



ANNEXURE – I

Credit Structure for Undergraduate programs

Sr. No.	Category Code	Category	Credits
1	HSSM	Ability Enhancement Course (AEC), Indian Knowledge System (IKS), Value Education Course (VEC), Entrepreneurship/Economics/Management courses	10
2	BSC	Basic Science courses	14
3	ESC	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc.	16
4	PCC	Professional core courses	62
5	PEC	Professional Elective courses relevant to chosen specialization/branch	09
6	OE	Open subjects – Electives from other technical and /or emerging subjects	08
7	ELC	Project work, seminar and internship in industry or elsewhere, Industry Training and Skill Development, Capstone Course	22
8	VSEC	Vocations Skill Courses (VSC) , Skill Enhancement Courses(SEC)	10
9	CC	Co-curricular Courses (CC) such as Health and Wellness, Yoga education sports, and fitness, Cultural Activities, NSS/NCC and Fine/ Applied/ Visual/ Performing Arts	04
10	MDM	Compulsory Multidisciplinary Minor	14
		TOTAL	169

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**GROUP 1: SEMESTER I / GROUP 2: SEMESTER II**

Sr No.	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	BSC	AS101T	Engineering Physics & Material Sciences	2	-	-	2	15	35	50
2	BSC	AS101P	Engineering Physics & Material Sciences Lab	-	-	2	1	25	25	50
3	BSC	AS102T	Applied Mathematics – I	4	-	-	4	30	70	100
4	ESC	AS103T	Engineering Practices-I (Electrical & Electronics)	3	-	-	3	30	70	100
5	ESC	AS103P	Engineering Practices-I Lab (Electrical & Electronics)	-	-	2	1	25	25	50
6	ESC	AS104T	Logic building with C	2	-	-	2	15	35	50
7	ESC	AS104P	Logic building with C Lab	-	-	2	1	25	25	50
8	AEC	AS105P	Business Communication Skills- I Lab	-	-	2	1	25	25	50
9	IKS	AS106T	Indian Knowledge Systems	2	-	-	2	15	35	50
10	SEC	AS107P	Career Development- I	-	-	2	1	50	-	50
11	PCC	CE101T	Program Foundation- I	2	-	-	2	15	35	50
12	CC	AS108T	Co-curricular Courses - I	2	-	-	2	50	-	50
Total				17	-	10	22	320	380	700

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GROUP 1: SEMESTER II / GROUP 2: SEMESTER I

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	BSC	AS201T	Engineering Chemistry & Environmental Science	2	-	-	2	15	35	50
2	BSC	AS201P	Engineering Chemistry & Environmental Science Lab	-	-	2	1	25	25	50
3	BSC	AS202T	Applied Mathematics-II	4	-	-	4	30	70	100
4	ESC	AS203T	Engineering Practices-II (Civil & Mechanical)	3	-	-	3	30	70	100
5	ESC	AS203P	Engineering Practices-II Lab (Civil & Mechanical)	-	-	2	1	25	25	50
6	ESC	AS204T	Problem Solving with Python	2	-	-	2	15	35	50
7	ESC	AS204P	Problem Solving with Python Lab	-	-	2	1	25	25	50
8	AEC	AS205P	Business Communication Skills II Lab	-	-	2	1	25	25	50
9	SEC	AS206P	Career Development- II	-	-	2	1	50	-	50
10	PCC	CE201T	Program Foundation -II	2	-	-	2	15	35	50
11	ESC	AS207T	Design Thinking	2	-	-	2	30	70	100
12	CC	AS208T	Co-curricular Courses - II	2	-	-	2	50	-	50
Total				17	-	10	22	345	405	750

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SEMESTER III

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	PCC	CE301T	Discrete Mathematics	3	-	-	3	30	70	100
2	PCC	CE302T	Data Structure	3	-	-	3	30	70	100
3	PCC	CE302P	Data Structure Lab	-	-	2	1	25	25	50
4	PCC	CE303T	Computer Architecture	3	-	-	3	30	70	100
5	PCC	CE304T	Digital Circuits and Fundamentals of Microprocessors	3	-	-	3	30	70	100
6	PCC	CE304P	Digital Circuits and Fundamentals of Microprocessors Lab	-	-	2	1	25	25	50
7	PCC	CE305P	Computer Lab-I	-	-	2	1	25	25	50
8	SEC	CE306P	Career Development- III	-	-	2	1	50	-	50
9	VEC	CE307T	Value Education Course- I	2	-	-	2	15	35	50
10	ELC	CE308P	Micro Project- I*	-	-	2	1	50	-	50
Total				14	-	10	19	310	390	700
11	MDM	****T	MDM-I	2	-	-	2	15	35	50
Total				16	-	10	21	325	425	750

* Field Project or Community engagement project in the major discipline

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**SEMESTER IV**

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	PCC	CE401T	Data Communication	3	-	-	3	30	70	100
2	PCC	CE401P	Data Communication Lab	-	-	2	1	25	25	50
3	PCC	CE402T	Database Management System	3	-	-	3	30	70	100
4	PCC	CE402P	Database Management System Lab	-	-	2	1	25	25	50
5	PCC	CE403T	Object Oriented Programming	3	-	-	3	30	70	100
6	PCC	CE403P	Object Oriented Programming Lab	-	-	2	1	25	25	50
7	OE	CE404T	Open Elective - I	2	-	-	2	15	35	50
8	VSC	CE405T	Technical Skill Development - I	2	-	-	2	50	-	50
9	VEC	CE406T	Value Education Course -II	2	-	-	2	15	35	50
10	SEC	CE407P	Career Development - IV	-	-	2	1	50	-	50
11	ELC	CE408P	Micro Project- II*	-	-	2	1	50	-	50
Total				15	-	10	20	345	355	700
12	MDM	****T	MDM-II	3	-	-	3	30	70	100
Total				18	-	10	23	375	425	800

* Field Project or Community engagement project in the major discipline

Open Elective - I	
CE404T(i)	Statistical Analysis using R
CE404T(ii)	Python Programming-II
CE404T(iii)	Advanced Programming in C

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B. Tech. Scheme of Examination & Syllabus 2023-24
COMPUTER ENGINEERING

SEMESTER V

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	PCC	CE501T	Theory of Computation	3	-	-	3	30	70	100
2	PCC	CE502T	Software Engineering and Project Management	3	-	-	3	30	70	100
3	PCC	CE502P	Software Engineering and Project Management Lab	-	-	2	1	25	25	50
4	PCC	CE503T	Design and Analysis of Algorithms	3	-	-	3	30	70	100
5	PCC	CE503P	Design and Analysis of Algorithms Lab	-	-	2	1	25	25	50
6	PEC	CE504T	Professional Elective-I	2	-	-	2	15	35	50
7	PCC	CE505P	Computer Lab-II	-	-	2	1	25	25	50
8	OE	CE506T	Open Elective - II	3	-	-	3	30	70	100
9	VSC	CE507T	Technical Skill Development - II	2	-	-	2	50	-	50
10	SEC	CE508P	Career Development - V	-	-	2	1	50	-	50
Total				16	-	8	20	310	390	700
11	MDM	****T	MDM-III	3	-	-	3	30	70	100
Total				19	-	8	23	340	460	800

Open Elective - II	
CE506T(i)	Object Oriented Programming
CE506T(ii)	Data Analytics using Python
CE506T(iii)	Social Networks

Professional Elective - I	
CE504T(i)	Computer Graphics
CE504T(ii)	Artificial Intelligence
CE504T(iii)	Blockchain Technology

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**SEMESTER VI**

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	PCC	CE601T	Operating System	3	-	-	3	30	70	100
2	PCC	CE601P	Operating System Lab	-	-	2	1	25	25	50
3	PCC	CE602T	Computer Networks	3	-	-	3	30	70	100
4	PCC	CE602P	Computer Networks Lab	-	-	2	1	25	25	50
5	PEC	CE603T	Professional Elective-II	2	-	-	2	15	35	50
6	PEC	CE603P	Professional Elective-II Lab	-	-	2	1	25	25	50
7	AEC	AS601T	Economics. & Management	2	-	-	2	15	35	50
8	OE	CE604T	Open Elective- III	3	-	-	3	30	70	100
9	ELC	CE605P	Project - I	-	-	4	2	50	50	100
10	SEC	CE606P	Career Development - IV	-	-	2	1	50	-	50
Total				13	-	12	19	295	405	700
11	MDM	****T	MDM-IV	3	-	-	3	30	70	100
Total				16	-	12	22	325	475	800

Open Elective - III	
CE606T(i)	Cyber Security and Ethics
CE606T(ii)	Machine Learning
CE606T(iii)	Data Visualization

Professional Elective - II	
CE603T(i)	Data Warehousing and Mining
CE603T(ii)	Deep Learning
CE603T(iii)	Digital Image Processing

Professional Elective – II Lab	
CE603P(i)	Data Warehousing and Mining Lab
CE603P(ii)	Deep Learning Lab
CE603P(iii)	Digital Image Processing Lab

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SEMESTER VII

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	PCC	CE701T	Software Testing and Quality Assurance	3	-	-	3	30	70	100
2	PCC	CE702T	Compiler Construction	3	-	-	3	30	70	100
3	PCC	CE702P	Compiler Construction Lab	-	-	2	1	25	25	50
4	PCC	CE703T	Cryptography and Network Security	3	-	-	3	30	70	100
5	PCC	CE703P	Cryptography and Network Security Lab	-	-	2	1	25	25	50
6	PEC	CE704T	Professional Elective-III	3	-	-	3	30	70	100
7	PEC	CE704P	Professional Elective- III Lab	-	-	2	1	25	25	50
8	ELC	CE705P	Project - II	-	-	8	4	50	50	100
9	ELC	CE706P	Summer / Winter Internship*	-	-	-	2	50.	-	50
Total				12	-	14	21	295	405	700
10	MDM	****T	MDM-V	3	-	-	3	30	70	100
Total				15	-	14	24	325	475	800

* Summer / Winter Internship (Evaluation of Four Weeks Internship Completion till 6th Semester)

Professional Elective - III	
CE704T(i)	IoT and its applications
CE704T(ii)	Application development for Mobile
CE704T(iii)	Fundamentals of Virtual and Augmented Reality

Professional Elective – III Lab	
CE704P(i)	IoT and its applications Lab
CE704P(ii)	Application development for Mobile Lab
CE704P(iii)	Fundamentals of Virtual and Augmented Reality Lab

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**SEMESTER VIII****Option A**

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	ELC	CE801P*	Project based on one semester internship in Industry/Research Institute/ National Laboratories/ Incubation Center	-	-	-	12	300	100	400
Total				0	0	0	12	300	100	400

*End semester examination will consist of evaluation of seminar & project report.

Option B

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	ELC	CE801P#	Institutional Internship	-	-	12	6	100	100	200
2	ELC	CE802P	Project – III	-	-	12	6	100	100	200
Total				0	0	0	12	300	100	400

Option B is available to students only after recommendation of the concerned Head of the department. The project and internship should contribute towards career development plan of the students.

* Minimum 90 days internship in any industry and project is to be carried out during internship.

Two NPTEL courses (as per choice of student) or Institutional Internship by IEDC, SVPCET.

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EXIT OPTIONS

Award of UG Certificate in Major with 44 credits and an additional 8 credits (After First Year)

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits
1	Advanced Python Programming	NPTEL/MOOC/Internship	4
2	Modern C++ Programming	NPTEL/MOOC/Internship	4
3	Problem Solving Through Programming in C	NPTEL/MOOC/Internship	4

Award of UG Diploma in Major with 83 credits and an additional 8 credits (After Second Year)

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits
1	Programming in Java	NPTEL/MOOC/Internship	4
2	Software Testing	NPTEL/MOOC/Internship	4
3	Python for Data Science	NPTEL/MOOC/Internship	4

Award of UG Degree in Major with 122 credits and an additional 8 credits (After Third Year)

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits
1	Introduction to Machine Learning	NPTEL/MOOC/Internship	4
2	Fundamentals of Artificial Intelligence	NPTEL/MOOC/Internship	4
3	Ethical Hacking	NPTEL/MOOC/Internship	4

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