Credit -1) Lab Courses – 2	28/29	21
III	Theory Course – 5 (Non-Credit -1) Lab Courses – 2 Remedial/Minor -1	26/30*	22(+4) *
IV	Theory Course – 6 (Non-Credit -1) Lab Courses – 2 Remedial/Honours/Minor -1	26/30/34*	22(+4/+8) *
V	Theory Course – 5 (Non-Credit -1) Lab Courses – 2 Remedial/Honours/Minor -1	27/31/35*	23(+4/+8) *
VI	Theory Course – 1 (Prog. Elect -I) Open Elective – 1 Lab Courses – 2 Remedial/Honours/Minor -1	25/29/33*	23(+4/+8) *
VII	Theory Course –1 (Non-Credit -1, Prog. Elect -1) Project – 1 Lab Courses – 1, Seminar, Project -1 Remedial/Honours/Minor -1	24/28/32*	15 (+4/+8) *
VIII	Theory Course – 2 (Prog. Elect - 3) Project -1, Viva- 1 Remedial/Honours/Minor -1	25/29/33*	17 (+4/+8) *
Activity Points (100 pts)			2
TOTAL			162

* Additional Credits/Hours for Honours/Minor

Total Courses = 61 (45 theory courses including 15 core courses, 5 Program Electives and 1 Open Elective + 5 Non-credit courses + 13 Labs + + 1 Seminar + 2 project courses)

Note:-

1. Minor Courses start from 3rd Semester 2. Honours Courses start from 4th Semester
3. No. of Programme Electives – FIVE (VI, VII & VIII semester, in VIII- 3Nos.)
4. No. of Open Electives – ONE (VIII semester)
5. Project in VII & VIII semesters

GENERAL INSTRUCTIONS

SEMESTER I

1. Engineering Physics[A/B] and Engineering Chemistry shall be offered in both semesters. The students belonging to non - circuit branches in the Institution should opt for Engineering Physics B in S1 and Engineering Chemistry in S2. For circuit branches, Engineering Physics A should be opted in S2 & and Engineering Chemistry in S1. Students opting for Engineering Physics A/B in a semester should attend Physics Lab in the same semester and students opting for Engineering Chemistry in one semester should attend Engineering Chemistry Lab in the same semester

2. Engineering Mechanics and Engineering Graphics shall be offered in both semesters. About 50% of the programmes in the Institution should Engineering Mechanics in S1 and Engineering Graphics in S2 & vice versa.

3. Basics of Civil & Mechanical Engineering and Basics of Electrical & Electronics Engineering shall be offered in both semesters. The course Basics of Civil & Mechanical Engineering contains equal weightage for portions in Civil Engineering and Mechanical Engineering. Slot for the course is D with CIE marks of 25 each and ESE marks of 50 each.

Basics of Electrical & Electronics Engineering contains equal weightage for portions in Electrical Engineering and Electronics Engineering. Slot for the course is D with CIE marks of 25 each and ESE marks of 50 each. Students having Basics of Civil & Mechanical Engineering in one semester should attend Civil & Mechanical Workshop in the same semester and students having Basics of Electrical & Electronics Engineering in a semester should attend Electrical & Electronics Workshop in the same semester.

4. LIFE SKILLS

Life skills are those competencies that provide the means for an individual to be resourceful and positive while taking on life's vicissitudes. Development of one's personality by being aware of the self, connecting with others, reflecting on the abstract and the concrete, leading and generating change, and staying rooted in time-tested values and principles is being aimed at. This course is designed to enhance the employability and maximize the potential of the students by introducing them to the principles that underlie personal and professional success, and help them acquire the skills needed to apply these principles in their lives and careers.

5. PROFESSIONAL COMMUNICATION

Objective is to develop in the under-graduate students of engineering a level of competence in English required for independent and effective communication for their professional needs. Coverage: Listening, Barriers to listening, Steps to overcome them, Purposeful listening practice, Use of technology in the professional world. Speaking, Fluency & accuracy in speech, Positive thinking, improving self-expression, Tonal variations, Group discussion practice, Reading, Speed reading practice, Use of extensive readers, Analytical and critical reading practice, Writing Professional Correspondence, Formal and informal letters, Tone in formal writing, Introduction to reports. Study Skills, Use of dictionary, thesaurus etc., Importance of contents page, cover & back pages, Bibliography, Language Lab.

SEMESTER III

1. Design & Engineering and Professional Ethics shall be offered in both S3 and S4. About 50% of the programmes in the Institution should opt for Design & Engineering in S3 and Professional Ethics in S4 & vice versa.

2. It is mandatory to keep 4 hours exclusively for Remedial class/Minor course (Thursdays from 3 to 5 PM and Fridays from 2 to 4 PM). If a student does not opt for minor programme, he/she can be given remedial class.

3. MINOR

Minor is an additional credential a student may earn if she/he does 20 credits worth of additional learning in a discipline other than her/his major discipline of B.Tech. degree. The objective is to permit a student to customize their Engineering degree to suit their specific interests. Upon completion of an Engineering Minor, a student will be better equipped to perform interdisciplinary research and will be better employable. Engineering Minors allow a student to gain interdisciplinary experience and exposure to concepts and perspectives that may not be a part of their major degree programs.

The academic units offering minors in their discipline will prescribe the set of courses and/or other activities like projects necessary for earning a minor in that discipline. A specialist basket of 3-6 courses is identified for each Minor. Each basket may rest on one or more foundation courses. A basket may have sequences within it, i.e., advanced courses may rest on basic courses in the basket. She/he accumulates credits by registering for the required courses, and if the requirements for a particular minor are met within the time limit for the course, the minor will be awarded. This will be mentioned in the Degree Certificate as "Bachelor of Technology in xxx with Minor in yyy". The fact will also be reflected in the consolidated grade card, along with the list of courses taken. If one specified course cannot be earned during the course of the programme, that minor will not be awarded. The individual course credits earned, however, will be reflected in the consolidated grade card.

(i) The curriculum/syllabus committee/BoS shall prepare syllabus for courses to be included in the curriculum from third to eight semesters for all branches. The minor courses shall be identified by M slot courses.

(ii) Registration is permitted for Minor at the beginning of third semester. Total credits required to award BTech with Minor is 182 (162 + 20)

(iii) Out of the 20 Credits, 12 credits shall be earned by undergoing a minimum of three courses, of which one course shall be a mini project based on the chosen area. They can do mini project either in S7 or in S8. The remaining 8 credits could be acquired through 2 MOOCs recommended by the Board of Studies and approved by the Academic Council or 2 courses from the minor baskets listed here. The classes for Minor shall be conducted along with regular classes and no extra time shall be required for conducting the courses.

(iv) There won't be any supplementary examination for the courses chosen for Minor.

(v) On completion of the program, "Bachelor of Technology degree in xxx with Minor in yyy" will be awarded if the registrant earn 20 credits from the minor courses.

- (vi) The registration for minor program will commence from semester 3 and all the academic units offering minors in their discipline should prescribe set of such courses. The courses shall be grouped into maximum of 5 baskets. The basket of courses may have sequences within it, i.e., advanced courses may rest on basic courses in the basket. Reshuffling of courses between various baskets will not be allowed. There is option to skip any two courses listed here and to opt for equivalent MOOC courses approved by the Academic Council. In any case, they should carry out a mini project based on the chosen area in S7 or S8.

SEMESTER IV

It is mandatory to keep 4 hours exclusively for Remedial class/Minor/ Honors course (Tuesdays from 3 to 5 PM and Wednesdays from 3 to 5 PM). If a student does not opt for minor/honors programme, he/she can be given remedial class.

SEMESTER VI

1. COMPREHENSIVE COURSE WORK: The comprehensive course work in the sixth semester of study shall have a written test of 50 marks. The written examination will be of objective type similar to the GATE examination and will be conducted by the College. Syllabus for comprehensive examination shall be prepared by the respective BoS choosing the above listed 6 core courses studied from semesters 3 to 5. The pass minimum for this course is 25. The course should be mapped with a faculty and classes shall be arranged for practicing questions based on the core courses listed in the curriculum.

2. The pass minimum for this course is 25. The course should be mapped with a faculty and classes shall be arranged for practicing questions based on the core courses listed in the curriculum.

SEMESTER VII

1. OPEN ELECTIVE: The open elective is offered in semester 7. Each program should specify the courses (maximum 5) they would like to offer as electives for other programs.

2. SEMINAR: To encourage and motivate the students to read and collect recent and reliable information about their area of interest confined to the relevant discipline, from technical publications including peer reviewed journals, conferences, books, project reports etc., prepare a report based on a central theme and present it before a peer audience. Each student shall present the seminar for about 20 minutes duration on the selected topic. The report and the presentation shall be evaluated by a team of faculty members comprising Academic coordinator for that program, seminar coordinator and seminar guide based on style of presentation, technical content, adequacy of references, depth of knowledge and overall quality of the report.

Total marks: 100, only CIE, minimum required to pass 50

Attendance	10
Seminar Guide	20
Technical Content of the Report	30
Presentation	40

3. PROJECT PHASE- I: A Project topic must be selected either from research literature or the students themselves may propose suitable topics in consultation with their guides. The objective of Project Work Phase-I is to enable the student to take up investigative study in the broad field of Computer Science and Engineering, either fully theoretical/practical or involving both theoretical and practical work to be assigned by the Department on a group of three/four students, under the mentoring of a Project

Guide(s). This is expected to provide a good initiation for the student(s) in R&D work. The assignment shall normally include:

- Survey and study of published literature on the assigned topic;
- Preparing an Action Plan for conducting the investigation, including team work;
- Working out a preliminary Approach to the Problem relating to the assigned topic;
- Block level design documentation
- Conducting preliminary Analysis/ Modelling/ Simulation/ Experiment/ Design/ Feasibility;
- Preparing a Written Report on the Study conducted for presentation to the Department;
- Final project presentation before the concerned departmental committee.

Total marks: 100, only CIE, minimum required to pass 50

Project Guide(s)	30
Interim evaluation by the evaluation committee	20
Final project presentation	30
Final evaluation by the evaluation committee	20

The evaluation committee comprises Head of the Department or a senior faculty member, Project coordinator and project guide(s).

SEMESTER VIII

1. **COMPREHENSIVE VIVA VOCE:** The comprehensive viva voce in the eighth semester of study shall have a viva voce for 50 marks. The viva voce shall be conducted based on the core subjects studied from third to eighth semester. The viva voce will be conducted by the same three-member committee assigned for final project phase II evaluation towards the end of the semesters. The pass minimum for this course is 25. The course should be mapped with a faculty and classes shall be arranged for practicing questions based on the core courses listed in the curriculum. The mark will be treated as internal and should be uploaded along with internal marks of other courses.

2. **PROJECT PHASE II:** The objective of Project Work Phase II & Dissertation is to enable the student to extend further the investigative study taken up in Project Phase I, either fully theoretical/practical or involving both theoretical and practical work, under the mentoring of a Project Guide from the Department alone or jointly with a Supervisor drawn from R&D laboratory/Industry. This is expected to provide a good training for the student(s) in R&D work and technical leadership. The assignment shall normally include:

- In depth study of the topic assigned in the light of the Report prepared in Phase I;
- Review and finalization of the Approach to the Problem relating to the assigned topic;
- Detailed Analysis/Modeling/Simulation/Design/Problem Solving/Experiment as needed;
- Final development of product/process, testing, results, conclusions and future directions;
- Preparing a paper for Conference presentation/Publication in Journals, if possible;

- Preparing a Dissertation in the standard format for being evaluated by the Department;
- Final Presentation before the concerned evaluation committee

Total marks: 150, only CIE, minimum required to pass 75

Project Guide	30
Interim evaluation, twice in the semester by the evaluation committee	70
Quality of the report evaluated by the above committee	10

(The evaluation committee comprises HoD or a senior faculty member, Project coordinator and project guide).

Final evaluation by a three-member committee	40
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(The final evaluation committee comprises Project coordinator, expert from Industry/ research Institute and a senior faculty from a sister department. The same committee will conduct comprehensive course viva for 50 marks).

CIVIL ENGINEERING

CURRICULUM FROM SEMESTERS I TO VIII

SEMESTER I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT101	LINEAR ALGEBRA AND CALCULUS	3-1-0	4	4
B 1/2	22PHT102	ENGINEERING PHYSICS B	3-1-0	4	4
	22CYT103	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	22EST 104	ENGINEERING MECHANICS	2-1-0	3	3
	22EST 105	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	22EST 106	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	22EST 107	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	22MNC108	LIFE SKILLS	2-0-2	4	--
S 1/2	22PHL 109	ENGINEERING PHYSICS LAB	0-0-2	2	1
	22CYL110	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	22ESL 111	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	22ESL 112	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				23/24 *	17

SEMESTER II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT201	VECTOR CALCULUS, DIFFERENTIAL EQUATIONS AND TRANSFORMS	3-1-0	4	4
B 1/2	22PHT 202	ENGINEERING PHYSICS B	3-1-0	4	4
	22CYT 203	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	22EST 204	ENGINEERING MECHANICS	2-1-0	3	3
	22EST 205	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	22EST 206	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	22EST 207	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	22HUT 208	PROFESSIONAL COMMUNICATION	2-0-2	4	--
F	22EST 209	PROGRAMMING IN C	2-1-2	5	4
S 1/2	22PHL 210	ENGINEERING PHYSICS LAB	0-0-2	2	1
	22CYL 211	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	22ESL 212	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	22ESL 213	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				28/29	21

SEMESTER III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT 301	PARTIAL DIFFERENTIAL EQUATION AND COMPLEX ANALYSIS	3-1-0	4	4
B	22CET 302	MECHANICS OF SOLIDS	3-1-0	4	4
C	22CET 303	FLUID MECHANICS & HYDRAULICS	3-1-0	4	4
D	22CET 304	SURVEYING & GEOMATICS	4-0-0	4	4
E	22EST 305	DESIGN & ENGINEERING	2-0-0	2	2
1/2	22HUT306	PROFESSIONAL ETHICS	2-0-0	2	2
F	22MNC307	SUSTAINABLE ENGINEERING	2-0-0	2	--
S	22CEL308	CIVIL ENGINEERING PLANNING & DRAFTING LAB	0-0-3	3	2
T	22CEL309	SURVEY LAB	0-0-3	3	2
R/M	22CEMR310.1/2/3	Remedial/Minor course	3-1-0	4 *	4
TOTAL				26/30	22/26

SEMESTER IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT401	PROBABILITY, STATISTICS AND NUMERICAL METHODS	3-1-0	4	4
B	22CET 402	ENGINEERING GEOLOGY	3-0-1	4	4
C	22CET 403	GEOTECHNICAL ENGINEERING – I	4-0-0	4	4
D	22CET 404	TRANSPORTATION ENGINEERING	4-0-0	4	4
E	22EST 405	DESIGN & ENGINEERING	2-0-0	2	2
1/2	22HUT406	PROFESSIONAL ETHICS	2-0-0	2	2
F	22MNC407	CONSTITUTION OF INDIA	2-0-0	2	--
S	22CEL 408	MATERIAL TESTING LAB- I	0-0-3	3	2
T	22CEL 409	FLUID MECHANICS LAB	0-0-3	3	2
R/M/H	22CEMR410.1/2/3 22CEHR411.1/2/3	Remedial/Minor/Honors course	3-1-0	4*	4
TOTAL				26/30	22/26

SEMESTER V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22CET 501	STRUCTURAL ANALYSIS-I	3-1-0	4	4
B	22CET 502	DESIGN OF CONCRETE STRUCTURES	3-1-0	4	4
C	22CET 503	GEOTECHNICAL ENGINEERING – II	4-0-0	4	4
D	22CET 504	HYDROLOGY & WATER RESOURCES ENGINEERING	4-0-0	4	4
E	22CET 505	CONSTRUCTION TECHNOLOGY & MANAGEMENT	3-0-0	3	3
F	22MNC506	DISASTER MANAGEMENT	2-0-0	2	--
S	22CEL 507	MATERIAL TESTING LAB – II	0-0-3	3	2
T	22CEL 508	GEOTECHNICAL ENGINEERING LAB	0-0-3	3	2
R/M/H	22CEMR509.1/2/3 22CEHR510.1/2/3	Remedial/Minor/Honours course	3-1-0	4*	4
TOTAL				27/31	23/27

SEMESTER VI

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22CET 601	STRUCTURAL ANALYSIS – II	3-1-0	4	4
B	22CET 602	ENVIRONMENTAL ENGINEERING	4-0-0	4	4
C	22CET 603	DESIGN OF HYDRAULIC STRUCTURES	4-0-0	4	4
D	22CEE 604	PROGRAM ELECTIVE I	3-0-0	3	3
E	22HUT 605	INDUSTRIAL ECONOMICS & FOREIGN TRADE	3-0-0	3	3
F	22CET 606	COMPREHENSIVE COURSE WORK	1-0-0	1	1
S	22CEL 607	TRANSPORTATION ENGINEERING LAB	0-0-3	3	2
T	22CEL 608	CIVIL ENGINEERING SOFTWARE LAB	0-0-3	3	2
R/M/H	22CEMR609.1/2/3 22CEHR610.1/2/3	Remedial/Minor/Honors course	3-1-0	4*	4
TOTAL				25/29	23/27

PROGRAM ELECTIVE I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	22CEE 604.1	ADVANCED COMPUTATIONAL METHODS	3-0-0	3	3
	22CEE 604.2	GEOTECHNICAL INVESTIGATION	3-0-0		
	22CEE 604.3	TRAFFIC ENGINEERING & MANAGEMENT	3-0-0		
	22CEE 604.4	MECHANICS OF FLUID FLOW	3-0-0		
	22CEE 604.5	ADVANCED CONCRETE TECHNOLOGY	3-0-0		
	22CEE 604.6	ENVIRONMENTAL IMPACT ASSESSMENT	3-0-0		
	22CEE 604.7	FUNCTIONAL DESIGN OF BUILDINGS	3-0-0		

SEMESTER VII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22CET 701	DESIGN OF STEEL STRUCTURES	3-0-0	3	3
B	22CEE 702	PROGRAM ELECTIVE II	3-0-0	3	3
C	22CEO 703	OPEN ELECTIVE	3-0-0	3	3
D	22MNC 704	INDUSTRIAL SAFETY ENGINEERING	2-1-0	3	---
S	22CEL 705	ENVIRONMENTAL ENGINEERING LAB	0-0-3	3	2
T	22CES 706	SEMINAR	0-0-3	3	2
U	22CEP 707	PROJECT PHASE I	0-0-6	6	2
R/M/H	22CEMR708 22CEHR709.1/2/3	Remedial/Minor/Honors course	3-1-0	4*	4
TOTAL				24/28	15/19

PROGRAM ELECTIVE II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	22CEE 702.1	PRESTRESSED CONCRETE	3-0-0	3	3
	22CEE 702.2	GROUND IMPROVEMENT TECHNIQUES	3-0-0		
	22CEE 702.3	HIGHWAY MATERIALS AND DESIGN	3-0-0		
	22CEE 702.4	APPLIED HYDROLOGY	3-0-0		
	22CEE 702.5	CONSTRUCTION PLANNING & MANAGEMENT	3-0-0		
	22CEE 702.6	ADVANCED ENVIRONMENTAL ENGINEERING	3-0-0		
	22CEE 702.7	OPTIMISATION TECHNIQUES IN CIVIL ENGINEERING	3-0-0		

OPEN ELECTIVE

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	22CEO 703.1	ENVIRONMENTAL IMPACT ASSESSMENT	2-1-0	3	3
	22CEO 703.2	APPLIED EARTH SYSTEMS	2-1-0		
	22CEO 703.3	INFORMATICS FOR INFRASTRUCTURE MANAGEMENT	2-1-0		
	22CEO 703.4	NATURAL DISASTERS AND MITIGATION	2-1-0		
	22CEO 703.5	ENVIRONMENTAL HEALTH AND SAFETY	2-1-0		
	22CEO 703.6	GEOINFORMATICS	2-1-0		

SEMESTER VIII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22CET 801	QUANTITY SURVEYING & VALUATION	3-0-0	3	3
B	22CEE 802	PROGRAM ELECTIVE III	3-0-0	3	3
C	22CEE 803	PROGRAM ELECTIVE IV	3-0-0	3	3
D	22CEE 804	PROGRAM ELECTIVE V	3-0-0	3	3
E	22CEV 805	COMPREHENSIVE VIVA VOCE	1-0-0	1	1
U	22CEP 806	PROJECT PHASE II	0-0-12	12	4
R/M/H	22CEMR807 22CEHR808	Remedial/Minor/Honors course	3-1-0	4*	4
TOTAL				25/29	17/21

PROGRAM ELECTIVE III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	22CEE 802.1	ADVANCED STRUCTURAL DESIGN	3-0-0	3	3
	22CEE 802.2	GEO ENVIRONMENTAL ENGINEERING	3-0-0		
	22CEE 802.3	RAILWAY AND TUNNEL ENGINEERING	3-0-0		
	22CEE 802.4	IRRIGATION & DRAINAGE ENGINEERING	3-0-0		
	22CEE 802.5	CONSTRUCTION METHODS & EQUIPMENT	3-0-0		
	22CEE 802.6	AIR QUALITY MANAGEMENT	3-0-0		
	22CEE 802.7	URBAN PLANNING & ARCHITECTURE	3-0-0		

PROGRAM ELECTIVE IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	22CEE 803.1	BRIDGE ENGINEERING	3-0-0	3	3
	22CEE 803.2	ADVANCED FOUNDATION DESIGN	3-0-0		
	22CEE 803.3	TRANSPORTATION PLANNING	3-0-0		
	22CEE 803.4	INFORMATICS FOR INFRASTRUCTURE MANAGEMENT	3-0-0		
	22CEE 803.5	REPAIR AND REHABILITATION OF BUILDINGS	3-0-0		
	22CEE 803.6	ENVIRONMENTAL REMOTE SENSING	3-0-0		
	22CEE 803.7	BUILDING SERVICES	3-0-0		

PROGRAM ELECTIVE V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	22CEE 804.1	EARTHQUAKE RESISTANT DESIGN	3-0-0	3	3
	22CEE 804.2	SOIL STRUCTURE INTERACTION	3-0-0		
	22CEE 804.3	AIRPORT, SEAPORT AND HARBOUR ENGINEERING	3-0-0		
	22CEE 804.4	HYDRO CLIMATOLOGY	3-0-0		
	22CEE 804.5	SUSTAINABLE CONSTRUCTION	3-0-0		
	22CEE 804.6	CLIMATE CHANGE & SUSTAINABILITY	3-0-0		
	22CEE 804.7	BUILDING INFORMATION MODELLING	3-0-0		

MINOR

SEMESTER	BASKET I			BASKET II			BASKET III		
	Course No.	Course Name	HOURS CREDIT	Course No.	Course Name	HOURS CREDIT	Course No.	Course Name	HOURS CREDIT
S3	22CEMR310.1	BUILDING CONSTRUCTION & STRUCTURAL SYSTEMS	4 4	22CEMR310.2	INTRODUCTION TO GEOTECHNICAL ENGINEERING	4 4	22CEMR310.3	INFORMATICS FOR INFRASTRUCTURE MANAGEMENT	4 4
S4	22CEMR410.1	BUILDING DRAWING	4 4	22CEMR410.2	INTRODUCTION TO TRANSPORTATION ENGINEERING	4 4	22CEMR410.3	CLIMATE CHANGE & HAZARD MITIGATION	4 4
S5	22CEMR509.1	STRUCTURAL MECHANICS	4 4	22CEMR509.2	ECO-FRIENDLY TRANSPORTATION SYSTEMS	4 4	22CEMR509.3	SUSTAINABILITY ANALYSIS & DESIGN	4 4
S6	22CEMR609.1	ESTIMATION COSTING AND VALUATION	4 4	22CEMR609.2	GEOTECHNICAL INVESTIGATION & GROUND IMPROVEMENT TECHNIQUES	4 4	22CEMR609.3	ENVIRONMENTAL HEALTH& SAFETY	4 4
S7	22CEMR708	MINIPROJECT	4 4	22CEMR708	MINIPROJECT	4 4	22CEMR708	MINIPROJECT	4 4
S8	22CEMR807	MINIPROJECT	4 4	22CEMR807	MINIPROJECT	4 4	22CEMR807	MINIPROJECT	4 4

HONOURS

SEMESTER	GROUP I			GROUP II			GROUP III		
	Course No.	Course Name	C R E D I T H O U R I S	Course No.	Course Name	C R E D I T H O U R I S	Course No.	Course Name	C R E D I T H O U R I S
S4	22CEHR411.1	ADVANCED MECHANICS OF SOLIDS	4 4	22CEHR411.2	PAVEMENT CONSTRUCTION AND MANAGEMENT	4 4	22CEHR411.3	GEOGRAPHICAL INFORMATION SYSTEMS	4 4
S5	22CEHR510.1	STRUCTURAL DYNAMICS	4 4	22CEHR510.2	TRANSPORTATION SYSTEMS MANAGEMENT	4 4	22CEHR510.3	GROUND WATER HYDROLOGY	4 4
S6	22CEHR610.1	FINITE ELEMENT METHODS	4 4	22CEHR610.2	EARTH DAMS AND EARTH RETAINING STRUCTURES	4 4	22CEHR610.3	ENVIRONMENTAL POLLUTION MODELLING	4 4
S7	22CEHR709.1	MODERN CONSTRUCTION MATERIALS	4 4	22CEHR709.2	SOIL DYNAMICS AND MACHINE FOUNDATIONS	4 4	22CEHR709.3	ENVIRONMENTAL POLLUTION CONTROL TECHNIQUES	4 4
S8	22CEHR808	MINIPROJECT	4 4	22CEHR808	MINIPROJECT	4 4	22CEHR808	MINIPROJECT	4 4

CHEMICAL ENGINEERING

CURRICULUM FROM SEMESTERS I TO VIII

SEMESTER I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT101	LINEAR ALGEBRA AND CALCULUS	3-1-0	4	4
B 1/2	22PHT102	ENGINEERING PHYSICS B	3-1-0	4	4
	22CYT103	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	22EST104	ENGINEERING MECHANICS	2-1-0	3	3
	22EST105	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	22EST106	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	22EST107	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	22MNC108	LIFE SKILLS	2-0-2	4	--
S 1/2	22PHL109	ENGINEERING PHYSICS LAB	0-0-2	2	1
	22CYL110	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	22ESL111	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	22ESL112	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				23/24*	17

SEMESTER II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT201	VECTOR CALCULUS, DIFFERENTIAL EQUATIONS AND TRANSFORMS	3-1-0	4	4
B 1/2	22PHT202	ENGINEERING PHYSICS B	3-1-0	4	4
	22CYT203	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	22EST204	ENGINEERING MECHANICS	2-1-0	3	3
	22EST205	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	22EST206	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	22EST207	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	22HUT208	PROFESSIONAL COMMUNICATION	2-0-2	4	--
F	22EST209	PROGRAMMING IN C	2-1-2	5	4
S 1/2	22PHL210	ENGINEERING PHYSICS LAB	0-0-2	2	1
	22CYL211	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	22ESL212	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	22ESL213	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				28/29	21

SEMESTER III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT301	PARTIAL DIFFERENTIAL EQUATION AND COMPLEX ANALYSIS	3-1-0	4	4
B	22CHT302	CHEMISTRY FOR PROCESS ENGINEERING	3-1-0	4	4
C	22CHT303	CHEMICAL PROCESS PRINCIPLES	3-1-0	4	4
D	22CHT304	FLUID AND PARTICLE MECHANICS	3-1-0	4	4
E	22EST305	DESIGN & ENGINEERING	2-0-0	2	2
1/2	22HUT306	PROFESSIONAL ETHICS	2-0-0	2	2
F	22MNC307	SUSTAINABLE ENGINEERING	2-0-0	2	--
S	22CHL308	CHEMICAL TECHNOLOGY & ENVIRONMENTAL ENGINEERING LAB	0-0-3	3	2
T	22CHL309	CHEMISTRY LAB FOR PROCESS ENGINEERING	0-0-3	3	2
R/M	22CHMR310.1/2/3	REMEDIAL/MINOR COURSE	3-1-0	4 *	4
TOTAL				26/30	22/26

SEMESTER IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT401	PROBABILITY, STATISTICS AND NUMERICAL METHODS	3-1-0	4	4
B	22CHT402	CHEMICAL ENGINEERING THERMODYNAMICS	3-1-0	4	4
C	22CHT403	HEAT TRANSFER OPERATIONS	3-1-0	4	4
D	22CHT404	PARTICLE TECHNOLOGY	3-1-0	4	4
E	22EST405	DESIGN & ENGINEERING	2-0-0	2	2
1/2	22HUT406	PROFESSIONAL ETHICS	2-0-0	2	2
F	22MNC407	CONSTITUTION OF INDIA	2-0-0	2	--
S	22CHL408	FLUID AND PARTICLE MECHANICS LAB	0-0-3	3	2
T	22CHL409	PARTICLE TECHNOLOGY LAB	0-0-3	3	2
R/M/H	22CHMR410.1/2/3 22CHHR411.1/2/3	REMEDIAL / MINOR / HONOURS COURSE	3-1-0	4*	4
TOTAL				26/30	22/26

SEMESTER V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22CHT501	MASS TRANSFER OPERATIONS-I	3-1-0	4	4
B	22CHT502	ENVIRONMENTAL ENGINEERING	3-1-0	4	4
C	22CHT503	CHEMICAL REACTION ENGINEERING	3-1-0	4	4
D	22CHT504	INSTRUMENTATION AND PROCESS CONTROL	3-1-0	4	4
E 1/2	22CHT505	INDUSTRIAL ECONOMICS & FOREIGN TRADE	3-0-0	3	3
	22CHT506	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	22MNC507	DISASTER MANAGEMENT	2-0-0	2	--
S	22CHL508	HEAT TRANSFER OPERATIONS LAB	0-0-3	3	2
T	22CHL509	PROCESS CONTROL LAB	0-0-3	3	2
R/M/H	22CHMR510.1/2/3 22CHHR511.1/2/3	REMEDIAL / MINOR / HONOURS COURSE	3-1-0	4*	4
TOTAL				27/31	23/27

SEMESTER VI

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22CHT601	MASS TRANSFER OPERATIONS-II	3-1-0	4	4
B	22CHT602	TRANSPORT PHENOMENA	3-1-0	4	4
C	22CHT603	CHEMICAL TECHNOLOGY	3-1-0	4	4
D	22CHE604	PROGRAM ELECTIVE-I	2-1-0	3	3
E 1/2	22HUT605	INDUSTRIAL ECONOMICS & FOREIGN TRADE	3-0-0	3	3
	22HUT606	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	22CHT607	COMPREHENSIVE COURSE WORK	1-0-0	1	1
S	22CHL608	MASS TRANSFER OPERATIONS LAB	0-0-3	3	2
T	22CHL609	CHEMICAL REACTION ENGINEERING LAB	0-0-3	3	2
R/M/H	22CHMR610.1/2/3 22CHHR611.1/2/3	REMEDIAL / MINOR / HONOURS COURSE	3-1-0	4*	4
TOTAL				25/29	23/27

PROGRAM ELECTIVE I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	22CHE604.1	BIOCHEMICAL ENGINEERING	2-1-0	3	3
	22CHE604.2	ENERGY ENGINEERING	2-1-0		
	22CHE604.3	NUMERICAL METHODS FOR PROCESS ENGINEERS	2-1-0		
	22CHE604.4	MATERIAL SCIENCE AND ENGINEERING	2-1-0		
	22CHE604.5	OPERATIONS RESEARCH	2-1-0		
	22CHE604.6	PROCESS INSTRUMENTATION	2-1-0		
	22CHE604.7	CATALYST SCIENCE AND CATALYTIC PROCESSES	2-1-0		

SEMESTER VII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22CHT701	CHEMICAL PROCESS EQUIPMENT DESIGN-I	2-1-0	3	3
B	22CHE702	PROGRAM ELECTIVE II	2-1-0	3	3
C	22CHO703	OPEN ELECTIVE	2-1-0	3	3
D	22CHT704	INDUSTRIAL SAFETY ENGINEERING	2-1-0	3	---
S	22CHL705	PROCESS SIMULATION LAB	0-0-3	3	2
T	22CHS706	SEMINAR	0-0-3	3	2
U	22CHP707	PROJECT PHASE-I	0-0-6	6	2
R/M/H	22CHMR708 22CHHR709.1/2/3	REMEDIAL / MINOR / HONOURS COURSE	3-1-0	4*	4
TOTAL				24/28	15/19

PROGRAM ELECTIVE II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	22CHE702.1	FOOD PROCESSING AND TECHNOLOGY	2-1-0	3	3
	22CHE702.2	OIL AND NATURAL GAS ENGINEERING	2-1-0		
	22CHE702.3	PROCESS MODELLING AND SIMULATION	2-1-0		
	22CHE702.4	CORROSION ENGINEERING	2-1-0		
	22CHE702.5	PROJECT ENGINEERING	2-1-0		
	22CHE702.6	INTRODUCTION TO DATA ANALYSIS	2-1-0		
	22CHE702.7	FLUIDIZATION ENGINEERING	2-1-0		

OPEN ELECTIVE (OE)

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	22CHO703.1	ENERGY TECHNOLOGY AND ENERGY MANAGEMENT	2-1-0	3	3
	22CHO703.2	PETROLEUM RESOURCES AND PETROCHEMICALS	2-1-0		
	22CHO703.3	PROCESS SAFETY ENGINEERING	2-1-0		
	22CHO703.4	PIPING AND PIPELINE DESIGN FOR PROCESS INDUSTRIES	2-1-0		

SEMESTER VIII

SLOT	COURSE	COURSES	L-T-P	HOURS	CREDIT
A	22CHT801	CHEMICAL PROCESS EQUIPMENT DESIGN-II	2-1-0	3	3
B	22CHE802	PROGRAM ELECTIVE-III	2-1-0	3	3
C	22CHE803	PROGRAM ELECTIVE-IV	2-1-0	3	3
D	22CHE804	PROGRAM ELECTIVE-V	2-1-0	3	3
T	22CHV805	COMPREHENSIVE COURSE VIVA	1-0-0	1	1
U	22CHP806	PROJECT PHASE-II	0-0-12	12	4
R/M/H	22CHMR807 22CHHR808	REMEDIAL / MINOR / HONOURS COURSE	3-1-0	4*	4
TOTAL				25/29	17/21

PROGRAM ELECTIVE III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	22CHE802.1	AIR POLLUTION MONITORING & CONTROL	2-1-0	3	3
	22CHE802.2	PETROLEUM REFINERY ENGINEERING	2-1-0		
	22CHE802.3	COMPUTATIONAL FLUID DYNAMICS	2-1-0		
	22CHE802.4	POLYMER TECHNOLOGY	2-1-0		
	22CHE802.5	PROCESS UTILITY AND PIPING ENGINEERING	2-1-0		
	22CHE802.6	DRUGS AND PHARMACEUTICALS TECHNOLOGY	2-1-0		
	22CHE802.7	ELECTROCHEMICAL ENGINEERING	2-1-0		

PROGRAM ELECTIVE IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	22CHE803.1	ECONOMICS & MANAGEMENT OF CHEMICAL INDUSTRIES	2-1-0	3	3
	22CHE803.2	PETROCHEMICALS AND FERTILIZERS	2-1-0		
	22CHE803.3	MATHEMATICAL METHODS IN PROCESS ENGINEERING	2-1-0		
	22CHE803.4	COMPOSITE MATERIALS	2-1-0		
	22CHE803.5	CERAMIC TECHNOLOGY	2-1-0		
	22CHE803.6	TOTAL QUALITY MANAGEMENT	2-1-0		
	22CHE803.7	ENZYME ENGINEERING	2-1-0		

PROGRAM ELECTIVE V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	22CHE804.1	SOLID WASTE MANAGEMENT	2-1-0	3	3
	22CHE804.2	NON-CONVENTIONAL PETROLEUM RESOURCES	2-1-0		
	22CHE804.3	PROCESS OPTIMIZATION	2-1-0		
	22CHE804.4	NANOMATERIALS AND NANOTECHNOLOGY	2-1-0		
	22CHE804.5	SAFETY ENGINEERING OF PROCESS PLANTS	2-1-0		
	22CHE804.6	NOVEL SEPARATION TECHNIQUES	2-1-0		
	22CHE804.7	FUEL CELL TECHNOLOGY	2-1-0		

MINOR

SEMESTER	BASKET I (Process Safety)			BASKET II (Petroleum and Petrochemicals)			BASKET III (Materials Science and Engineering)		
	Course No.	Course Name	HOURS CREDIT	Course No.	Course Name	HOURS CREDIT	Course No.	Course Name	HOURS CREDIT
S3	22CHMR310.1	INTRODUCTION TO CHEMICAL ENGINEERING	4 4	22CHMR310.2	INTRODUCTION TO CHEMICAL ENGINEERING	4 4	22CHMR310.3	INTRODUCTION TO CHEMICAL ENGINEERING	4 4
S4	22CHMR410.1	SAFETY ENGINEERING OF PROCESS PLANTS	4 4	22CHMR410.2	FUNDAMENTALS OF OIL AND NATURAL GAS ENGINEERING	4 4	22CHMR410.3	MATERIAL SCIENCE AND ENGINEERING	4 4
S5	22CHMR510.1	OCCUPATIONAL HEALTH AND INDUSTRIAL HYGIENE	4 4	22CHMR510.2	PETROLEUM REFINERY ENGINEERING	4 4	22CHMR510.3	POLYMER TECHNOLOGY	4 4
S6	22CHMR610.1	HAZARD AND RISK ASSESSMENT	4 4	22CHMR610.2	PETROCHEMICAL TECHNOLOGY	4 4	22CHMR610.3	NANOMATERIALS AND NANOTECHNOLOGY	4 4
S7	22CHMR708	MINI PROJECT	4 4	22CHMR708	MINI PROJECT	4 4	22CHMR708	MINI PROJECT	4 4
S8	22CHMR807	MINI PROJECT	4 4	22CHMR807	MINI PROJECT	4 4	22CHMR807	MINI PROJECT	4 4

HONOURS

	GROUP I				GROUP II				GROUP III			
	Course No	Course Name	HOURS	CREDITS	Course No	Course Name	HOURS	CREDITS	Course No	Course Name	HOURS	CREDITS
S4	22CHHR411.1	COMPUTATIONAL METHODS IN CHEMICAL ENGINEERING	4	4	22CHHR411.2	INSTRUMENTAL METHODS FOR ENVIRONMENTAL ENGINEERING	4	4	22CHHR411.3	MODERN METHODS OF INSTRUMENTATION	4	4
S5	22CHHR511.1	ADVANCED HEAT TRANSFER	4	4	22CHHR511.2	PHYSICO CHEMICAL METHODS IN ENVIRONMENTAL ENGINEERING	4	4	22CHHR511.3	SOFT COMPUTING TECHNIQUES	4	4
S6	22CHHR611.1	CHEMICAL REACTION ENGINEERING II	4	4	22CHHR611.2	ADVANCED WASTE WATER TREATMENT TECHNIQUES	4	4	22CHHR611.3	MODERN THEORY CONTROL	4	4
S7	22CHHR709.1	PROCESS INTEGRATION	4	4	22CHHR709.2	PROCESS DESIGN FOR WASTE WATER TREATMENT	4	4	22CHHR709.3	ADVANCED PROCESS CONTROL	4	4
S8	22CHHR808	MINI PROJECT	4	4	22CHHR808	MINI PROJECT	4		22CHHR808	MINI PROJECT	4	4

COMPUTER SCIENCE AND ENGINEERING

CURRICULUM FROM SEMESTERS I TO VIII

SEMESTER I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT101	LINEAR ALGEBRA AND CALCULUS	3-1-0	4	4
B 1/2	22PHT102	ENGINEERING PHYSICS A	3-1-0	4	4
	22CYT103	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	22EST104	ENGINEERING MECHANICS	2-1-0	3	3
	22EST105	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	22EST106	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	22EST107	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	22MNC108	LIFE SKILLS	2-0-2	4	--
S 1/2	22PHL109	ENGINEERING PHYSICS LAB	0-0-2	2	1
	22CYL110	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	22ESL111	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	22ESL112	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				23/24	17

SEMESTER II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT201	VECTOR CALCULUS, DIFFERENTIAL EQUATIONS AND TRANSFORMS	3-1-0	4	4
B 1/2	22PHT202	ENGINEERING PHYSICS A	3-1-0	4	4
	22CHT203	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	22EST204	ENGINEERING MECHANICS	2-1-0	3	3
	22EST205	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	22EST206	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	22EST207	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	22HUT208	PROFESSIONAL COMMUNICATION	2-0-2	4	--
F	22EST209	PROGRAMMING IN C	2-1-2	5	4
S 1/2	22PHL210	ENGINEERING PHYSICS LAB	0-0-2	2	1
	22CYL211	ENGINEERING CHEMISTRY LAB	0-0-2		1
T 1/2	22ESL212	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	22ESL213	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				28/29	21

SEMESTER III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT301	DISCRETE MATHEMATICAL STRUCTURES	3-1-0	4	4
B	22CST302	DATA STRUCTURES	3-1-0	4	4
C	22CST303	LOGIC SYSTEM DESIGN	3-1-0	4	4
D	22CST304	OBJECT ORIENTED PROGRAMMING USING JAVA	3-1-0	4	4
E (1/2)	22EST 305	DESIGN & ENGINEERING	2-0-0	2	2
	22HUT306	PROFESSIONAL ETHICS	2-0-0	2	2
F	22MNC307	SUSTAINABLE ENGINEERING	2-0-0	2	--
S	22CSL308	DATA STRUCTURES LAB	0-0-3	3	2
T	22CSL309	OBJECT ORIENTED PROGRAMMING LAB (IN JAVA)	0-0-3	3	2
R/M	22CSMR310.1/2/3	Remedial/Minor course	3-1-0	4	4
TOTAL				26*	22/26
* Excluding Hours to be engaged for Remedial/Minor course.					

SEMESTER IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT401	GRAPH THEORY	3-1-0	4	4
B	22CST402	COMPUTER ORGANIZATION AND ARCHITECTURE	3-1-0	4	4
C	22CST403	DATABASE MANAGEMENT SYSTEMS	3-1-0	4	4
D	22CST404	OPERATING SYSTEMS	3-1-0	4	4
E (1/2)	22EST405	DESIGN & ENGINEERING	2-0-0	2	2
	22HUT406	PROFESSIONAL ETHICS	2-0-0	2	2
F	22MNC407	CONSTITUTION OF INDIA	2-0-0	2	--
S	22CSL408	DIGITAL LAB	0-0-3	3	2
T	22CSL409	OPERATING SYSTEMS LAB	0-0-3	3	2
R/M/ H	22CSMR410.1/2/3 22CSHR411.1/2/3	Remedial/Minor/Honors course	3-1-0	4	4
TOTAL				26*	22/26
* Excluding Hours to be engaged for Remedial/Minor/Honors course.					

SEMESTER V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22CST501	FORMAL LANGUAGES AND AUTOMATA THEORY	3-1-0	4	4
B	22CST502	COMPUTER NETWORKS	3-1-0	4	4
C	22CST503	SYSTEM SOFTWARE	3-1-0	4	4
D	22CST504	MICROPROCESSORS AND MICROCONTROLLERS	3-1-0		4
E	22CST505	MANAGEMENT OF SOFTWARE SYSTEMS	3-0-0	3	3
F	22MNC506	DISASTER MANAGEMENT	2-0-0	2	--
S	22CSL507	SYSTEM SOFTWARE AND MICROPROCESSORS LAB	0-0-4	4	2
T	22CSL508	DATABASE MANAGEMENT SYSTEMS LAB	0-0-4	4	2
R/M/ H	22CSMR509.1/2/3 22CSHR510.1/2/3	Remedial/Minor/Honors course*	2-0-0	4	4
TOTAL				29*	23/27
* Excluding Hours to be engaged for Remedial/Minor/Honors course.					

SEMESTER VI

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22CST601	COMPILER DESIGN	3-1-0	4	4
B	22CST602	COMPUTER GRAPHICS AND IMAGE PROCESSING	3-1-0	4	4
C	22CST603	ALGORITHM ANALYSIS AND DESIGN	3-1-0	4	4
D	22CSE 604	PROGRAM ELECTIVE I	2-1-0	3	3
E	22HUT 605	INDUSTRIAL ECONOMICS & FOREIGN TRADE	3-0-0	3	3
F	22CST 606.1/2	COMPREHENSIVE COURSE WORK	1-0-0	1	1
S	22CSL607	NET WORKING LAB	0-0-3	3	2
T	22CSL608	MINI PROJECT	0-0-3	3	2
R/M/ H	22CSMR609.1/2/3 22CSHR610.1/2/3	Remedial/Minor/Honors course*	3-1-0	4	4
TOTAL				25*	23/27
* Excluding Hours to be engaged for Remedial/Minor/Honors course.					

COURSES TO BE CONSIDERED FOR COMPREHENSIVE COURSE WORK

SL NO	NAME OF COURSE
22CST 606.1	DISCRETE MATHEMATICAL STRUCTURES
22CST 606.2	DATA STRUCTURES
22CST 606.3	OPERATING SYSTEMS
22CST 606.4	COMPUTER ORGANISATION AND ARCHITECTURE
22CST 606.5	DATA BASE MANAGEMENT SYSTEMS
22CST 606.6	FORMAL LANGUAGES AND AUTOMATA THEORY

PROGRAM ELECTIVE I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	22CSE 604.1	FOUNDATIONS OF MACHINE LEARNING	2-1-0	3	3
	22CSE 604.2	DATA ANALYTICS	2-1-0		
	22CSE 604.3	FOUNDATIONS OF SECURITY IN COMPUTING	2-1-0		
	22CSE 604.4	AUTOMATED VERIFICATION	2-1-0		
	22CSE 604.5	INTRODUCTION TO IA32 ARCHITECTURE	2-1-0		
	22CSE 604.6	PROGRAMMING IN PYTHON	2-1-0		
	22CSE 604.7	DATA AND COMPUTER COMMUNICATION	2-1-0		

SEMESTER VII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22CST 701	ARTIFICIAL INTELLIGENCE	2-1-0	3	3
B	22CSE 702	PROGRAM ELECTIVE II	2-1-0	3	3
C	22CSO 703	OPEN ELECTIVE	2-1-0	3	3
D	22MNC 704	INDUSTRIAL SAFETY ENGINEERING	2-1-0	3	---
S	22CSL 705	COMPILER LAB	0-0-3	3	2
T	22CSS 706	SEMINAR	0-0-3	3	2
U	22CSP 707	PROJECT PHASE I	0-0-6	6	2
R/M/ H	22CSMR708 22CSHR709.1/2/3	Remedial/Minor/Honors course*	3-1-0	4	4
TOTAL				24*	15/19

* Excluding Hours to be engaged for Remedial/Minor/Honors course.

PROGRAM ELECTIVE II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	22CSE702.1	MACHINE LEARNING	2-1-0	3	3
	22CSE702.2	CLOUD COMPUTING	2-1-0		
	22CSE702.3	SECURITY IN COMPUTING	2-1-0		
	22CSE702.4	MODEL BASED SOFTWARE DEVELOPMENT	2-1-0		
	22CSE702.5	ADVANCED TOPICS IN IA32 ARCHITECTURE	2-1-0		
	22CSE702.6	WEB PROGRAMMING	2-1-0		
	22CSE702.7	NATURAL LANGUAGE PROCESSING	2-1-0		

OPEN ELECTIVE

SLOT	COURSE	COURSES	L-T-P	HOURS	CREDIT
B	22CSO703.1	INTRODUCTION TO MOBILE COMPUTING	2-1-0	3	3
	22CSO703.2	INTRODUCTION TO DEEP LEARNING	2-1-0		
	22CSO703.3	COMPUTER GRAPHICS	2-1-0		
	22CSO703.4	PYTHON FOR ENGINEERS	2-1-0		
	22CSO703.5	OBJECT ORIENTED CONCEPTS	2-1-0		

SEMESTER VIII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22CST801	DISTRIBUTED COMPUTING	2-1-0	3	3
B	22CSE802	PROGRAM ELECTIVE III	2-1-0	3	3
C	22CSE803	PROGRAM ELECTIVE IV	2-1-0	3	3
D	22CSE804	PROGRAM ELECTIVE V	2-1-0	3	3
T	22CSV805	COMPREHENSIVE COURSE VIVA	1-0-0	1	1
U	22CSP806	PROJECT PHASE II	0-0-12	12	4
R/M/ H	22CSMR807 22CEHR808	Remedial/Minor/Honors course	3-1-0	4	4
TOTAL				25*	17/21
* Excluding Hours to be engaged for Remedial/Minor/Honors course.					

PROGRAM ELECTIVE III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	22CSE802.1	DEEP LEARNING	2-1-0	3	3
	22CSE802.2	PROGRAMMING PARADIGMS	2-1-0		
	22CSE802.3	NETWORK SECURITY PROTOCOLS	2-1-0		
	22CSE802.4	SOFT COMPUTING	2-1-0		
	22CSE802.5	FUZZY SET THEORY AND APPLICATIONS	2-1-0		
	22CSE802.6	EMBEDDED SYSTEMS	2-1-0		
	22CSE802.7	COMPUTER VISION	2-1-0		

PROGRAM ELECTIVE IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	22CSE803.1	FORMAL METHODS AND TOOLS IN SOFTWARE ENGINEERING	2-1-0	3	3
	22CSE803.2	CLIENT SERVER ARCHITECTURE	2-1-0		
	22CSE803.3	PARALLEL COMPUTING	2-1-0		
	22CSE803.4	DATA COMPRESSION TECHNIQUES	2-1-0		
	22CSE803.5	DATA MINING	2-1-0		
	22CSE803.6	MOBILE COMPUTING	2-1-0		

PROGRAM ELECTIVE V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	22CSE804.1	HIGH PERFORMANCE COMPUTING	2-1-0	3	3
	22CSE804.2	BLOCK CHAIN TECHNOLOGIES	2-1-0		
	22CSE804.3	IMAGE PROCESSING TECHNIQUE	2-1-0		
	22CSE804.4	INTERNET OF THINGS	2-1-0		
	22CSE804.5	SOFTWARE TESTING	2-1-0		
	22CSE804.6	BIOINFORMATICS	2-1-0		
	22CSE804.7	COMPUTATIONAL LINGUISTICS	2-1-0		

MINOR

SEMESTER	BUCKET-1				BUCKET-2				BUCKET-3			
	Specialization - Software				Specialization - Machine Learning				Specialization - Networking			
	COURSE NO	COURSE NAME	HOURS	CREDIT	COURSE NO	COURSE NAME	HOURS	CREDIT	COURSE NO	COURSE NAME	HOURS	CREDIT
S3	22CSMR310.1	OBJECT ORIENTED PROGRAMMING	4	4	22CSMR310.2	PYTHON FOR MACHINE LEARNING	4	4	22CSMR310.3	DATA COMMUNICATION	4	4
S4	22CSMR410.1	PROGRAMMING METHODOLOGIES	4	4	22CSMR410.2	MATHEMATICS FOR MACHINE LEARNING	4	4	22CSMR410.3	INTRODUCTION TO COMPUTER NETWORKS	4	4
S5	22CSMR509.1	CONCEPTS IN SOFTWARE ENGINEERING	4	4	22CSMR509.2	CONCEPTS IN MACHINE LEARNING	4	4	22CSMR509.3	CLIENT SERVER SYSTEMS	4	4
S6	22CSMR609.1	INTRODUCTION TO SOFTWARE TESTING	4	4	22CSMR609.2	CONCEPTS IN DEEP LEARNING	4	4	22CSMR609.3	WIRELESS NETWORKS AND IOT APPLICATIONS	4	4
S7	22CSMR708	MINI PROJECT	4	4	22CSMR708	MINI PROJECT	4	4	22CSMR708	MINI PROJECT	4	4
S8	22CSMR807	MINI PROJECT	4	4	22CSMR807	MINI PROJECT	4	4	22CSMR807	MINI PROJECT	4	4

HONORS

SEMESTER	BUCKET-1				BUCKET-2				BUCKET-3			
	Specialization - Security in Computing				Specialization - Machine Learning				Specialization - Formal Methods			
	COURSE NO	COURSE NAME	HOURS	CREDIT	COURSE NO	COURSE NAME	HOURS	CREDIT	COURSE NO	COURSE NAME	HOURS	CREDIT
S4	22CSHR411.1	NUMBER THEORY	4	4	22CSHR411.2	COMPUTATIONAL FUNDAMENTALS FOR MACHINE LEARNING	4	4	22CSHR411.3	PRINCIPLES OF PROGRAM ANALYSIS AND VERIFICATION	4	4
S5	22CSHR510.1	CRYPTOGRAPHIC ALGORITHMS	4	4	22CSHR510.2	NEURAL NETWORKS AND DEEP LEARNING	4	4	22CSHR510.3	PRINCIPLES OF MODEL CHECKING	4	4
S6	22CSHR610.1	NETWORK SECURITY	4	4	22CSHR610.2	ADVANCED TOPICS IN MACHINE LEARNING	4	4	22CSHR610.3	THEORY OF COMPUTABILITY AND COMPLEXITY	4	4
S7	22CSHR709.1	CYBER FORENSICS	4	4	22CSHR709.2	REINFORCEMENT LEARNING	4	4	22CSHR709.3	LOGIC FOR COMPUTER SCIENCE	4	4
S8	22CSHR808	MINI PROJECT	4	4	22CSHR808	MINI PROJECT	4	4	22CSHR808	MINI PROJECT	4	4

Note-1: Any B. Tech students from non-Computer Science/non-IT streams can register for the courses in the minor buckets.

ELECTRICAL AND COMPUTER SCIENCE ENGINEERING

CURRICULUM FROM SEMESTERS I TO VIII

SEMESTER I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT101	LINEAR ALGEBRA AND CALCULUS	3-1-0	4	4
B 1/2	22PHT102	ENGINEERING PHYSICS A	3-1-0	4	4
	22CYT103	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	22EST104	ENGINEERING MECHANICS	2-1-0	3	3
	22EST105	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	22EST106	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	22EST107	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	22MNC108	LIFE SKILLS	2-0-2	4	--
S 1/2	22PHL109	ENGINEERING PHYSICS LAB	0-0-2	2	1
	22CYL110	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	22ESL111	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	22ESL112	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				23/24	17

SEMESTER II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT201	VECTOR CALCULUS, DIFFERENTIAL EQUATIONS AND TRANSFORMS	3-1-0	4	4
B 1/2	22PHT202	ENGINEERING PHYSICS A	3-1-0	4	4
	22CHT203	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	22EST204	ENGINEERING MECHANICS	2-1-0	3	3
	22EST205	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	22EST206	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	22EST207	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	22HUT208	PROFESSIONAL COMMUNICATION	2-0-2	4	--
F	22EST209	PROGRAMMING IN C	2-1-2	5	4
S 1/2	22PHL210	ENGINEERING PHYSICS LAB	0-0-2	2	1
	22CYL211	ENGINEERING CHEMISTRY LAB	0-0-2		1
T 1/2	22ESL212	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	22ESL213	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				28/29	21

SEMESTER III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT301	DISCRETE MATHEMATICAL STRUCTURES	3-1-0	4	4
B	22ERT 302	CIRCUITS AND NETWORKS	2-2-0	4	4
C	22ERT 303	DATA STRUCTURES	3-1-0	4	4
D	22ERT304	OBJECT ORIENTED PROGRAMMING USING JAVA	3-1-0	3	2
E 1/2	22EST 305	DESIGN & ENGINEERING	2-0-0	2	2
	22HUT306	PROFESSIONAL ETHICS	2-0-0	2	2
F	22MNC307	SUSTAINABLE ENGINEERING	2-0-0	2	--
S	22ERL308	DATA STRUCTURES LAB	0-0-3	3	2
T	22ERL309	OBJECT ORIENTED PROGRAMMING LAB (IN JAVA)	0-0-3	3	2
R/M	22ERMR310.1/2/3	REMEDIAL/MINOR COURSE	3-1-0	4	4
TOTAL				26*	22/26

* Excluding Hours to be engaged for Remedial/Minor course.

SEMESTER IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT401	PROBABILITY, RANDOM PROCESSES AND NUMERICAL METHODS	3-1-0	4	4
B	22ERT 402	COMPUTER ORGANISATION AND ARCHITECTURE	3-1-0	4	4
C	22ERT 403	OPERATING SYSTEMS	3-1-0	4	4
D	22ERT404	DIGITAL ELECTRONICS	3-1-0	4	4
E (1/2)	22EST 405	DESIGN & ENGINEERING	2-0-0	2	2
	22HUT406	PROFESSIONAL ETHICS	2-0-0	2	2
F	22MNC407	CONSTITUTION OF INDIA	2-0-0	2	--
S	22ERL 408	OPERATING SYSTEMS LAB	0-0-3	3	2
T	22ERL 409	DIGITAL ELECTRONICS LAB	0-0-3	3	2
R/M/H	22EEMR410.1/2/3 22EEHR411.1/2/3	Remedial/Minor/Honors course	3-1-0	4	4
TOTAL				26*	22/26

* Excluding Hours to be engaged for Remedial/Minor/Honors course.

SEMESTER V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22ERT501	INSTRUMENTATION SYSTEMS	3-1-0	4	4
B	22ERT502	MICROPROCESSORS AND EMBEDDED SYSTEMS	3-1-0	4	4
C	22ERT503	DATABASE MANAGEMENT SYSTEMS	3-1-0	4	4
D	22ERT504	COMPUTER COMMUNICATION & NETWORK SECURITY	3-1-0	4	4
E	22ERT505	MANAGEMENT OF SOFTWARE SYSTEMS	3-0-0	3	3
F	22MNC506	DISASTER MANAGEMENT	2-0-0	2	--
S	22ERL507	NETWORKING LAB	0-0-4	4	2
T	22ERL508	MEASUREMENTS AND INSTRUMENTATION LAB	0-0-4	4	2
R/M/H	22EEMR509.1/2/3 22EEHR510.1/2/3	Remedial/Minor/Honors course*	2-0-0	4	4
TOTAL				29*	23/27

* Excluding Hours to be engaged for Remedial/Minor/Honors course.

SEMESTER VI

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22ERT601	POWER ELECTRONICS AND DRIVES	3-1-0	4	4
B	22ERT602	INTERNET OF THINGS	3-1-0	4	4
C	22ERT603	ELECTRICAL MACHINES	3-1-0	4	4
D	22ERE604	PROGRAM ELECTIVE I	2-1-0	3	3
E	22HUT605	INDUSTRIAL ECONOMICS & FOREIGN TRADE	3-0-0	3	3
F	22ERT606.1/2	COMPREHENSIVE COURSE WORK	1-0-0	1	1
S	22ERL607	EMBEDDED SYSTEMS AND IOT LAB	0-0-3	3	2
T	22ERL608	ELECTRICAL MACHINES LAB	0-0-3	3	2
R/M/H	22EEMR610.1/2/3 22EEHR611.1/2/3	Remedial/Minor/Honors course*	3-1-0	4	4
TOTAL				25*	23/27

* Excluding Hours to be engaged for Remedial/Minor/Honors course.

PROGRAM ELECTIVE I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	22ERE604.1	FOUNDATIONS OF MACHINE LEARNING	2-1-0	3	3
	22ERE604.2	INTRODUCTION TO SIGNAL PROCESSING	2-1-0		
	22ERE604.3	FOUNDATIONS OF SECURITY IN COMPUTING	2-1-0		
	22ERE604.4	BIOMEDICAL INSTRUMENTATION	2-1-0		
	22ERE604.5	RENEWABLE ENERGY SYSTEMS	2-1-0		
	22ERE604.6	PROGRAMMING IN PYTHON	2-1-0		
	22ERE604.7	SOFT COMPUTING	2-1-0		

COURSES TO BE CONSIDERED FOR COMPREHENSIVE COURSE WORK

SL NO	NAME OF THE COURSE
22ERT606.1	DISCRETE MATHEMATICAL STRUCTURES
22ERT606.2	DATA STRUCTURES
22ERT606.3	OPERATING SYSTEMS
22ERT606.4	COMPUTER ORGANIZATION AND ARCHITECTURE
22ERT606.5	CIRCUIT THEORY
22ERT606.6	DIGITAL ELECTRONICS

SEMESTER VII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22ERT701	CONTROL SYSTEMS	2-1-0	3	3
B	22ERE702	PROGRAM ELECTIVE II	2-1-0	3	3
C	22ERO703	OPEN ELECTIVE	2-1-0	3	3
D	22ERT704	INDUSTRIAL SAFETY ENGINEERING	2-1-0	3	---
S	22ERL705	ELECTRICAL CAD	0-0-3	3	2
T	22ERS706	SEMINAR	0-0-3	3	2
U	22ERP707	PROJECT PHASE I	0-0-6	6	2
R/M/H	22EEMR708 22EEHR709.1/2/3	Remedial/Minor/Honors course*	3-1-0	4	4
TOTAL				24*	15/19

PROGRAM ELECTIVE II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	22ERE702.1	MACHINE LEARNING	2-1-0	3	3
	22ERE702.2	DIGITAL CONTROL SYSTEMS	2-1-0		
	22ERE702.3	ENERGY MANAGEMENT	2-1-0		
	22ERE702.4	REAL TIME OPERATING SYSTEMS	2-1-0		
	22ERE702.5	DIGITAL SIGNAL PROCESSING	2-1-0		
	22ERE702.6	WEB PROGRAMMING	2-1-0		
	22ERE702.7	ELECTRIC DRIVES	2-1-0		

OPEN ELECTIVE

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	22ERO703.1	CONTROL SYSTEMS ENGINEERING	2-1-0	3	3
	22ERO703.2	INTRODUCTION TO POWER PROCESSING	2-1-0		
	22ERO703.3	RENEWABLE ENERGY SYSTEMS	2-1-0		
	22ERO703.4	ELECTRIC VEHICLES	2-1-0		
	22ERO703.5	ENERGY MANAGEMENT	2-1-0		

SEMESTER VIII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22ERT801	POWER SYSTEM ENGINEERING	2-1-0	3	3
B	22ERE802	PROGRAM ELECTIVE III	2-1-0	3	3
C	22ERE803	PROGRAM ELECTIVE IV	2-1-0	3	3
D	22ERE804	PROGRAM ELECTIVE V	2-1-0	3	3
T	22ERV805	COMPREHENSIVE COURSE VIVA	1-0-0	1	1
U	22ERP806	PROJECT PHASE II	0-0-12	12	4
R/M/ H	22ERM807 22ERHR808	Remedial/Minor/Honors course	3-1-0	4	4
TOTAL				25*	17/21

* Excluding Hours to be engaged for Remedial/Minor/Honors course.

PROGRAM ELECTIVE III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	22ERE802.1	DEEP LEARNING	2-1-0	3	3
	22ERE802.2	PROGRAMMING PARADIGMS	2-1-0		
	22ERE802.3	CRYPTOGRAPHY	2-1-0		
	22ERE802.4	MECHATRONICS	2-1-0		
	22ERE802.5	ELECTRICAL MACHINE DESIGN	2-1-0		
	22ERE802.6	SMART GRID TECHNOLOGIES	2-1-0		

PROGRAM ELECTIVE IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	22ERE803.1	ROBOTICS	2-1-0	3	3
	22ERE803.2	ELECTRIC AND HYBRID VEHICLES	2-1-0		
	22ERE803.3	IMAGE PROCESSING TECHNIQUE	2-1-0		
	22ERE803.4	NONLINEAR SYSTEMS	2-1-0		
	22ERE803.5	SPECIAL ELECTRIC MACHINES	2-1-0		
	22ERE803.6	DATA MINING	2-1-0		

PROGRAM ELECTIVE V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	22ERE804.1	ENERGY STORAGE SYSTEMS	2-1-0	3	3
	22ERE804.2	BLOCK CHAIN TECHNOLOGIES	2-1-0		
	22ERE804.3	BIG DATA ANALYTICS	2-1-0		
	22ERE804.4	SOLAR PV SYSTEMS	2-1-0		
	22ERE804.5	SOFTWARE TESTING	2-1-0		
	22ERE804.6	BIOINFORMATICS	2-1-0		

MINOR

SEMESTER	BUCKET-1				BUCKET-2				BUCKET-3			
	Specialization - Dynamic Systems				Specialization - Machine Learning				Specialization - Electrical Vehicle Technology			
	COURSE NO	COURSE NAME	HOURS	CREDIT	COURSE NO	COURSE NAME	HOURS	CREDIT	COURSE NO	COURSE NAME	HOURS	CREDIT
S3	22EEMR310.1	DYNAMIC CIRCUITS AND SYSTEMS	4	4	22EEMR310.2	BASICS OF MACHINE LEARNING	4	4	22EEMR310.3	ELECTRICAL MACHINE FUNDAMENTALS	4	4
S4	22EEMR410.1	PRINCIPLES OF INSTRUMENTATION	4	4	22EEMR410.2	MATHEMATICS FOR MACHINE LEARNING	4	4	22EEMR410.3	DRIVES AND CONTROL	4	4
S5	22EEMR509.1	CONTROL SYSTEMS	4	4	22EEMR509.2	MACHINE LEARNING PROGRAMMING	4	4	22EEMR509.3	MACHINES & DRIVES SIMULATION PRACTICES	4	4
S6	22EEMR610.1	DIGITAL CONTROL	4	4	22EEMR610.2	DEEP LEARNING	4	4	22EEMR610.3	ELECTRIC VEHICLES	4	4
S7	22EEMR708	MINI PROJECT	4	4	22EEMR708	MINI PROJECT	4	4	22EEMR708	MINI PROJECT	4	4
S8	22EEMR807	MINI PROJECT	4	4	22EEMR807	MINI PROJECT	4	4	22EEMR807	MINI PROJECT	4	4

HONOURS

SEMESTER	BUCKET-1				BUCKET-2				BUCKET-3			
	Specialization - Cyber Security				Specialization - Machine Learning				Specialization - Smart Grids			
	COURSE NO	COURSE NAME	HOURS	CREDIT	COURSE NO	COURSE NAME	HOURS	CREDIT	COURSE NO	COURSE NAME	HOURS	CREDIT
S4	22EEHR410.1	NETWORK ANALYSIS AND SYNTHESIS	4	4	22EEHR410.2	NETWORK ANALYSIS AND SYNTHESIS LEARNING	4	4	22EEHR410.3	NETWORK ANALYSIS AND SYNTHESIS	4	4
S5	22EEHR510.1	DIGITAL SIMULATION	4	4	22EEHR510.2	DIGITAL SIMULATION	4	4	22EEHR510.3	DIGITAL SIMULATION	4	4
S6	22EEHR611.1	NETWORK SECURITY	4	4	22EEHR611.2	COMPUTATIONAL FUNDAMENTALS FOR MACHINE LEARNING	4	4	22EEHR611.3	DISTRIBUTED GENERATION AND SMART GRID	4	4
S7	22EEHR709.1	CYBER FORENSICS	4	4	22EEHR709.2	NEURAL NETWORKS AND DEEP LEARNING	4	4	22EEHR709.3	OPERATION AND CONTROL OF AC/DC SMART GRIDS	4	4
S8	22EEHR808	MINI PROJECT	4	4	22EEHR808	MINI PROJECT	4	4	22EEHR808	MINI PROJECT	4	4

ELECTRICAL AND ELECTRONICS ENGINEERING

CURRICULUM FROM SEMESTERS I TO VIII

SEMESTER I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT101	LINEAR ALGEBRA AND CALCULUS	3-1-0	4	4
B	22PHT102	ENGINEERING PHYSICS A	3-1-0	4	4
1/2	22CYT103	ENGINEERING CHEMISTRY	3-1-0	4	4
C	22EST104	ENGINEERING MECHANICS	2-1-0	3	3
1/2	22EST105	ENGINEERING GRAPHICS	2-0-2	4	3
D	22EST106	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
1/2	22EST107	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	22MNC108	LIFE SKILLS	2-0-2	4	--
S	22PHL109	ENGINEERING PHYSICS LAB	0-0-2	2	1
1/2	22CYL110	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T	22ESL111	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
1/2	22ESL112	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				23/24 *	17

SEMESTER II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT201	VECTOR CALCULUS, DIFFERENTIAL EQUATIONS AND TRANSFORMS	3-1-0	4	4
B	22PHT 201	ENGINEERING PHYSICS A	3-1-0	4	4
1/2	22CYT203	ENGINEERING CHEMISTRY	3-1-0	4	4
C	22EST 204	ENGINEERING MECHANICS	2-1-0	3	3
1/2	22EST 205	ENGINEERING GRAPHICS	2-0-2	4	3
D	22EST 206	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
1/2	22EST 207	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	22HUT208	PROFESSIONAL COMMUNICATION	2-0-2	4	--
F	22EST209	PROGRAMMING IN C	2-1-2	5	4
S	22PHL210	ENGINEERING PHYSICS LAB	0-0-2	2	1
1/2	22CYL211	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T	22ESL212	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
1/2	22ESL213	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				28/29	21

SEMESTER III

SLOT	COURSE NO	COURS	L-T-P	HOURS	CREDIT
A	22MAT301	PARTIAL DIFFERENTIAL EQUATION AND COMPLEX ANALYSIS	3-1-0	4	4
B	22EET 302	CIRCUITS AND NETWORKS	2-2-0	4	4
C	22EET 303	MEASUREMENTS AND INSTRUMENTATION	3-1-0	4	4
D	22EET 304	ANALOG ELECTRONICS	3-1-0	4	4
E	22EST 305	DESIGN & ENGINEERING	2-0-0	2	2
1/2	22HUT306	PROFESSIONAL ETHICS	2-0-0	2	2
F	22MNC307	SUSTAINABLE ENGINEERING	2-0-0	2	--
S	22EEL308	CIRCUITS AND MEASUREMENTS LAB	0-0-3	3	2
	22EEL309	ANALOG ELECTRONICS LAB	0-0-3	3	2
R/M	22EEMR310.1/2/3	REMEDIAL/MINOR COURSE	3-1-0	4 *	4
TOTAL				26/30	22/26

SEMESTER IV

SLOT	COURSE NO	COURSES	L-T-P	HOURS	CREDIT
A	22MAT401	PROBABILITY, RANDOM PROCESSES AND NUMERICAL METHODS	3-1-0	4	4
B	22EET 402	DC MACHINES AND TRANSFORMERS	2-2-0	4	4
C	22EET 403	ELECTROMAGNETIC THEORY	3-1-0	4	4
D	22EET404	DIGITAL ELECTRONICS	3-1-0	4	4
E	22EST 405	DESIGN & ENGINEERING	2-0-0	2	2
1/2	22HUT406	PROFESSIONAL ETHICS	2-0-0	2	2
F	22MNC407	CONSTITUTION OF INDIA	2-0-0	2	--
S	22EEL 408	ELECTRICAL MACHINES LAB I	0-0-3	3	2
T	22EEL 409	DIGITAL ELECTRONICS LAB	0-0-3	3	2
R/M	22EEMR410.1/2/3 22EEHR411.1/2/3	REMEDIAL/MINOR/HONOURS COURSE	3-1-0	4 *	4
TOTAL				26/30	22/26

SEMESTER V

SLOT	COURSE NO	COURSES	L-T-P	HOURS	CREDIT
A	22EET501	POWER SYSTEMS I	3-1-0	4	4
B	22EET502	MICROPROCESSORS AND MICROCONTROLLERS	3-1-0	4	4
C	22EET503	SIGNALS AND SYSTEMS	3-1-0	4	4
D	22EET504	SYNCHRONOUS AND INDUCTION MACHINES	3-1-0	4	4
E 1/2	22HUT505	INDUSTRIAL ECONOMICS & FOREIGN TRADE	3-0-0	3	3
	22HUT506	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	22MNC507	DISASTER MANAGEMENT	2-0-0	2	--
S	22EEL508	MICROPROCESSORS AND MICROCONTROLLERS LAB	0-0-3	3	2
T	22EEL509	ELECTRICAL MACHINES LAB II	0-0-3	3	2
R/M/H	22EEMR510.1/2/3	REMEDIAL/MINOR/HONOURS	3-1-0	4*	4
	22EEHR511.1/2/3	COURSE			
TOTAL				27/31	23/27

SEMESTER VI

SLOT	COURSE NO	COURSES	L-T-P	HOURS	CREDIT
A	22EET601	LINEAR CONTROL SYSTEMS	2-2-0	4	4
B	22EET602	POWER SYSTEMS II	3-1-0	4	4
C	22EET603	POWER ELECTRONICS	3-1-0	4	4
D	22EEE604	PROGRAM ELECTIVE I	2-1-0	3	3
E 1/2	22HUT605	INDUSTRIAL ECONOMICS & FOREIGN TRADE	3-0-0	3	3
	22HUT606	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	22EET607	COMPREHENSIVE COURSE WORK	1-0-0	1	1
S	22EEL608	POWER SYSTEMS LAB	0-0-3	3	2
T	22EEL609	POWER ELECTRONICS LAB	0-0-3	3	2
R/M/H	22EEMR610.1/2/3	REMEDIAL/MINOR/HONOURS	3-1-0	4*	4
	22EEHR611.1/2/3	COURSE			
TOTAL				28/32	23/27

PROGRAM ELECTIVE I

SLOT	COURSE NO	COURSES	L-T-P	HOURS	CREDIT
D	22EEE604.1	BIOMEDICAL INSTRUMENTATION	2-1-0	3	3
	22EEE604.2	RENEWABLE ENERGY SYSTEMS	2-1-0		
	22EEE604.3	COMPUTER ORGANIZATION	2-1-0		
	22EEE604.4	HIGH VOLTAGE ENGINEERING	2-1-0		
	22EEE604.5	OBJECT ORIENTED PROGRAMMING	2-1-0		
	22EEE604.6	MATERIAL SCIENCE	2-1-0		
	22EEE604.7	SOFT COMPUTING	2-1-0		

SEMESTER VII

SLOT	COURSE NO	COURSES	L-T-P	HOURS	CREDIT
A	22EET701	ADVANCED CONTROL SYSTEMS	2-1-0	3	3
B	22EEE702	PROGRAM ELECTIVE II	2-1-0	3	3
C	22EEO703	OPENELECTIVE	2-1-0	3	3
D	22EET704	INDUSTRIAL SAFETY ENGINEERING	2-1-0	3	---
S	22EEL705	CONTROL SYSTEMS LAB	0-0-3	3	2
T	22EES706	SEMINAR	0-0-3	3	2
U	22EEP707	PROJECT PHASE I	0-0-6	6	2
R/M/H	22EEMRP708 22EEHR709.1/2/3	REMEDIAL/MINOR/HONOURS COURSE	3-1-0	4*	4
TOTAL				24/28	15/19

PROGRAM ELECTIVE II

SLOT	COURSE NO	COURSES	L-T-P	HOURS	CREDIT
B	22EEE702.1	ELECTRIC DRIVES	2-1-0	3	3
	22EEE702.2	DIGITAL CONTROL SYSTEMS	2-1-0		
	22EEE702.3	MODERN OPERATING SYSTEMS	2-1-0		
	22EEE702.4	DATA STRUCTURES	2-1-0		
	22EEE702.5	DIGITAL SIGNAL PROCESSING	2-1-0		
	22EEE702.6	ILLUMINATION TECHNOLOGY	2-1-0		
	22EEE702.7	DIGITAL PROTECTION OF POWER SYSTEMS	2-1-0		

OPEN ELECTIVES

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	22EEO703.1	CONTROL SYSTEMS ENGINEERING	2-1-0	3	3
	22EEO703.2	INTRODUCTION TO POWER PROCESSING	2-1-0		
	22EEO703.3	RENEWABLE ENERGY SYSTEMS	2-1-0		
	22EEO703.4	ELECTRIC VEHICLES	2-1-0		
	22EEO703.5	ENERGY MANAGEMENT	2-1-0		

SEMESTER VIII

SLOT	COURSE NO	COURSES	L-T-P	HOURS	CREDIT
A	22EET801	ELECTRICAL SYSTEM DESIGN AND ESTIMATION	2-1-0	3	3
B	22EEE802	PROGRAM ELECTIVE III	2-1-0	3	3
C	22EEE803	PROGRAM ELECTIVE IV	2-1-0	3	3
D	22EEE804	PROGRAM ELECTIVE V	2-1-0	3	3
T	22EEV805	COMPREHENSIVE COURSE VIVA	1-0-0	1	1
U	22EEP806	PROJECT PHASE II	0-0-12	12	4
R/M/H	22EEMRP807 22EEHRP808	REMEDIAL/MINOR/HONOURS COURSE	3-1-0	4*	4
TOTAL				25/29	17/21

PROGRAM ELECTIVE III

SLOT	COURSE NO	COURSES	L-T-P	HOURS	CREDIT
B	22EEE802.1	ROBOTICS	2-1-0	3	3
	22EEE802.2	ENERGY MANAGEMENT	2-1-0		
	22EEE802.3	SMART GRID TECHNOLOGIES	2-1-0		
	22EEE802.4	ELECTRICAL MACHINE DESIGN	2-1-0		
	22EEE802.5	SWITCHED MODE POWER CONVERTERS	2-1-0		
	22EEE802.6	COMPUTER AIDED POWER SYSTEM ANALYSIS	2-1-0		
	22EEE802.7	MACHINE LEARNING	2-1-0		

PROGRAM ELECTIVE IV

SLOT	COURSE NO	COURSES	L-T-P	HOURS	CREDIT
C	22EEE803.1	NONLINEAR SYSTEMS	2-1-0	3	3
	22EEE803.2	SPECIAL ELECTRIC MACHINES	2-1-0		
	22EEE803.3	POWER QUALITY	2-1-0		
	22EEE803.4	COMPUTER NETWORKS	2-1-0		
	22EEE803.5	DESIGN OF POWER ELECTRONIC SYSTEMS	2-1-0		
	22EEE803.6	HVDC & FACTS	2-1-0		
	22EEE803.7	ADVANCED ELECTRONIC DESIGN	2-1-0		

PROGRAM ELECTIVE V

SLOT	COURSE NO	COURSES	L-T-P	HOURS	CREDIT
D	22EEE804.1	ELECTRIC AND HYBRID VEHICLES	2-1-0	3	3
	22EEE804.2	INTERNET OF THINGS	2-1-0		
	22EEE804.3	ENERGY STORAGE SYSTEMS	2-1-0		
	22EEE804.4	ROBUST AND ADAPTIVE CONTROL	2-1-0		
	22EEE804.5	SOLAR PV SYSTEMS	2-1-0		
	22EEE804.6	INDUSTRIAL INSTRUMENTATION & AUTOMATION	2-1-0		
	22EEE804.7	BIG DATA ANALYTICS	2-1-0		

MINOR

SEMESTER	BASKET I			BASKET II			BASKET III		
	COURSE NO.	COURSE NAME	CREDIT HOURS	COURSE NO.	COURSE NAME	CREDIT HOURS	COURSE NO.	COURSE NAME	CREDIT HOURS
S3	22EEMR310.1	ELECTRIC CIRCUITS	4	22EEMR310.2	INTRODUCTION TO POWER ENGINEERING	4	22EEMR310.3	DYNAMIC CIRCUITS AND SYSTEMS	4
S4	22EEMR410.1	ELECTRICAL MACHINES	4	22EEMR410.2	ENERGY SYSTEMS	4	22EEMR410.3	PRINCIPLES OF INSTRUMENTATION	4
S5	22EEMR510.1	SOLID STATE POWER CONVERSION	4	22EEMR510.2	SOLAR AND WIND ENERGY CONVERSION SYSTEMS	4	22EEMR510.3	CONTROL SYSTEMS	4
S6	22EEMR610.1	POWER SEMICONDUCTOR DRIVES	4	22EEMR610.2	INSTRUMENTATION AND AUTOMATION OF POWER PLANTS	4	22EEMR610.3	DIGITAL CONTROL	4
S7	22EEMRP708	MINI PROJECT	4	22EEMRP708	MINI PROJECT	4	22EEMRP708	MINI PROJECT	4
S8	22EEMRP807	MINI PROJECT	4	22EEMRP807	MINI PROJECT	4	22EEMRP807	MINI PROJECT	4

HONOURS

SEMESTER	GROUP I			GROUP II			GROUP III		
	COURSE NO	COURSE NAME	CREDIT HOURS	COURSE NO	COURSE NAME	CREDIT HOURS	COURSE NO	COURSE NAME	CREDIT HOURS
S4	22EEHR411.1	NETWORK ANALYSIS AND SYNTHESIS	4	22EEHR411.2	NETWORK ANALYSIS AND SYNTHESIS	4	22EEHR411.3	NETWORK ANALYSIS AND SYNTHESIS	4
S5	22EEHR511.1	DIGITAL SIMULATION	4	22EEHR511.2	DIGITAL SIMULATION	4	22EEHR511.3	DIGITAL SIMULATION	4
S6	22EEHR611.1	GENERALISED MACHINE THEORY	4	22EEHR611.2	ANALYSIS OF POWER ELECTRONIC CIRCUITS	4	22EEHR611.3	OPERATION AND CONTROL OF POWER SYSTEMS	4
S7	22EEHR709.1	OPERATION AND CONTROL OF GENERATORS	4	22EEHR709.2	DYNAMICS OF POWER CONVERTERS	4	22EEHR709.3	CONTROL AND DYNAMICS OF MICROGRIDS	4
S8	22EEHR808	MINI PROJECT	4	22EEHR808	MINI PROJECT	4	22EEHR808	MINI PROJECT	4

ELECTRONICS AND COMMUNICATION ENGINEERING

CURRICULUM FROM SEMESTERS I TO VIII

SEMESTER I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT101	LINEAR ALGEBRA AND CALCULUS	3-1-0	4	4
B 1/2	22PHT102	ENGINEERING PHYSICS A	3-1-0	4	4
	22CYT103	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	22EST104	ENGINEERING MECHANICS	2-1-0	3	3
	22EST105	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	22EST106	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	22EST107	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	22MNC108	LIFE SKILLS	2-0-2	4	--
S 1/2	22PHL 109	ENGINEERING PHYSICS LAB	0-0-2	2	1
	22CYL110	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	22ESL 111	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	22ESL 112	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				23/24*	17

SEMESTER II

SLOT	COURSENO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT201	VECTOR CALCULUS, DIFFERENTIAL EQUATIONS AND TRANSFORMS	3-1-0	4	4
B 1/2	22PHT201	ENGINEERING PHYSICS A	3-1-0	4	4
	22CYT203	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	22EST 204	ENGINEERING MECHANICS	2-1-0	3	3
	22EST 205	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	22EST206	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	22EST207	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	22HUT 208	PROFESSIONAL COMMUNICATION	2-0-2	4	--
F	22EST 209	PROGRAMMING IN C	2-1-2	5	4
S 1/2	22PHL 210	ENGINEERING PHYSICS LAB	0-0-2	2	1
	22CYL 211	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	22ESL 212	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	22ESL 213	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				28/29	21

SEMESTER III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT301	PARTIAL DIFFERENTIAL EQUATION AND COMPLEX ANALYSIS	3-1-0	4	4
B	22ECT302	SOLID STATE DEVICES	3-1-0	4	4
C	22ECT303	LOGIC CIRCUIT DESIGN	3-1-0	4	4
D	22ECT304	NETWORK THEORY	3-1-0	4	4
E 1/2	22EST305	DESIGN AND ENGINEERING	2-0-0	2	2
	22HUT306	PROFESSIONAL ETHICS	2-0-0	2	2
F	22MNC307	SUSTAINABLE ENGINEERING	2-0-0	2	--
S	22ECL308	SCIENTIFIC COMPUTING LAB	0-0-3	3	2
T	22ECL309	LOGIC DESIGN LAB	0-0-3	3	2
R/ M	22ECMR310.1/2/3	Remedial / Minor Course	3-1-0	4**	4
TOTAL				26/30	22/26

SEMESTER IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT401	PROBABILITY, RANDOM PROCESS AND NUMERICAL METHODS	3-1-0	4	4
B	22ECT402	ANALOG CIRCUITS	3-1-0	4	4
C	22ECT403	SIGNALS AND SYSTEMS	3-1-0	4	4
D	22ECT404	COMPUTER ARCHITECTURE AND MICRO-CONTROLLERS	3-1-0	4	4
E 1/2	22EST405	DESIGN AND ENGINEERING	2-0-0	2	2
	22HUT406	PROFESSIONAL ETHICS	2-0-0	2	2
F	22MNC407	CONSTITUTION OF INDIA	2-0-0	2	--
S	22ECL408	ANALOG CIRCUITS AND SIMULATION LAB	0-0-3	3	2
T	22ECL409	MICROCONTROLLER LAB	0-0-3	3	2
R/M/H	22ECMR410.1/2/3 22ECHR411.1/2/3	Remedial / Minor / Honours Course	3-1-0	4**	4
TOTAL				26/30	22/26

SEMESTER V

SLOT	COURSENO.	COURSES	L-T-P	HOURS	CREDIT
A	22ECT501	LINEAR INTEGRATED CIRCUITS	3-1-0	4	4
B	22ECT502	DIGITAL SIGNAL PROCESSING	3-1-0	4	4
C	22ECT503	ANALOG AND DIGITAL COMMUNICATION	3-1-0	4	4
D	22ECT504	CONTROL SYSTEMS	3-1-0	4	4
E 1/2	22HUT505	INDUSTRIAL ECONOMICS AND FOREIGN TRADE	3-0-0	3	3
	22HUT506	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	22MNC507	DISASTER MANAGEMENT	2-0-0	2	--
S	22ECL508	ANALOG INTEGRATED CIRCUITS AND SIMULATION LAB	0-0-3	3	2
T	22ECL509	DIGITAL SIGNAL PROCESSING LAB	0-0-3	3	2
R/M/H	22ECMR510.1/2/3 22ECHR511.12/3	Remedial / Minor / Honours Course	3-1-0	4**	4
TOTAL				27/31	23/27

SEMESTER VI

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22ECT601	ELECTRO MAGNETICS	3-1-0	4	4
B	22ECT602	VLSI CIRCUIT DESIGN	3-1-0	4	4
C	22ECT603	INFORMATION THEORY AND CODING	3-1-0	4	4
D	22ECE604	PROGRAM ELECTIVE-I	2-1-0	3	3
E ½	22HUT605	INDUSTRIAL ECONOMICS AND FOREIGN TRADE	3-0-0	3	3
	22HUT606	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	22ECT607	COMPREHENSIVE COURSE WORK	1-0-0	1	1
S	22ECL608	COMMUNICATION LAB	0-0-3	3	2
T	22ECP609	MINI PROJECT	0-0-3	3	2
R/M/H	22ECMR610.1/2/3 22ECHR611.1/2/3	Remedial / Minor / Honours Course	3-1-0	4**	4
TOTAL				25/29	23/27

PROGRAM ELECTIVE I

SLOT	COURSENO.	COURSES	L-T-P	HOURS	CREDIT
D	22ECE604.1	DIGITAL SYSTEM DESIGN	2-1-0	3	3
	22ECE604.2	POWER ELECTRONICS	2-1-0		
	22ECE604.3	DATA ANALYSIS	2-1-0		
	22ECE604.4	EMBEDDED SYSTEMS	2-1-0		
	22ECE604.5	DIGITAL IMAGE PROCESSING	2-1-0		
	22ECE604.6	INTRODUCTION TO MEMS	2-1-0		
	22ECE604.7	QUANTUM COMPUTING	2-1-0		

SEMESTER VII

SLOT	COURSENO.	COURSES	L-T-P	HOURS	CREDIT
A	22ECT701	MICROWAVES & ANTENNAS	2-1-0	3	3
B	22ECE702	PROGRAM ELECTIVE II	2-1-0	3	3
C	22ECO703	OPEN ELECTIVE	2-1-0	3	3
D	22ECT704	INDUSTRIAL SAFETY ENGINEERING	2-1-0	3	---
S	22ECL705	ELECTROMAGNETICS LAB	0-0-3	3	2
T	22ECS706	SEMINAR	0-0-3	3	2
U	22ECP707	PROJECT PHASE-I	0-0-6	6	2
R/M/H	22ECMR708 22ECHR709.1/2/3	Remedial / Minor / Honours Course	3-1-0	4*	4
TOTAL				24/28	15/19

PROGRAM ELECTIVE II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	22ECE702.1	OPTICAL FIBER	2-1-0	3	3
	22ECE702.2	COMPUTER NETWORKS	2-1-0		
	22ECE702.3	OPTO-ELECTRONIC DEVICES	2-1-0		
	22ECE702.4	INSTRUMENTATION	2-1-0		
	22ECE702.5	ERROR CONTROL CODES	2-1-0		
	22ECE702.6	MACHINE LEARNING	2-1-0		
	22ECE702.7	DSP ARCHITECTURES	2-1-0		

OPEN ELECTIVE

SLOT	COURSENO.	COURSES	L-T-P	HOURS	CREDIT
C	22ECO703.1	MECHATRONICS	2-1-0	3	3
	22ECO703.2	BIOMEDICAL	2-1-0		
	22ECO703.3	ELECTRONIC HARDWARE FOR ENGINEERS	2-1-0		
	22ECO703.4	IOT AND APPLICATIONS	2-1-0		
	22ECO703.5	ENTERTAINMENT ELECTRONICS	2-1-0		

SEMESTER VIII

SLOT	COURSENO.	COURSES	L-T-P	HOURS	CREDIT
A	22ECT801	WIRELESS COMMUNICATION	2-1-0	3	3
B	22ECE802	PROGRAM ELECTIVE-III	2-1-0	3	3
C	22ECE803	PROGRAM ELECTIVE-IV	2-1-0	3	3
D	22ECE804	PROGRAM ELECTIVE-V	2-1-0	3	3
E	22ECV805	COMPREHENSIVE VIVA VOCE	1-0-0	1	1
U	22ECP806	PROJECT PHASE-II	0-0-12	12	4
R/M/H	22ECMR807 22ECHR808	Remedial / Minor / Honours Course	3-1-0	4*	4
TOTAL				25/28	17/21

PROGRAM ELECTIVE III

SLOT	COURSENO.	COURSES	L-T-P	HOURS	CREDIT
B	22ECE802.1	BIOMEDICAL ENGINEERING	2-1-0	3	3
	22ECE802.2	SATELLITE COMMUNICATION	2-1-0		
	22ECE802.3	SECURE COMMUNICATION	2-1-0		
	22ECE802.4	PATTERN RECOGNITION	2-1-0		
	22ECE802.5	RF CIRCUIT DESIGN	2-1-0		
	22ECE802.6	MIXED SIGNAL CIRCUIT DESIGN	2-1-0		
	22ECE802.7	ENTREPRENEURSHIP	2-1-0		

PROGRAM ELECTIVE IV

SLOT	COURSENO.	COURSES	L-T-P	HOURS	CREDIT
C	22ECE803.1	MODERN COMMUNICATION SYSTEMS	2-1-0	3	3
	22ECE803.2	REAL TIME OPERATING SYSTEMS	2-1-0		
	22ECE803.3	ADAPTIVE SIGNAL PROCESSING	2-1-0		
	22ECE803.4	MICROWAVE DEVICES AND CIRCUITS	2-1-0		
	22ECE803.5	SPEECH AND AUDIO PROCESSING	2-1-0		
	22ECE803.6	ANALOG CMOS DESIGN	2-1-0		
	22ECE803.7	ROBOTICS	2-1-0		

PROGRAM ELECTIVE V

SLOT	COURSENO.	COURSES	L-T-P	HOURS	CREDIT
D	22ECE804.1	MECHATRONICS	2-1-0	3	3
	22ECE804.2	OPTIMIZATION TECHNIQUES	2-1-0		
	22ECE804.3	COMPUTER VISION	2-1-0		
	22ECE804.4	LOW POWER VLSI	2-1-0		
	22ECE804.5	INTERNET OF THINGS	2-1-0		
	22ECE804.6	RENEWABLE ENERGY SYSTEMS	2-1-0		
	22ECE804.7	ORGANIC ELECTRONICS	2-1-0		

MINOR

SEMESTER	BASKET I			BASKET II			BASKET III		
	COURSE NO.	COURSE NAME	CREDIT	COURSE NO	COURSE NAME	CREDIT	COURSE NO	COURSE NAME	CREDIT
S3	22ECMR310.1	ELECTRONIC CIRCUITS	4 4	22ECMR310.2	ANALOG COMMUNICATION	4 4	22ECMR310.3	INTRODUCTION TO SIGNALS AND SYSTEMS	4 4
S4	22ECMR410.1	MICROCONTROLLERS	4 4	22ECMR410.2	DIGITAL COMMUNICATION	4 4	22ECMR410.3	INTRODUCTION TO DIGITAL SIGNAL PROCESSING	4 4
S5	22ECMR510.1	EMBEDDED SYSTEM DESIGN	4 4	22ECMR510.2	COMMUNICATION SYSTEMS	4 4	22ECMR510.3	TOPICS IN DIGITAL IMAGE PROCESSING	4 4
S6	22ECMR610.1	VLSI CIRCUITS	4 4	22ECMR610.2	DATA NETWORKS	4 4	22ECMR610.3	TOPICS IN COMPUTER VISION	4 4
S7	22ECMR708	MINIPROJECT	4 4	22ECMR708	MINIPROJECT	4 4	22ECMR708	MINIPROJECT	4 4
S8	22ECMR807	MINIPROJECT	4 4	22ECMR807	MINIPROJECT	4 4	22ECMR807	MINIPROJECT	4 4

HONOURS

SEMESTER	GROUP I			GROUP II			GROUP III		
	COURSE NO	COURSE NAME	CREDIT HOURS	COURSE NO	COURSE NAME	CREDIT HOURS	COURSE NO	COURSE NAME	CREDIT HOURS
	S4	22ECHR411.1	NANOELECTRONICS	4 4	22ECHR411.2	STOCHASTIC PROCESSES FOR COMMUNICATION	4 4	22ECHR411.3	STOCHASTIC SIGNAL PROCESSING
S5	22ECHR511.1	FPGA BASED SYSTEM DESIGN	4 4	22ECHR511.2	DETECTION AND ESTIMATION THEORY	4 4	22ECHR511.3	COMPUTATIONAL TOOLS FOR SIGNAL PROCESSING	4 4
S6	22ECHR611.1	ELECTRONIC DESIGN AND AUTOMATION TOOLS	4 4	22ECHR611.2	MIMO AND MULTIUSER COMMUNICATION SYSTEMS	4 4	22ECHR611.3	DETECTION AND ESTIMATION THEORY	4 4
S7	22ECHR709.1	RF MEMS	4 4	22ECHR709.2	DESIGN AND ANALYSIS OF ANTENNAS	4 4	22ECHR709.3	MULTIRATE SIGNAL PROCESSING AND WAVELETS	4 4
S8	22ECHR808	MINIPROJECT	4 4	22ECHR808	MINIPROJECT	4 4	22ECHR808	MINIPROJECT	4 4

MECHANICAL ENGINEERING

CURRICULUM FROM SEMESTERS I TO VIII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT101	LINEAR ALGEBRA AND CALCULUS	3-1-0	4	4
B 1/2	22PHT102	ENGINEERING PHYSICS B	3-1-0	4	4
	22CYT103	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	22EST 104	ENGINEERING MECHANICS	2-1-0	3	3
	22EST 105	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	22EST 106	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	22EST 107	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	22MNC 108	LIFE SKILLS	2-0-2	4	--
S 1/2	22PHL 109	ENGINEERING PHYSICS LAB	0-0-2	2	1
	22CYL110	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	22ESL 111	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	22ESL 112	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				23/24*	17

SEMESTER I

SEMESTER II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT201	VECTOR CALCULUS, DIFFERENTIAL EQUATIONS AND TRANSFORMS	3-1-0	4	4
B 1/2	22PHT 201	ENGINEERING PHYSICS B	3-1-0	4	4
	22CHT203	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	22EST 204	ENGINEERING MECHANICS	2-1-0	3	3
	22EST 205	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	22EST 206	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	22EST 207	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	22HUT209	PROFESSIONAL COMMUNICATION	2-0-2	4	--
F	22EST 210	PROGRAMMING IN C	2-1-2	5	4
S 1/2	22PHL 211	ENGINEERING PHYSICS LAB	0-0-2	2	1
	22CYL 212	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	22ESL 213	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	22ESL 214	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				28/29	21

SEMESTER III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT301	PARTIAL DIFFERENTIAL EQUATION AND COMPLEX ANALYSIS	3-1-0	4	4
B	22MET 302	MECHANICS OF SOLIDS	3-1-0	4	4
C	22MET 303	MECHANICS OF FLUIDS	3-1-0	4	4
D	22MET304	METALLURGY& MATERIAL SCIENCE	3-1-0	4	4
E	22EST 305	DESIGN AND ENGINEERING	2-0-0	2	2
1/2	22HUT306	PROFESSIONAL ETHICS	2-0-0	2	2
F	22MNC307	SUSTAINABLE ENGINEERING	2-0-0	2	--
S	22MEL308	COMPUTER AIDED MACHINE DRAWING	0-0-3	3	2
T	22MEL309	MATERIALS TESTING LAB	0-0-3	3	2
R/M	22MEMR310.1/2	REMEDIAL/MINOR COURSE	3-1-0	4**	4
TOTAL				26/30	22/26

SEMESTER IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MAT401	PROBABILITY, STATISTICS AND NUMERICAL METHODS	3-1-0	4	4
B	22MET 402	ENGINEERING THERMODYNAMICS	3-1-0	4	4
C	22MET 403	MANUFACTURING PROCESS	3-1-0	4	4
D	22MET404	FLUID MACHINERY	3-1-0	4	4
E	22EST 405	DESIGN AND ENGINEERING	2-0-0	2	2
	22HUT406	PROFESSIONAL ETHICS	2-0-0	2	2
F	22MNC407	CONSTITUTION OF INDIA	2-0-0	2	--
S	22MEL 408	FM & HM LAB	0-0-3	3	2
T	22MEL 409	MACHINE TOOLS LAB-I	0-0-3	3	2
R/M/H	22MEMR410.1/2/3 22MEHR411.1/2/3	REMEDIAL/MINOR/HONORS COURSE	3-1-0	4*	4
TOTAL				26/30	22/26

SEMESTER V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MET501	MECHANICS OF MACHINERY	3-1-0	4	4
B	22MET502	THERMAL ENGINEERING	3-1-0	4	4
C	22MET503	INDUSTRIAL & SYSTEMS ENGINEERING	3-1-0	4	4
D	22MET504	MACHINE TOOLS AND METROLOGY	3-1-0	4	4
E 1/2	22HUT505	INDUSTRIAL ECONOMICS AND FOREIGN TRADE	3-0-0	3	3
	22HUT506	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	22MNC507	DISASTER MANAGEMENT	2-0-0	2	--
S	22MEL508	MACHINE TOOLS LAB-II	0-0-3	3	2
T	22MEL509	THERMAL ENGINEERING LAB-I	0-0-3	3	2
R/M/H	22MEMR510.1/2/3 22MEHR511.1/2/3	REMEDIAL/MINOR/ HONORS COURSE	3-1-0	4*	4
TOTAL				27/31	23/27

SEMESTER VI

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MET601	HEAT & MASS TRANSFER	3-1-0	4	4
B	22MET602	DYNAMICS AND DESIGN OF MACHINERY	3-1-0	4	4
C	22MET603	ADVANCED MANUFACTURING ENGINEERING	3-1-0	4	4
D	22MEE604	PROGRAM ELECTIVE I	2-1-0	3	3
E 1/2	22HUT605	INDUSTRIAL ECONOMICS AND FOREIGN TRADE	3-0-0	3	3
	22HUT606	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	22MET607	COMPREHENSIVE COURSE WORK	1-0-0	1	1
S	22MEL608	COMPUTER AIDED DESIGN & ANALYSIS LAB	0-0-3	3	2
T	22MEL609	THERMAL ENGINEERING LAB - II	0-0-3	3	2
R/M/ H	22MEMR610.1 /2/3	REMEDIAL/MINOR/HONOURS COURSE	3-1-0	4*	4
TOTAL				25/29	23/27

PROGRAM ELECTIVE I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	22MEE604.1	NON-DESTRUCTIVE TESTING	2-1-0	3	3
	22MEE604.2	COMPUTATIONAL FLUID DYNAMICS	2-1-0		
	22MEE604.3	ADVANCED MECHANICS OF SOLIDS	2-1-0		
	22MEE604.4	IC ENGINE COMBUSTION AND POLLUTION	2-1-0		
	22MEE604.5	AUTOMOBILE ENGINEERING	2-1-0		
	22MEE604.6	PRODUCT DESIGN AND DEVELOPMENT	2-1-0		
	22MEE604.7	ADVANCED METAL JOINING TECHNIQUES	2-1-0		

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MET701	DESIGN OF MACHINE ELEMENTS	2-1-0	3	3
B	22MEE702	PROGRAM ELECTIVE II	2-1-0	3	3
C	22MEO703	OPEN ELECTIVE	2-1-0	3	3
D	22MET704	INDUSTRIAL SAFETY ENGINEERING	2-1-0	3	--
S	22MEL705	MECHANICAL ENGINEERING LAB	0-0-3	3	2
T	22MES706	SEMINAR	0-0-3	3	2
U	22MEP707	PROJECT PHASE I	0-0-6	6	2
R/M/H	22MEMR708 22MEHR709.1/2/3	REMEDIAL/MINOR/HONORS COURSE	3-1-0	4*	4
TOTAL				24/28	15/19

SEMESTER VI

PROGRAM ELECTIVE II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	22MEE702.1	ADVANCED METHODS IN NON-DESTRUCTIVE TESTING	2-1-0	3	3
	22MEE702.2	OPTIMIZATION TECHNIQUES AND APPLICATIONS	2-1-0		
	22MEE702.3	FINITE ELEMENT METHOD	2-1-0		
	22MEE702.4	AEROSPACE ENGINEERING	2-1-0		
	22MEE702.5	HYBRID AND ELECTRIC VEHICLES	2-1-0		
	22MEE702.6	OPERATIONS MANAGEMENT	2-1-0		
	22MEE702.7	AIR CONDITIONING AND REFRIGERATION	2-1-0		

OPEN ELECTIVE

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	22MEO703.1	INTRODUCTION TO BUSINESS ANALYTICS	2-1-0	3	3
	22MEO703.2	QUANTITATIVE TECHNIQUES FOR ENGINEERS	2-1-0		
	22MEO703.3	AUTOMOTIVE TECHNOLOGY	2-1-0		
	22MEO703.4	RENEWABLE ENERGY ENGINEERING	2-1-0		
	22MEO703.5	QUALITY ENGINEERING AND MANAGEMENT	2-1-0		

SEMESTER VIII

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	22MET801	MECHATRONICS	2-1-0	3	3
B	22MEE802	PROGRAM ELECTIVE III	2-1-0	3	3
C	22MEE803	PROGRAM ELECTIVE IV	2-1-0	3	3
D	22MEE804	PROGRAM ELECTIVE V	2-1-0	3	3
E	22MEV805	COMPREHENSIVE VIVA VOCE	1-0-0	1	1
U	22MEP806	PROJECT PHASE II	0-0-12	12	4
R/M/H	22MEMR807 22MEHR808	REMEDIAL/MINOR HONORS	3-1-0	4*	4
TOTAL				25/28	17/21

PROGRAM ELECTIVE III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	22MEE802.1	QUALITY MANAGEMENT	2-1-0	3	3
	22MEE802.2	INDUSTRIAL HYDRAULICS	2-1-0		
	22MEE802.3	PRESSURE VESSEL AND PIPING DESIGN	2-1-0		
	22MEE802.4	DATA ANALYTICS FOR ENGINEERS	2-1-0		
	22MEE802.5	INDUSTRIAL TRIBOLOGY	2-1-0		
	22MEE802.6	MICRO AND NANO MANUFACTURING	2-1-0		
	22MEE802.7	HEATING AND VENTILATION SYSTEMS	2-1-0		

PROGRAM ELECTIVE IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	22MEE803.1	COMPOSITE MATERIALS	2-1-0	3	3
	22MEE803.2	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	2-1-0		
	22MEE803.3	ACOUSTICS AND NOISE CONTROL	2-1-0		
	22MEE803.4	HEAT TRANSFER EQUIPMENT DESIGN	2-1-0		
	22MEE803.5	ROBOTICS AND AUTOMATION	2-1-0		
	22MEE803.6	TECHNOLOGY MANAGEMENT	2-1-0		
	22MEE803.7	CRYOGENIC ENGINEERING	2-1-0		

PROGRAM ELECTIVE V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	22MEE804.1	RELIABILITY ENGINEERING	2-1-0	3	3
	22MEE804.2	PROJECT PLANNING AND MANAGEMENT	2-1-0		
	22MEE804.3	FRACTURE MECHANICS	2-1-0		
	22MEE804.4	GAS TURBINES AND JET PROPULSION	2-1-0		
	22MEE804.5	ADVANCED ENERGY ENGINEERING	2-1-0		
	22MEE804.6	ADDITIVE MANUFACTURING	2-1-0		
	22MEE804.7	POWER PLANT ENGINEERING	2-1-0		

MINOR

SEMESTER	BASKET I			BASKET II			BASKET III					
	COURSE NO	COURSE NAME	HOURS	CREDIT	COURSE NO	COURSE NAME	HOURS	CREDIT	COURSE NO.	COURSE NAME	HOURS	CREDIT
S3	22MEMR310.1	MECHANICS OF MATERIALS	4	4	22MEMR310.2	FLUID MECHANICS & MACHINERY	4	4	22MEMR310.3	MATERIAL SCIENCE & TECHNOLOGY	4	4
S4	22MEMR410.1	THEORY OF MACHINES	4	4	22MEMR410.2	THERMODYNAMICS	4	4	22MEMR410.3	MANUFACTURING TECHNOLOGY	4	4
S5	22MEMR509.1	DYNAMICS OF MACHINES	4	4	22MEMR509.2	THERMAL SCIENCE AND ENGINEERING	4	4	22MEMR509.3	MACHINE TOOLS ENGINEERING	4	4
S6	22MEMR609.1	MACHINE DESIGN	4	4	22MEMR609.2	HEAT TRANSFER	4	4	22MEMR609.3	INDUSTRIAL ENGINEERING	4	4
S7	22MEMR708	MINI PROJECT	4	4	22MEMR708	MINI PROJECT	4	4	22MEMR708	MINI PROJECT	4	4
S8	22MEMR807	MINI PROJECT	4	4	22MEMR807	MINI PROJECT	4	4	22MEMR807	MINI PROJECT	4	4

HONOR

SEMESTER	GROUP I				GROUP II				GROUP III			
	COURSE NO	COURSE NAME	HOURS	CREDIT	COURSE NO	COURSE NAME	HOURS	CREDIT	COURSE NO	COURSE NAME	HOURS	CREDIT
S4	22MEHR411.1	CONTINUUM MECHANICS	4	4	22MEHR411.2	ADVANCED MECHANICS OF FLUIDS	4	4	22MEHR411.3	MATERIALS IN MANUFACTURING	4	4
S5	22MEHR510.1	EXPERIMENTAL STRESS ANALYSIS	4	4	22MEHR510.2	ADVANCED THERMODYNAMICS	4	4	22MEHR510.3	FLUID POWER AUTOMATION	4	4
S6	22MEHR610.1	ADVANCED DESIGN SYNTHESIS	4	4	22MEHR610.2	COMPRESSIBLE FLUID FLOW	4	4	22MEHR610.3	ADVANCED NUMERICAL CONTROLLED MACHINING	4	4
S7	22MEHR709.1	ADVANCED THEORY OF VIBRATIONS	4	4	22MEHR709.2	COMPUTATIONAL METHODS IN FLUID FLOW & HEAT TRANSFER	4	4	22MEHR709.3	PRECISION MACHINING	4	4
S8	22MEHR808	MINI PROJECT	4	4	22MEHR808	MINI PROJECT	4	4	22MEHR808	MINI PROJECT	4	4