B.Tech Curriculum - 2025

(AUTONOMOUS)
CREATING TECHNOLOGY
LEADERS OF TOMORROW
ESTD 2002

Semester I to VIII

Electrical & Electronics Engineering

Branch Code: EE

Approved by the Academic Council on 25-08-2025.
(Ref:JEC/2025/AC/MOM/01/AC/01/A2)

Jyothi Engineering College (AUTONOMOUS)
Reaccredited with NAAC (Grade A) and
NBA Programmes (CE, CS, EC, EE, ME, MR)
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Approved by AICTE & Affiliated to APJ Abdul Kalam Technological University
A Centre of Excellence in Science and Technology by the Catholic Archdiocese of Trichur

VISION & MISSION OF THE INSTITUTE

VISION

Creating eminent and ethical leaders through quality professional education with emphasis on holistic excellence.

MISSION

- To emerge as an institution par excellence of global standards by imparting quality Engineering and other professional programmes with state-of-the-art facilities.
- To equip the students with appropriate skills for a meaningful career in the global scenario.
- To inculcate ethical values among students and ignite their passion for holistic excellence through social initiatives.
- To participate in the development of society through technology incubation, entrepreneurship and industry interaction.

VISION & MISSION OF THE DEPARTMENT

VISION

To become a Centre of Excellence in Electrical and Electronics Engineering through high quality technical education with emphasis on Holistic Excellence.

MISSION

To inculcate Ethical Professionalism through Value Based Quality Education so as to equip the students with appropriate skills for a meaningful career and holistic excellence and promote creative engineering ideas for the benefit of the society.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO 1: Graduates shall have a good foundation in the fundamental and practical aspects of Mathematics and Engineering Sciences so as to build successful and enriching careers in the field of Electrical Engineering and allied areas.

PEO 2: Graduates shall learn and adapt themselves to the latest technological developments in the field of Electrical & Electronics Engineering which will in turn motivate them to excel in their domains and shall pursue higher education and research.

PEO 3: Graduates shall have professional ethics and good communication ability along with entrepreneurial skills and leadership skills, so that they can succeed in multidisciplinary and diverse fields.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

Graduate possess -

PSO 1: Ability to have good foundation in theoretical and practical aspects of Electrical & Electronics Engineering.

PSO 2: Ability to model, analyze, design and realize physical systems, components or processes thereby adapt themselves to the latest research and developments in the field of Electrical & Electronics Engineering.

PSO 3: Ability to communicate and work professionally as well as take up entrepreneurial endeavors in the field of Electrical Engineering and allied areas for the benefit of the society.

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.

PROGRAMME OUTCOMES (POs)

PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)

PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)

PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).

PO5: Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)

PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).

PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)

PO8: Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences

PO10: Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to 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)

Semester 1

10 Days Compulsory Induction Program and UHV														
Sl. No.	Slot	Course Code	Course Type	Course Category	Course Name	Credit Structure				SS	Total Marks		Credits	Hours/ Week
						L	T	P	R		CIA	ESE		
1	A	25MAT102	BSC	GC	Mathematics for Electrical Science-1	3	0	0	0	4.5	40	60	3	3
2	B	25PHT102	ESC	GC	Physics for Electrical Science	3	0	2	0	5.5	40	60	4	5
	S1/S2	25CHT101	BSC	GC	Chemistry for Electrical Science	3	0	2	0	5.5	40	60	4	5
3	C	25EST103	ESC	GC	Engineering Graphics and Computer Aided Drawing.	2	0	2	0	4	40	60	3	4
4	D	25EST104	ESC	GC	Introduction to Electrical & Electronics Engineering	4	0	0	0	6	40	60	4	4
					(Part 1: Electrical Engineering)	2	0	0	0	3	20	30	2	2
					(Part 2: Electronics Engineering)	2	0	0	0	3	20	30	2	2
5	F	25EST105	ESC	UC	Algorithmic Thinking with Python	3	0	2	0	5.5	40	60	4	5
6	L	25ESL107	ESC	GC	Basic Electrical and Electronics Engineering Workshop	0	0	2	0	1	50	50*	1	2
7	I*	25HUT106	HWP	UC	Health and Wellness	1	0	1	0	0	50	0	1	2
	S1/S2	25HUT107	HMC	UC	Life Skills and Professional Communication	2	0	1	0	3.5	100	0	1	3
8	S1/S2	25SEC101	SEC	UC	Skill Enhancement Course: Digital 101(NASSCOM)	MOOC*				2			-	
Total										**30/ 32**			**20**	**25/ 26**
Bridge Course (Mathematics or Introduction to Computer Science): Total 15 Hrs.														

No Grade Points will be awarded for the MOOC course and I slot course.

***Note**: Physics, Chemistry, Health and Wellness & Life Skill and Professional Communication can be offered in both Semester 1 (S1) and Semester 2 (S2). Institutions are encouraged to guide approximately 50% of their branches to choose between Physics or Chemistry (Slot B) and Health and Wellness or Life Skill and Professional Communication (Slot I) in Semester 1.*

- **L-T-P-R**: Lecture-Tutorial-Practical-Project
- **SS (Self Study) Hours** = 1.5L+0.5 T+0.5P+R
- **CIA**: Continuous Internal Assessment, **ESE**: End Semester Examination

Semester 2

Sl. No.	Slot	Course Code	Course Type	Course Category	Course Name	Credit Structure				SS	Total Marks		Credits	Hours/ Week
						L	T	P	R		CIA	ESE		
1	A	25MAT202	BSC	GC	Mathematics for Electrical Science-2	3	0	0	0	4.5	40	60	3	3
2	B	25PHT102	BSC	GC	Physics for Electrical Science	3	0	2	0	5.5	40	60	4	5
	S1/S2	25CHT101	BSC	GC	Chemistry for Electrical Science	3	0	2	0	5.5	40	60	4	5
3	C	25EST203	ESC	GC	Engineering Mechanics	3	0	0	0	4.5	40	60	3	3
4	D	25EST204	ESC	GC	Programming in C	3	0	2	0	5.5	40	60	4	5
5	E	25EET205	PC	PC	Measurements & Instrumentation	3	1	0	0	5	40	60	4	4
6	F	25EST206	ESC	UC	Engineering Entrepreneurship & IPR	3	0	0	0	4.5	60	40	3	3
7	I*	25HUT106	HWP	UC	Health and Wellness	1	0	1	0	0	50	0	1	2
	S1/S2	25HUT107	HMC	UC	Life Skills and Professional Communication	2	0	1	0	3.5	100	0	1	3
8	L	25ESL208	ESC	GC	IT Workshop	0	0	2	0	1	50	50*	1	2
9	S1/ S2	25SEC101	SEC	UC	Skill Enhancement Course: Digital 101(NASSCOM)	MOOC*				2			1	
Total										**34/ 36**			**24**	**27/ 28**

No Grade Points will be awarded for the MOOC course and I slot course.

***Note**: Physics, Chemistry, Health and Wellness & Life Skill and Professional Communication can be offered in both Semester 1 (S1) and Semester 2 (S2). Institutions are encouraged to guide approximately 50% of their branches to choose between Physics or Chemistry (Slot B) and Health and Wellness or Life Skill and Professional Communication (Slot I) in Semester 1.*

Digital 101 (NASSCOM)		
Sl. No	**Technologies Covered**	**Hours**
1	Artificial intelligence and Big Data Analytics (AI/BDA)	11
2	Internet of Things (IoT)	2.5
3	Cyber Security	2.5
4	Block Chain	2.5
5	Robotic Process Automation	1.5
6	Augmented Reality and Virtual Reality (AR and VR)	2.5
7	Cloud Computing	2.5
8	3 D Printing and Modelling	2
9	Web, Mobile Dev and Marketing	2
10	Responsible AI	1
Total Hours		30

***Skill Enhancement Course**: Digital 101 is an introductory Massive Open Online Course (MOOC) offered by NASSCOM. It is designed to provide students with foundational knowledge and skills in digital technologies, preparing them for further studies and careers in the digital domain. By incorporating the Digital 101 course into the curriculum, KTU ensures that all students gain valuable digital skills early in their academic journey, enhancing their readiness for advanced courses and future careers in technology.*

Course Registration and Completion:

- Students have the flexibility to register and complete the Digital 101 course either in their first semester (S1) or second semester (S2).
- The credit for this course (1 credit) will be officially recorded in the second semester grade card.

Semester 3

Sl. No.	Slot	Course Code	Course Type	Course Category	Course Name	Credit Structure				SS	Total Marks		Credits	Hours/ Week
						L	T	P	R		CIA	ESE		
1	A	25EET301	BSC	GC	Mathematics for Electrical Science - 3	3	0	0	0	4.5	40	60	3	3
2	B	25EET302	PCC	PC	Circuits and Networks	3	1	0	0	5	40	60	4	4
3	C	25EET303	PCC	PC	DC Machines and Transformers	3	1	0	0	5	40	60	4	4
4	D	25EEZ304	PBL	PB	Analog Electronics	3	0	0	1	5.5	60	40	4	4
5	F	25EST305	ESC	GC	Introduction to Artificial Intelligence and Data Science	3	1	0	0	5	40	60	4	4
6	G	25HUT346	HMC	UC	Economics for Engineers	2	0	0	0	3	50	50	2	2
	S3/S4	25HUT347	HMC	UC	Engineering Ethics and Sustainable Development	2	0	0	0	3	50	50	2	2
7	L	25EEL307	PCC	PC	Circuits and Measurements Lab	0	0	3	0	1.5	50	50	2	3
8	Q	25EEL308	PCC	PC	Analog Electronics Lab	0	0	3	0	1.5	50	50	2	3
9	R/M		VAC		Remedial/Minor Course	3	1	0	0	5			4*	4*
Total										**31/ 36**			**25/ 29***	**27/ 31***
Bridge Course for Lateral Entry Students: Total 15 Hrs.														

Semester 4

Sl. No.	Slot	Course Code	Course Type	Course Category	Course Name	Credit Structure				SS	Total Marks		Credits	Hours/ Week
						L	T	P	R		CIA	ESE		
1	A	25EET401	BSC	GC	Mathematics for Electrical Science - 4	3	0	0	0	4.5	40	60	3	3
2	B	25EET402	PCC	PC	Synchronous and Induction Machines	3	1	0	0	5	40	60	4	4
3	C	25EET403	PCC	PC	Power Electronics and Drives	3	1	0	0	5	40	60	4	4
4	D	25EEZ404	PBL	PB	Digital Electronics	3	0	0	1	5.5	60	40	4	4
5	E	25EET41N	PEC	PE	PEC-1	3	0	0	0	4.5	40	60	3	3
6	G	25HUT346	HMC	UC	Economics for Engineers	2	0	0	0	3	50	50	2	2
	S3/S4	25HUT347	HMC	UC	Engineering Ethics and Sustainable Development	2	0	0	0	3	50	50	2	2
7	L	25EEL407	PCC	PC	DC Machines and Transformers Lab	0	0	3	0	1.5	50	50	2	3
8	Q	25EEL408	PCC	PC	Power Electronics and Drives Lab	0	0	3	0	1.5	50	50	2	3
9	R/M/H		VAC		Remedial/Minor/Honours Course	3	1	0	0	5			4*	4*
Total										**31/ 36**			**24/ 28***	**26/ 30***

Note: *Economics for Engineers and Engineering Ethics and Sustainable Development shall be offered in both S3 and S4. Institutions can advise students belonging to about 50% of the number of branches in the Institution to opt for Economics for Engineers in S3 and Engineering Ethics & Sustainable Development in S4 and vice versa.*

Elective 1: 25EET41N

1. 25EET411 Electronic Instrumentation
2. 25EET412 Renewable Energy Sources
3. 25EET413 Mathematics for Machine Learning
4. 25EET414 Theory of Computation
5. 25EET415 Computer Organization
6. 25EET416 Solid State Devices
7. 25EET417 Illumination Technology
8. 25EET418 Object Oriented Programming

Semester 5

Sl. No.	Slot	Course Code	Course Type	Course Category	Course Name	Credit Structure				SS	Total Marks		Credits	Hours/ Week
						L	T	P	R		CIA	ESE		
1	A	25EET501	PCC	PC	Power Generation, Transmission and Protection	3	1	0	0	5	40	60	4	4
2	B	25EET502	PCC	PC	Electromagnetic Theory	3	1	0	0	5	40	60	4	4
3	C	25EET503	PCC	PC	Signals & Systems	3	0	0	0	4.5	40	60	3	3
4	D	25EEZ504	PBL	PB	Microprocessor and Embedded Systems	3	0	0	1	5.5	60	40	4	4
5	E	25EET52N	PEC	PE	PEC-2	3	0	0	0	4.5	40	60	3	3
6	I*	25HUX506	HMC	UC	Constitution of India (MOOC*)	-	-	-	-	2	-	-	1	-
7	L	25EEL507	PCC	PC	AC Machines Lab	0	0	3	0	1.5	50	50	2	3
8	Q	25EEL508	PCC	PC	Microprocessor and Embedded Systems Lab	0	0	3	0	1.5	50	50	2	3
9	R/M/H		VAC		Remedial/Minor/Honours Course	3	1	0	0	5			4*	4*
Total										**30/ 35**			**23/ 27***	**24/ 28***
	S5/S6	**Industrial Visit (Maximum 12 Days are permitted, Not Exceeding more than 6 Working Days) / Industrial Training**												

No Grade Points will be awarded for the MOOC course and I slot course.

***Industrial Training**:*

Students who are not participating in the industrial visit must attend industrial training during that period.

Elective 2: 25EET52N

1. 25EET521 Energy Storage Systems
2. 25EET522 Electric Vehicles
3. 25EET523 Digital System Design
4. 25EET524 Software Engineering
5. 25EET525 Data Structures
6. 25EET526 Introduction to Machine Learning
7. 25EET527 Computer Network Systems

Semester 6

Sl. No.	Slot	Course Code	Course Type	Course Category	Course Name	Credit Structure				SS	Total Marks		Credits	Hours/ Week
						L	T	P	R		CIA	ESE		
1	A	25EET601	PCC	PC	Control Systems	3	0	0	0	4.5	40	60	3	3
2	B	25EET602	PCC	PC	Electrical System Design and Estimation	3	0	0	0	4.5	40	60	3	3
3	C	25EET63N	PEC	PE	PEC-3	3	0	0	0	4.5	40	60	3	3
4	D	25EEZ604	PBL	PB	Power System Analysis	3	0	0	1	5.5	60	40	4	4
5	F	25EST605	ESC	GC	Design Thinking and Product Development	2	0	0	0	3	40	60	2	2
6	O	25EET61N	OEC/ILE	OE/IE	OEC/ILE-1	3	0	0	0	4.5	40	60	3	3
7	L	25EEL607	PCC	PC	Control Systems Lab	0	0	3	0	1.5	50	50	2	3
8	P	25EEP608	PWS	PC	Mini Project: Socially Relevant Project	0	0	0	3	3	50	50	2	3
9	Q	25EEL609	PCC	PC	Power Systems Lab	0	0	2	0	1	50	50	1	2
10	R/M/H		VAC		Remedial/Minor/Honours Course	3	0	0	0	4.5			3*	3*
Total										**32/ 37**			**23/ 26***	**26/ 29***
	S5/S6	**Industrial Visit (Maximum 12 Days are permitted, Not Exceeding more than 6 Working Days) / Industrial Training**												

Note: *Open Electives are such courses which will be offered by other departments. Like CSE department students have to opt open electives from ECE/ME/EEE etc. departments.*

Industrial Training*:*

Students who are not participating in the industrial visit must attend industrial training during that period.

Elective 3: 25EET63N

1. 25EET631 Digital protection of power systems
2. 25EET632 Operating Systems
3. 25EET633 High Voltage Engineering
4. 25EET634 Internet of Things
5. 25EET635 Digital Signal Processing
6. 25EET636 Cloud Computing
7. 25EET637 Optimization Techniques

Open Elective 1: 25EET61N

1. 25EET611 Introduction to Control Systems
2. 25EET612 Energy Management
3. 25EET613 Renewable Energy Systems

Semester 7

Sl. No.	Slot	Course Code	Course Type	Course Category	Course Name	Credit Structure				SS	Total Marks		Credits	Hours/ Week
						L	T	P	R		CIA	ESE		
1	A	25EET74N/ 25EEI74N/ 25EEX74N	PEC	PE	PEC-4 (Internship Students: Self Study/ MOOC Approved by the University/ Online Classes)	3	0	0	0	4.5	40	60	3	3
2	B	25EET75N/ 25EEI75N/ 25EEX75N	PEC	PE	PEC-5 (Internship Students: Self Study/ MOOC Approved by the University/ Online Classes)	3	0	0	0	4.5	40	60	3	3
3	O	25EET72N/ 25EEI72N/ 25EEX72N	OEC/ILE	OE/IE	OEC/ILE-2 (Internship Students: Self Study/ MOOC Approved by the University/ Online Classes)	3	0	0	0	4.5	40	60	3	3
4	I*	25HUT704/ 25HUX70N	HMC	UE	Elective (Internship Students: Self Study/ MOOC Approved by the University/ Online Classes)	2	0	0	0	3	50	50	2	2
5	S	25EES705	PWS	PC	Seminar	0	0	3	0	1.5	50	0	2	3
6	P	25EEP706/ 25EEI706	PWS	PC	Option 1: Major Project Option 2: Internship (4-6 Months)	0	0	0	8	8	100	0	4	8
7	R/H		VAC		Remedial/Honours Course	3	0	0	0	4.5			3*	3*
Total										**26/ 31**			**17/ 20***	**22/ 25***

** No Grade Points will be awarded for the I slot courses.*

** Students can opt for the internship either in the **7th or 8th semester**.*

** Option 1: Work on a Project in the institute/department under the mentorship of faculty members.*

*Option 2: Full semester Internship in an Industry/organization (**7th or 8th semester**)*

***Note:** Open Electives are such courses which will be offered by other departments.*

Elective 4: 25EET74N

1. 25EET741 Power System Operation and Control
2. 25EET742 Energy Management and Auditing
3. 25EET743 Special Electrical Machines
4. 25EET744 Discrete Time Control Systems
5. 25EET745 Digital Image Processing

Elective 5: 25EET75N

1. 25EET751 Power Quality
2. 25EET752 Nonlinear Control Systems
3. 25EET753 Deep Learning
4. 25EET754 Computer Vision

Open Elective 2: 25EET72N

1. 25EET721 Design of Solar PV systems
2. 25EET722 Hybrid and Electric Vehicles
3. 25EET723 Introduction to Energy Storage Systems

Slot I: HMC Elective

1. Project Management: Planning, Execution, Evaluation and Control
2. Proficiency course in French. (MOOC) (B1 level)
3. Proficiency Course in German (B1 Level). (MOOC)
4. Proficiency Course in Spanish (B1 Level) (MOOC)
5. Introduction to Japanese Language and Culture (N5 level) (MOOC)

Semester 8

Sl. No.	Slot	Course Code	Course Type	Course Category	Course Name	Credit Structure				SS	Total Marks		Credits	Hours/ Week
						L	T	P	R		CIA	ESE		
1	A	25EET86N/ 25EEI86N/ 25EEX86N	PEC	PE	PEC-6 (Internship Students: Self Study/ MOOC Approved by the University/ Online Classes)	3	0	0	0	4.5	40	60	3	3
2	O	25EET83N/ 25EEI83N/ 25EEX83N	OEC/ILE	OE/IE	OEC/ILE-3 (Internship Students: Self Study/ MOOC Approved by the University/ Online Classes)	3	0	0	0	4.5	40	60	3	3
3	I*	25HUT803/ 25HUX80N	HMC	UC	Organizational Behavior and Business Communication (Internship Students: Self Study/ MOOC Approved by the University/ Online Classes)	2	0	0	0	3	50	50	1	2
4	P	25EEP807/ 25EEI806/ 25EEP806	PWS	PC	Option 1: Major Project Option 2: Internship (4-6 Months) Option 3: Major Project Phase -II (For the students who have not opted for internship in S7/S8)	0	0	0	8	8	100	0	4	8
Total										**20**			**11**	**16**

* ***No Grade Points will be awarded for the I slot courses.***

* *Option 2: Full semester Internship in an Industry/organization (**7th or 8th semester**)*

Elective 6: 25EET86N

1. 25EET861 Smart Grid Technologies
2. 25EET862 HVDC and FACTS
3. 25EET863 Mechatronic Systems
4. 25EET864 Electronic Communication

Open Elective 3: 25EET83N

1. 25EET831 Introduction to Robotics
2. 25EET832 PLC and Automation
3. 25EET833 Mechatronic Systems and Control

Humanities and Social Sciences including Management Courses (HMC)			
Sl. No.	**Semester**	**Course Name**	**Credits**
1	S1/S2	Life Skills and Professional Communication	1
2	S3/S4	Economics for Engineers	2
3		Engineering Ethics and Sustainable Development	2
4	S5	Constitution of India. (MOOC)	1
5	S7	Elective (Project Management/Foreign Languages)	2
6	S8	Organizational Behavior and Business Communication	1
Total Credits			**9**

Basic Science Courses (BSC)			
Sl. No.	**Semester**	**Course Name**	**Credits**
1	S1	Mathematics for Electrical Science - 1	3
2	S1/S2	Physics for Electrical Science	4
3		Chemistry for Electrical Science	4
4	S2	Mathematics for Electrical Science - 2	3
5	S3	Mathematics for Electrical Science - 3	3
6	S4	Mathematics for Electrical Science - 4	3
Total Credits			**20**

Engineering Science Courses (ESC)			
Sl. No.	**Semester**	**Course Name**	**Credits**
1	S1	Engineering Graphics and Computer Aided Drawing	3
2		Introduction to Electrical and Electronics Engineering	4
3		Algorithmic Thinking with Python	4
4		Basic Electrical and Electronics Engineering Workshop	1
5	S2	Engineering Mechanics	3
6		Programming in C	4
7		Engineering Entrepreneurship and IPR	3
8		IT Workshop	1
9	S3	Introduction to Artificial Intelligence and Data Science	4
10	S6	Design Thinking and Creativity	2
Total Credits			**29**

Programme (Professional) Core Courses (PCC)			
Sl. No.	**Semester**	**Course Name**	**Credits**
1	S2	Core 1 - Measurements and Instrumentation	4
2	S3	Core 2 - Circuits and Networks	4
3		Core 3 - DC Machines and Transformers	4
4		Lab 1 - Circuits and Measurements Lab	2
5		Lab 2 - Analog Electronics Lab	2
6	S4	Core 4 - Synchronous and Induction Machines	4
7		Core 5 - Power Electronics and Drives	4
8		Lab 3 - DC Machines and Transformers Lab	2
9		Lab 4 - Power Electronics and Drives Lab	2
10	S5	Core 6 - Power Generation, Transmission and Protection	4
11		Core 7 - Electromagnetic Theory	4
12		Core 8 - Signals & Systems	3
13		Lab 5 - AC Machines Lab	2
14		Lab 6 - Microprocessor and Embedded Systems Lab	2
15	S6	Core 9 - Control Systems	3
16		Core 10 - Electrical System Design and Estimation	3
17		Lab 7 - Control Systems Lab	2
18		Lab 8 - Power System Lab	1
Total Credits			**52**

Programme (Professional) Core Courses - Project Based Learning (PBL)			
Sl. No.	**Semester**	**Course Name**	**Credits**
1	S3	Analog Electronics	4
2	S4	Digital Electronics	4
3	S5	Microprocessor and Embedded Systems	4
4	S6	Power System Analysis	4
Total Credits			**16**

Programme Elective Courses (PEC)			
Sl. No.	**Semester**	**Course Name**	**Credits**
1	S4	PEC-1	3
2	S5	PEC-2	3
3	S6	PEC-3	3
4	S7	PEC-4	3
5		PEC-5	3
6	S8	PEC-6	3
Total Credits			**18**

Open Elective Courses/Industry Linked Elective (OEC/ILE)			
Sl. No.	**Semester**	**Course Name**	**Credits**
1	S6	OEC/ILE-1	3
2	S7	OEC/ILE-2	3
3	S8	OEC/ILE-3	3
Total Credits			**9**

Mini Project Work/Major Project Work/Internship/Seminar (PWS)			
Sl. No.	**Semester**	**Course Name**	**Credits**
1	S6	Mini Project	2
2	S7	Seminar	2
3		Major Project/Internship	4
4	S8	Major Project/Internship/Research Project	4
Total Credits			**12**

Activity Points				
Sl. No.	**Group**	**Course Classification**	**Credits**	**Minimum Credit Requirements**
1	I	NSS, NCC, NSO (National Sports Organization)	1 (40 Points)	3 Credits (One credit from each Group)
2		Arts/Sports/Games		
3		Union/Club Activities		
4	II	English Proficiency Certification (TOFEL, IELTS, BEC etc.)	1 (40 Points)	
5		Aptitude Proficiency Certification (GRE, CAT, GMAT etc.)/ Valid Gate Score.		
6		Short Term Internship (Minimum 2 weeks), Clinical Exposure/Training (Minimum 2 weeks), Conferences/Paper Presentation/ Workshop Activities/ Professional Body Activities, Participation in University level/State Level/ National Level Hackathons		
7	III	Journal Publication, Patents, Start-Up, Innovation, Winners of National/ International Level Hackathons	1 (40 Points)	
8		Skilling Certificates (Approved by the University)		

- ***Students are required to acquire a minimum of 120 activity points, with at least 40 points per group, to fulfill the curriculum requirement of 3 activity credits.***
- ***For B. Tech Lateral Entry students, 30 points per group are required. A minimum of 90 activity points must be acquired to obtain the 3 activity credits mandated by the curriculum.***

Course classifications of the B. Tech Programmes and Overall Credit Structure			
Sl. No.	**Course Classification**	**Course Type**	**Credits**
1	Humanities and Social Sciences including Management Courses	HMC	9
2	Basic Science Courses	BSC	20
3	Engineering Science Courses	ESC	29
4	Programme (Professional) Core Courses	PCC	52
5	Programme (Professional) Core Courses - Project Based Learning	PBL	16
6	Programme Elective Courses	PEC	18
7	Open Elective Courses/Industry Linked Elective	OEC/ILE	9
8	Mini Project Work/Major Project Work/Internship/Seminar	PWS	12
9	Health and Wellness	HWP	1
10	Skill Enhancement Courses (Digital 101)	SEC	1
11	Mandatory Student Activities	MSA	3