Jyothi Engineering College (AUTONOMOUS)
Reaccredited with NAAC (Grade A) and
NBA Programmes* (*CE, CS, EC, EE, ME, MR)
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A Centre of Excellence in Science and Technology by the Catholic Archdiocese of Trichur

B. TECH CURRICULUM - 2026

(AUTONOMOUS)
CREATING TECHNOLOGY
LEADERS OF TOMORROW
ESTD 2002

Semester I to VIII

Electrical and Electronics Engineering

Branch Code: EE

Recommended by BoS on 09-06-2026

Approved by Academic Council on 29-06-2026

(Reference: JEC/2025/AC/MOM/02/AC/02/A2)

CONTENTS

LIST OF ABBREVIATIONS

L	Lecture hours per week
T	Tutorial hours per week
P	Practical hours per week
H	Hands on project per week
S	Self-learning hours per week
PO	Programme Outcome
PSO	Programme Specific Outcome
PEO	Programme Educational Objective
WK	Knowledge and Attitude Profile
BS	Basic Science Courses
ES	Engineering Science Courses
HM	Humanities, Social Science and Management Courses
PC	Programme Core Courses
PE	Programme Elective Courses
PI	Project Work/Seminar/ Internship
SE	Skill Enhancement Courses
IK	Indian Knowledge System
HW	Health and Wellness
SA	Student Activities
TC	Theory Course
PL	Practical Course
TP	Theory Course Embedded with Practical
PB	Theory Course Embedded with Micro projects
PT	Project
PI	Internship
SR	Seminar
SE	Skill Enhancement Courses.

VISION & MISSION OF THE INSTITUTION

VISION

To be a global leader in education, nurturing ethical professionals, fostering holistic excellence and sustainable societal impact.

MISSION

1. **Excellence in Education**: Provide outcome-based and industry-relevant education that builds technical competence, innovation, and lifelong learning.
2. **Ethics and Values:** Inspire integrity, empathy, and social responsibility to develop ethical and service-oriented professionals.
3. **Research, Innovation, and Entrepreneurship**: Encourage creativity, research, and entrepreneurship for sustainable technological and economic growth.
4. **Holistic and Global Development**: Promote all-round development, leadership, and global competence through collaboration and community engagement.

VISION & MISSION OF THE DEPARTMENT

VISION

To be a globally recognized center of excellence in Electrical and Electronics Engineering, nurturing ethical leaders committed to holistic excellence and sustainable societal impact.

MISSION

1. Deliver value-driven and industry-relevant education with professional competencies that builds strong engineering fundamentals encouraging lifelong learning.
2. Inspire ethical conduct, integrity, and social responsibility in future electrical engineers.
3. Promote research, innovation, and entrepreneurship for sustainable energy and technological growth.
4. Foster holistic development, leadership and global competence through collaboration and community engagement.

PROGRAMME EDUCATIONAL OBJECTIVES

PEO 1	Graduates will apply strong foundations in mathematics, sciences, and electrical engineering to build enriching careers in industry, research, or higher studies.
PEO 2	Graduates will adapt to emerging technologies and contribute to sustainable innovation in electrical and allied fields.
PEO 3	Graduates will exhibit ethical leadership, communication, entrepreneurial skills, and teamwork in diverse, multidisciplinary environments.

PROGRAMME SPECIFIC OUTCOMES

PSO 1	Apply the principles of electrical and electronics engineering to analyze, design, and operate power, energy, and electrical systems.
PSO 2	Design and implement intelligent control, power electronic, automation, and embedded systems using modern engineering tools.
PSO 3	Develop sustainable and innovative engineering solutions through research, lifelong learning, ethical practice, and multidisciplinary collaboration.

PROGRAMME OUTCOMES

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

KNOWLEDGE AND ATTITUDE PROFILE (WK)

WK1	A systematic, theory-based understanding of the natural sciences applicable to the discipline and awareness of relevant social sciences.
WK2	Conceptually based mathematics, numerical analysis, data analysis, statistics and formal aspects of computer and information science to support detailed analysis and modelling applicable to the discipline.
WK3	A systematic, theory-based formulation of engineering fundamentals required in the engineering discipline.
WK4	Engineering specialist knowledge that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline.
WK5	Knowledge, including efficient resource use, environmental impacts, whole-life cost, re-use of resources, net zero carbon, and similar concepts, that supports engineering design and operations in a practice area.
WK6	Knowledge of engineering practice (technology) in the practice areas in the engineering discipline.
WK7	Knowledge of the role of engineering in society and identified issues in engineering practice in the discipline, such as the professional responsibility of an engineer to public safety and sustainable development.
WK8	Engagement with selected knowledge in the current research literature of the discipline, awareness of the power of critical thinking and creative approaches to evaluate emerging issues.
WK9	Ethics, inclusive behavior and conduct. Knowledge of professional ethics, responsibilities, and norms of engineering practice. Awareness of the need for diversity by reason of ethnicity, gender, age, physical ability etc. with mutual understanding and respect, and of inclusive attitudes.

CUMULATIVE CREDITS

Cumulative credits for the entire B. Tech program is 170 credits

CREDIT ASSIGNMENT

[Ref: National Credit Framework – Sept 2022]

Course Delivery	Code	Hours per Week	Credit
Lecture	L	1	1
Tutorial	T	1	1
Practical	P	2	1
Hands on Project	H	2 (or) 3 (or) 4	1

CREDIT DISTRIBUTION: YEAR/SEMESTER WISE

Year	ODD Semester	Even Semester	Total credit
First	20	22	42
Second	25	24	49
Third	23	23	46
Fourth	18	12	30
Academic Credits			**167**
Student Activities			**3**
B Tech			**170**
B Tech with Honours			**185**
B Tech with Minor			**185**
B Tech with Minor and Honours			**200**

COURSE CATEGORY AND CREDIT DISTRIBUTION

Sl.	Course Category	Nomenclature	Credits	Number of Courses
1	Basic Science Courses	BS	21	6
2	Engineering Science Courses	ES	28	10
3	Humanities, Social Science and Management	HM	10	6
4	Programme Core Courses	PC	64	22
5	Programme Elective Courses	PE	20	6
6	Open Elective Courses/Industry Linked Elective Courses.	OE/IE	8	3
7	Project Work/Seminar/ Internship	PI	10	3
8	Skill Enhancement Courses	SE	3	3
9	Indian Knowledge System	IK	2	1
10	Health and Wellness	HW	1	1
11	Student Activities	SA	3	-
Total			**170**	**61**

COURSE TYPES AND ASSESSMENT PATTERN

Course Type	Nomenclature	Credits	Assessment pattern		
			CIE	ESE	Total
Workshop	PL	1	100	NA	100
Theory Course	TC	1/2/3/4	40	60	100
Lab Course	PL	2	50	50	100
Theory + Practical	TP	4	60	40	100
Theory + Project	PB	4	60	40	100
Project	PT	4	50	50	100
Seminar	SR	2	100	NA	100
Skill Enhancement Courses	SE	1	100	NA	100

SEMESTER I

Sl.	Slot	Course Code	Course Category	Course Type	Course Title	Hours/Week					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1BST121	BS	TC	Linear Algebra and Calculus	3	0	0	0	4.5	3	40	60	100
2	B	J1BSP122	BS	TP	Physics for Electrical Science	3	0	2	0	5.5	4	60	40	100
3	C	J1ESP103	ES	TP	Algorithmic Thinking with Python	3	0	2	0	5.5	4	60	40	100
4	D	J1EST104	ES	TC	Engineering Mechanics	2	1	0	0	3.5	3	40	60	100
5	E	J1EST115	ES	TC	Introduction to Electrical and Electronics Engineering	4	0	0	0	6	4	40	60	100
6	F	J1HWP126/J1HMP126	HW/HM	TP	Health and Wellness / Life Skills and Professional Communication	1	0	1	0	2	1	100	0	100
7	J	J1ESL127	ES	PL	Electrical and Electronics Engineering Workshop	0	0	2	0	1	1	100	0	100
8	S	J1SET109	SE	TC/TP	Skill Enhancement Course	0	0	0	0	2	-			-
Total						16	1	7	0	30	**20**			700

SEMESTER II

Sl.	Slot	Course Code	Course Category	Course Type	Course Title	Hours/Week					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1BST221	BS	TC	Vector Calculus, Partial Derivatives and Transforms	3	0	0	0	4.5	3	40	60	100
2	B	J1BSP212	BS	TP	Chemistry for Engineers	3	0	2	0	5.5	4	60	40	100
3	C	J1EST263	ES	TC	Fundamentals of Mechanical and Civil Engineering	4	0	0	0	6	4	40	60	100
4	D	J1ESP104	ES	TP	Engineering Graphics and Computer Aided Drawing	2	0	2	0	4	3	60	40	100
5	E	J1EST205	ES	TC	Engineering Entrepreneurship and IPR	2	0	0	0	3	2	40	60	100
6	F	J1HWP126 /J1HMP126	HW/HM	TP	Health and Wellness / Life Skills and Professional Communication	1	0	1	0	2	1	100	-	100
7	G	J1EET207	PC	TC	Measurements and Instrumentation	3	0	0	0	4.5	3	40	60	100
8	J	J1ESL248	ES	PL	Information Technology Workshop	0	0	2	0	1	1	100	-	100
9	S	JISET109	SE	TP	Skill Enhancement Course	0	0	0	0	2	1	-	-	-
Total						18	0	7	0	32.5	**22**			800

SEMESTER III

Sl.	Slot	Course Code	Course Category	Course Type	Course Title	Hours/Week					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1BST321	BS	TC	Fourier Transforms and Complex Analysis	3	0	0	0	4.5	3	40	60	100
2	B	J1EET302	PC	TC	DC Machines and Transformers	2	1	0	0	3.5	3	40	60	100
3	C	J1EEZ303	PC	PB	Analog Electronics	3	0	0	2	6.5	4	60	40	100
4	D	J1EEP304	PC	TP	Circuits and Networks	2	1	2	0	4.5	4	60	40	100
5	E	J1EST315	ES	TC	Introduction to Artificial Intelligence and Data Science	3	1	0	0	5	4	40	60	100
6	F	J1HMT346/J1HMT436	HM	TC	Economics for Engineers/ Engineering Ethics and Sustainable Development	2	0	0	0	3	2	40	60	100
7	J	J1EEL307	PC	PL	DC Machines and Transformers Lab	0	0	3	0	1.5	2	50	50	100
8	K	J1EEL308	PC	PL	Measurements and Instrumentation Lab	0	0	3	0	1.5	2	50	50	100
9	S	J1SET3N9	SE	TP/TC	Skill Enhancement Course	1	0	0	0	1.5	1	100	-	100
Total						16	3	8	2	31.5	**25**			900

SEMESTER IV

Sl.	Slot	Course Code	Course Category	Course Type	Course Title	Hours/Week					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1EET401	PC	TC	Electro-Magnetic Theory	2	1	0	0	3.5	3	40	60	100
2	B	J1EET402	PC	TC	Synchronous and Induction Machines	2	1	0	0	3.5	3	40	60	100
3	C	J1EEZ403	PC	PB	Digital Electronics	3	0	0	2	6.5	4	60	40	100
4	D	J1BSP424	BS	TP	Probability, Statistics and Random Processes	3	0	2	0	5.5	4	60	40	100
5	E	J1EET4N5	PE	TC	Programme Elective -1	3	0	0	0	4.5	3	40	60	100
6	F	J1HMT34/ J1HMT436	HM	TC	Economics for Engineers/ Engineering Ethics and Sustainable Development	2	0	0	0	3	2	40	60	100
7	J	J1EEL407	PC	PL	AC Machines Lab	0	0	3	0	1.5	2	50	50	100
8	K	J1EEL408	PC	PL	Electronics Lab	0	0	3	0	1.5	2	50	50	100
9	S	J1SET4N9	SE	TC/ TP	Skill Enhancement Course	1	0	0	0	1.5	1	100	-	100
Total						16	2	8	2	31	**24**			900

SEMESTER V

Sl.	Slot	Course Code	Course Category	Course Type	Course Title	Hours/Week					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1EET501	PC	TC	Power Generation, Transmission and Protection	3	0	0	0	4.5	3	40	60	100
2	B	J1EET502	PC	TC	Power Electronics and Drives	2	1	0	0	3.5	3	40	60	100
3	C	J1EEZ503	PC	PB	Microprocessors and Embedded Systems	3	0	0	2	6.5	4	60	40	100
4	D	J1EET504	PC	TC	Linear System Analysis	2	1	0	0	3.5	3	40	60	100
5	E	J1EEP5N5	PE	TP	Programme Elective-2	3	0	2	0	5.5	4	60	40	100
6	F	J1IKT5N6	IK	TC	Indian Knowledge System	2	0	0	0	3	2	40	60	100
7	J	J1EEL507	PC	PL	Power Electronics and Drives Lab	0	0	3	0	1.5	2	50	50	100
8	K	J1EEL508	PC	PL	Microprocessors and Embedded Systems Lab	0	0	3	0	1.5	2	50	50	100
Total						15	2	8	2	29.5	**23**			800

SEMESTER VI

Sl.	Slot	Course Code	Course Category	Course Type	Course Title	Hours/week					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1EET601	PC	TC	Power System Analysis	3	1	0	0	5	4	40	60	100
2	B	J1EET602	PC	TC	Electrical System Design and Estimation	3	0	0	0	4.5	3	40	60	100
3	C	J1EST6N3	ES	TC	Design Thinking and Product Development	2	0	0	0	3	2	40	60	100
4	D	J1EET604	PC	TC	Control Systems	3	1	0	0	5	4	60	40	100
5	E	J1EEZ6N5	PE	PB	Programme Elective -3	3	0	0	2	6.5	4	60	40	100
6	F	J1XXO6N6/J1XXI6N6	OE/IE	TC	Open Elective-1/ Industry Linked Elective-1	2	0	0	0	3	2	40	60	100
7	J	J1EEL607	PC	PL	Power Systems Lab	0	0	3	0	1.5	2	50	50	100
8	K	J1EEL608	PC	PL	Control Systems Lab	0	0	3	0	1.5	2	50	50	100
Total						16	2	6	2	30	**23**			800

SEMESTER VII														
Sl.	Slot	Course Code	Course Category	Course Type	Course Title	Hours/Week					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1EET7N1/J1EEM7N1	PE	TC	Programme Elective-4/ MOOC/Self Study	3	0	0	0	4.5	3	40	60	100
2	B	J1EET7N2/J1EEM7N2	PE	TC	Programme Elective-5/ MOOC/Self Study	3	0	0	0	4.5	3	40	60	100
3	C	J1EEO7N3 /J1EEI7N3/J1EEM7N3	OE	TC	Open Elective-2/Industry Linked Elective-2/MOOC/Self Study	3	0	0	0	4.5	3	40	60	100
4	D	J1HMT7N4/J1HMM7N4	HM	TC	Project Management/Foreign Languages/MOOC/Self Study	2	0	0	0	3	2	40	60	100
5	E	JIHMT705/J1HMM7N5	HM	TC	Constitution of India / MOOC/Self Study	1	0	0	0	1.5	1	40	60	100
6	J	J1EEQ706	PI	SR	Seminar	0	0	2	0	1	2	100	-	100
7	K	J1EED707/J1INT707	PI	PT	Project/Internship(4-6 Months)	0	0	0	16	16	4	100	-	100
Total						12	0	2	16	35	**18**			700

SEMESTER VIII														
Sl.	Slot	Course Code	Course Category	Course Type	Course Title	Hours					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1EET8N1/J1EEM8N1	PE	TC	Programme Elective-6/MOOC/Self Study	3	0	0	0	4.5	3	40	60	100
2	B	J1EEO8N2/J1EEM8N2	OE	TC	Open Elective-3/MOOC/Self Study	3	0	0	0	4.5	3	40	60	100
3	C	J1HMT8N3/J1HMM8N3	HM	TC	Organizational Behavior and Business Communication/MOOC/Self Study	2	0	0	0	3	2	40	60	100
4	K	J1EED804/J1INT804	PI	PT	Project/ Internship (4-6 Months)	0	0	0	16	16	4	50	50	100
Total						8	0	0	16	28	**12**			400

1.PROGRAMME CORE COURSES					
Sl. No.	**Semester**	**Course Code**	**Course Name**	**Course Type**	**Credits**
1	S2	J1EET207	Measurements and Instrumentation	TC	3
2	S3	J1EET302	DC Machines and Transformers	TC	3
3	S3	J1EEZ303	Analog Electronics	PB	4
4	S3	J1EEP304	Circuits and Networks	TP	4
5	S4	J1EET402	Synchronous and Induction Machines	TC	3
6	S4	J1EEZ403	Digital Electronics	PB	4
7	S4	J1EET404	Electromagnetic Theory	TC	3
8	S5	J1EET501	Power Generation, Transmission and Protection	TC	3
9	S5	J1EET502	Power Electronics and Drives	TC	3
10	S5	J1EEZ503	Microprocessors and Embedded Systems	PB	4
11	S5	J1EET504	Linear System Analysis	TC	3
12	S6	J1EET601	Power System Analysis	TC	4
13	S6	J1EET602	Electrical System Design and Estimation	TC	3
14	S6	J1EET604	Control Systems	TC	4
15	S3	J1EEL307	Measurements and Instrumentation Lab	PL	2
16	S3	J1EEL308	DC Machines and Transformers Lab	PL	2
17	S4	J1EEL407	AC Machines Lab	PL	2
18	S4	J1EEL408	Electronics Lab	PL	2
19	S5	J1EEL507	Power Electronics and Drives Lab	PL	2
20	S5	J1EEL508	Microprocessors and Embedded Systems Lab	PL	2
21	S6	J1EEL607	Power Systems Lab	PL	2
22	S6	J1EEL608	Control Systems Lab	PL	2
Total Credits					**64**

2. PROGRAMME ELECTIVE

2.1 PROGRAMME ELECTIVE-1 (SEMESTER-IV)

Sl. No.	Slot	Subject Code	Subject	Category
1	E	J1EET415	Fundamentals of Electric Vehicles	Stream Elective-1
2	E	J1EET425	Fundamentals of Renewable Energy Sources	Stream Elective-2
3	E	J1EET435	Industrial Instrumentation	Stream Elective-3
4	E	J1EET445	Fundamentals of Computing & Programming	General Elective
5	E	J1EET455	Biomedical Instrumentation	General Elective
6	E	J1EET465	Electrical Engineering Materials	General Elective

2.2 PROGRAMME ELECTIVE-2 (SEMESTER-V)

Sl. No.	Slot	Subject Code	Subject	Category
1	E	J1EEP515	Vehicle Dynamics and Electric Motor Drives	Stream Elective-1
2	E	J1EEP525	Solar and Wind Energy Conversions	Stream Elective-2
3	E	J1EEP535	Advanced Instrumentation	Stream Elective-3
4	E	J1EEP545	IoT Architecture Protocol Applications	General Elective
5	E	J1EEP555	Illumination Technology	General Elective
6	E	J1EEP565	Special Electrical Machines	General Elective

2.3 PROGRAMME ELECTIVE-3 (SEMESTER-VI)

Sl. No.	Slot	Subject Code	Subject	Category
1	E	J1EEZ615	Design & Development of Electric Vehicles	Stream Elective-1
2	E	J1EEZ625	Renewable Energy Integration in Smart Grid Application	Stream Elective-2
3	E	J1EEZ635	Industrial Automation	Stream Elective-3
4	E	J1EEZ645	Mobile Application of IoT	General Elective
5	E	J1EEZ655	Electric Power Utilization	General Elective
6	E	J1EEZ665	AI and Machine Learning for Electrical Systems	General Elective

2.4 PROGRAMME ELECTIVE-4 (SEMESTER-VII)				
Sl. No.	**Slot**	**Subject Code**	**Subject**	**Category**
1	A	J1EET711	High Voltage Engineering	General Elective/MOOC
2	A	J1EET721	Soft Computing Techniques	General Elective/MOOC
3	A	J1EET731	Introduction to Communication Systems	General Elective/MOOC
4	A	J1EET741	Energy Storage Systems	General Elective/MOOC
5	A	J1EET751	Digital Signal Processing	General Elective/MOOC
6	A	J1EET761	Principles of Object Oriented Programming	General Elective/MOOC

2.5 PROGRAMME ELECTIVE-5(SEMESTER-VII)				
Sl. No.	**Slot**	**Subject Code**	**Subject**	**Category**
1	B	J1EET712	Power Quality	General Elective/MOOC
2	B	J1EET722	Introduction to Robotics & Automation	General Elective/MOOC
3	B	J1EET732	Electrical Machine Design	General Elective/MOOC
4	B	J1EET742	Non-Linear Control System	General Elective/MOOC
5	B	J1EET752	Optimization Techniques and Algorithms	General Elective/MOOC
6	B	J1EET762	Data Structures	General Elective/MOOC

2.6 PROGRAMME ELECTIVE-6(SEMESTER-VIII)				
Sl. No.	**Slot**	**Subject Code**	**Subject**	**Category**
1	A	J1EET811	Energy Management and Auditing	General Elective/MOOC
2	A	J1EET821	Fundamentals of Mechatronics	General Elective/MOOC
3	A	J1EET831	Grid Protection and Control	General Elective/MOOC
4	A	J1EET841	Robust and Adaptive Control	General Elective/MOOC
5	A	J1EET851	Digital Protection of Power System	General Elective/MOOC
6	A	J1EET861	Big Data Analysis	General Elective/MOOC

3. OPEN ELECTIVES/INDUSTRY LINKED ELECTIVES

3.1 OPEN ELECTIVE-1/INDUSTRY LINKED ELECTIVE-1 (SEMESTER-VI)				
Sl. No.	**Slot**	**Subject Code**	**Subject**	**Category**
1	F	J1EEO616	Introduction to Control Systems	Open Elective
2	F	J1EEO626	Energy Management	Open Elective
3	F	J1EEO636	Renewable Energy Systems	Open Elective

3.2 OPEN ELECTIVE-2/INDUSTRY LINKED ELECTIVE-2 (SEMESTER-VII)				
Sl. No.	**Slot**	**Subject Code**	**Subject**	**Category**
1	C	J1EEO713	Industrial Safety Management	Open Elective
2	C	J1EEO723	Hybrid and Electric Vehicles	Open Elective
3	C	J1EEO733	Introduction to Energy Storage Systems	Open Elective

3.3 OPEN ELECTIVE-3/INDUSTRY LINKED ELECTIVE-3 (SEMESTER-VIII)				
Sl. No.	**Slot**	**Subject Code**	**Subject**	**Category**
1	B	J1EEO812	Sustainability in Environmental Management	Open Elective
2	B	J1EEO822	Design of Solar PV systems	Open Elective
3	B	J1EEO832	Industrial Psychology and Human Resource Management	Open Elective

4. HUMANITIES, SOCIAL SCIENCE AND MANAGEMENT					
Sl. No.	**Semester**	**Course Code**	**Course**	**Course Type**	**Credits**
1	S1/S2	J1HMP126	Life Skills and Professional Communication	TC	1
2	S3/S4	J1HMT346	Economics for Engineers	TC	2
3		J1HMT436	Engineering Ethics and Sustainable Development	TC	2
4	S7	J1HMT7N4/J1HMM7N4	Project Management/Foreign Languages/MOOC	TC	2
5	S7	JIHMT7N5/ J1HMM7N5	Constitution of India/MOOC	TC	1
6	S8	J1HMT8N3 J1HMM8N3	Organizational Behavior and Business Communication/MOOC	TC	2
Total Credits					**10**

5.INDIAN KNOWLEDGE SYSTEM					
Sl. No.	**Semester**	**Course Code**	**Course**	**Course Type**	**Credits**
1	S5	J1IKT5N6	Indian Knowledge System	TC	2
Total Credits					2

6.HEALTH AND WELLNESS					
Sl. No.	**Semester**	**Course Code**	**Course**	**Course Type**	**Credits**
1	S1	J1HWP126	Health and Wellness	TP	1
Total Credits					1

7.BASIC SCIENCE COURSES					
Sl. No.	**Semester**	**Course Code**	**Course**	**Course Type**	**Credits**
1	S1	JIBST121	Linear Algebra, Integrals, Ordinary Differential Equations and Series	TC	3
2	S1/S2	JIBSP122	Physics for Electrical Science	TP	4
3	S1/S2	J1BSP212	Chemistry for Electrical Science	TP	4
4	S2	J1BST221	Partial Derivatives, Laplace Transforms And Vector Calculus.	TC	3
5	S3	J1BST321	Fourier Transforms and Complex Analysis	TC	3
6	S4	J1BST421	Probability, Statistics and Random Process	TP	4
Total Credits					**21**

8. ENGINEERING SCIENCE COURSES					
Sl. No.	**Semester**	**Course Code**	**Course**	**Course Type**	**Credits**
1	S1	J1ESP103	Algorithmic Thinking with Python	TP	4
2	S1	J1ESP104	Engineering Graphics and Computer Aided Drawing	TP	3
3	S1	J1EST115	Introduction to Electrical and Electronics Engineering	TC	4
4	S1	J1ESL127	Electrical and Electronics Engineering Workshop	PL	1
5	S2	J1EST263	Fundamentals of Mechanical and Civil Engineering	TC	4
6	S2	J1EST205	Engineering Entrepreneurship and IPR	TC	2
7	S2	J1ESL228	Information Technology Workshop	PL	1
8	S2	J1EST104	Engineering Mechanics	TC	3
9	S3	J1EST305	Introduction to Artificial Intelligence and Data Science	TC	4
10	S6	J1EST6N3	Design Thinking and Product Development	TC	2
Total Credits					**28**

9. SKILL ENHANCEMENT COURSES / ADD ON COURSES					
Sl. No.	**Semester**	**Course Code**	**Course**	**Course Type**	**Credits**
1	S1	J1SET1N9	Skill Enhancement Course (NASSCOM Digital 101)	TC/TP	-
2	S2	J1SET1N9	Skill Enhancement Course (NASSCOM Digital 101)	TC/TP	1
3	S3	J1SET3N9	Skill Enhancement Course (Aptitude Proficiency-1)	TC/TP	1
4	S4	J1SET4N9	Skill Enhancement Course (Aptitude Proficiency-1)	TC/TP	1
Total Credits					**3**