B. TECH CURRICULUM - 2025

(AUTONOMOUS)
CREATING TECHNOLOGY
LEADERS OF TOMORROW
ESTD 2002

Semester I to VIII

Electronics & Communication Engineering

Branch Code: EC

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)
Jyothi Hills, P. O. Vettikkattiri, Cheruthuruthy
Thrissur, Kerala, India, 679531
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A Centre of Excellence in Science and Technology by the Catholic Archdiocese of Trichur

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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: Create eminent and ethical leaders in the field of Electronics and Communication through quality professional education to excel in academia and industry.

MISSION

- To impart comprehensive knowledge and practical skills in the field of Electronics and Communication Engineering.
- To provide an environment that nurtures a culture of innovation and entrepreneurship, to develop solutions to real-world challenges and explore opportunities for technology commercialization.
- To foster socially responsible engineers and ethical leaders who drive positive change through innovative technology and a commitment to the betterment of society.

PROGRAMME EDUCATIONAL OBJECTIVES

- Graduates shall have fundamental and advanced knowledge in electronics and communication engineering along with knowledge in mathematics, science and computing and get employed in national or international organizations or government agencies.
- Graduates shall have ability in analyzing, designing and creating innovative solutions which lead to a lifelong learning process or higher qualification, making them experts in their profession thus helping to solve electronics & communication engineering and social problems.
- Graduates shall have good organizing capability, presentation skills, communicating ability, leadership, teamwork and ethical practices.

PROGRAMME SPECIFIC OUTCOMES

PSO1. Apply theoretical knowledge and practical skills in the field of Electronics and Communication Engineering to analyze, design, and implement electronic systems, communication networks, and signal processing solutions effectively.

PSO2. To cultivate a culture of innovation and entrepreneurship among students, enabling them to identify and address real-world challenges in electronics and communication.

PSO3. To instill a sense of social responsibility and ethical awareness in students by preparing them to use their technical expertise for the betterment of society and the environment.

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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)

FIRST SEMESTER (July-December)														
10 Days Compulsory Induction Program and UHV														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./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 S1/ S2	25PHT102	BSC	GC	Physics for Electrical Science	3	0	2	0	5.5	40	60	4	5
		25CHT101			Chemistry for Electrical Science									
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 (Part 1: Electrical Engineering)	2	0	0	0	3	20	30	2+2=4	4
					(Part 2: Electronics Engineering)	2	0	0	0	3	20	30		
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* S1/S2	25HUT106	HWP	UC	Health and Wellness	1	0	1	0	0	50	0	1	2/3
		25HUT107	HMC		Life Skills and Professional Communication	2	0	1	0	3.5	100	0		
8	S_1/ S_2	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.*

SECOND SEMESTER (January-June)														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./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 S1/S2	25PHT102	BSC	GC	Physics for Electrical Science	3	0	2	0	5.5	40	60	4	5
		25CHT101			Chemistry for Electrical Science									
3	C	25EST201	ESC	GC	Foundations of Computing: From Hardware Essentials to Web Design	3	0	0	0	4.5	40	60	3	3
		25EST203			Engineering Mechanics									
4	D	25EST204	ESC	GC	Programming in C	3	0	2	0	5.5	40	60	4	5
5	E	25ECT205	PC	PC	Network Theory	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* S1/S2	25HUT106	HWP	UC	Health and Wellness	1	0	1	0	0	50	0	1	2/3
		25HUT107	HMC		Life Skills and Professional Communication	2	0	1	0	3.5	100	0		
8	L	25ESL208	ESC	GC	IT Workshop	0	0	2	0	1	50	50*	1	2
	S_1/ S_2	25SEC101	SEC	UC	Skill Enhancement Course: Digital 101(NASSCOM)	MOOC***							1	
Total										**34**			**24**	**27/ 28**

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

- 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

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, the Institute 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.*

THIRD SEMESTER (July-December)														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./ Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	25MAT302	BSC	GC	Mathematics for Electrical Science-3	3	0	0	0	4.5	40	60	3	3
2	B	25ECT302	PC	PC	Solid State Devices	3	1	0	0	5	40	60	4	4
3	C	25ECT303	PC	PC	Analog Circuits	3	1	0	0	5	40	60	4	4
4	D	25ECZ304	PC-PBL	PB	Logic Circuit Design	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 S3/S4	25HUT346	HMC	UC	Economics for Engineers	2	0	0	0	3	50	50	2	2
		25HUT347			Engineering Ethics and Sustainable Development									
7	L	25ECL307	PCL	PC	Analog Circuits Lab	0	0	3	0	1.5	50	50	2	3
8	Q	25ECL308	PCL	PC	Logic Circuit Design 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.														

FOURTH SEMESTER (January-June)														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./ Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	25MAT402	BSC	GC	Mathematics for Electrical Science-4	3	0	0	0	4.5	40	60	3	3
2	B	25ECT402	PC	PC	Signals and Systems	3	1	0	0	5	40	60	4	4
3	C	25ECT403	PC	PC	Linear Integrated Circuits	3	1	0	0	5	40	60	4	4
4	D	25ECZ404	PC-PBL	PB	Microcontrollers	3	0	0	1	5.5	60	40	4	4
5	E	25ECT41N	PE	PE	PE-1	3	0	0	0	4.5	40	60	3	3
6	G S3/S4	25HUT346	HMC	UC	Economics for Engineers	2	0	0	0	3	50	50	2	2
		25HUT347			Engineering Ethics and Sustainable Development									
7	L	25ECL407	PCL	PC	Linear Integrated Circuits Lab	0	0	3	0	1.5	50	50	2	3
8	Q	25ECL408	PCL	PC	Microcontroller 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.*

PROGRAM ELECTIVE I: 25ECT41N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
E	25ECT 411	Instrumentation	3-0-0-0	**3**	3
	25ECT 412	Power Electronics	3-0-0-0		3
	25ECT 413	Machine Learning	3-0-0-0		3
	25ECT 414	Object Oriented Programming	3-0-0-0		3
	25ECT 416	Digital System Design	3-0-0-0		3
	25ECT 415	**Digital Systems and VLSI Design**	3-0-0-0		**5/3**

Note : *Level 5 courses in the B. Tech curriculum carry a total of 5 credits, consisting of 3 credits for the Programme Elective and 2 additional credits. The additional 2 credits shall be awarded only if the student meets the eligibility conditions specified in the B. Tech. -2025 regulations. If those conditions are not fulfilled, the student will receive only 3 credits for the course.*

FIFTH SEMESTER (July-December)														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./ Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	25ECT501	PC	PC	Electromagnetics	3	1	0	0	5	40	60	4	4
2	B	25ECT502	PC	PC	Analog & Digital Communication	3	1	0	0	5	40	60	4	4
3	C	25ECT503	PC	PC	Control Systems	3	0	0	0	4.5	40	60	3	3
4	D	25ECZ504	PBL	PB	Digital Signal Processing	3	0	0	1	5.5	60	40	4	4
5	E	25ECT52N	PE	PE	PE-2	3	0	0	0	4.5	40	60	3	3
6	I*	25HUX506	HMC	UC	Constitution of India (MOOC)	-	-	-	-	2	-	-	1	-
7	L	25ECL507	PCL	PC	DSP Lab	0	0	3	0	1.5	50	50	2	3
8	Q	25ECL508	PCL	PC	Communication Lab I	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*
	S_5/ S_6	Industrial Visit (Maximum 12 Days are permitted, Not Exceeding more than 6 Working Days) /Industrial Training												
Total										**30/ 35**			**23/27***	**24/28***

****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.

PROGRAM ELECTIVE 2: 25ECT52N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
E	25ECT 521	Biomedical Engineering	3-0-0-0	**3**	3
	25ECT 522	Data Structures	3-0-0-0		3
	25ECT 523	Sensors and Actuators	3-0-0-0		3
	25ECT524	ARM architecture and programming	3-0-0-0		3
	25ECT 526	High Speed Digital Design	3-0-0-0		3
	25ECT 527	Estimation and Detection	3-0-0-0		3
	25ECT 525	**ARM architecture, programming and Interfacing**	3-0-0-0		**5/3**

SIXTH SEMESTER (January-June)														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs/ Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	25ECT601	PC	PC	Advanced Communication Theory	3	1	0	0	5	40	60	4	4
2	B	25ECT602	PC	PC	Microwaves and Antennas	3	0	0	0	4.5	40	60	3	3
3	C	25ECT63N	PE	PE	PE-3	3	0	0	0	4.5	40	60	3	3
4	D	25ECZ604	PC-PBL	PB	VLSI Circuit Design	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	25ECT61N /25ECI61N	OE/IL E	OE/IE	OE/ILE-1	3	0	0	0	4.5	40	60	3	3
7	L	25ECL607	PCL	PC	Communication Lab II	0	0	3	0	1.5	50	50	2	3
8	P	25ECP608	PWS	PC	Mini Project: Socially Relevant Project	0	0	0	3	3	50	50	2	3
9	R/ M/ H		VAC		Remedial/Minor/Honours Course	3	0	0	0	4.5			3*	3*
	S5/ S6	Industrial Visit (Maximum of 12 Days are permitted, Not Exceeding more than 6 Working Days) /Industrial Training												
Total										**32/ 36**			**23/26***	**25/28***

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.

PROGRAM ELECTIVE 3: 25ECT63N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
C	25ECT 631	Computer Networks	3-0-0-0	**3**	3
	25ECT 632	Digital Image Processing	3-0-0-0		3
	25ECT 633	Secure Communication	3-0-0-0		3
	25ECT 634	Nano-Electronics	3-0-0-0		3
	25ECT 636	Optical Communication	3-0-0-0		3
	25ECT 637	Optimization Techniques	3-0-0-0		3
	25ECT 635	**Image Processing Applications**	3-0-0-0		**5/3**

OPEN ELECTIVE 1: 25ECT 61N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
O	25ECT 611	Entertainment Electronics	3-0-0-0	3	3
	25ECT 612	Computer Networks	3-0-0-0		3
	25ECT 613	Biomedical Engineering	3-0-0-0		3

SEVENTH SEMESTER (July-December)														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs/ Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	25ECT74N/ 25ECX74N	PE	PE	PE-4 (Internship Students: Self Study /MOOC Approved by the University/ Online Classes)	3	0	0	0	4.5	40	60	3	3
2	B	25ECT75N/ 25ECX75N	PE	PE	PE-5 (Internship Students: Self Study /MOOC Approved by the University /Online Classes)	3	0	0	0	4.5	40	60	3	3
3	O	25ECT72N /25ECI72N/ 25ECX72N	OE/ ILE	OE/IE	OE/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	25ECS705	PWS	PC	Seminar	0	0	3	0	1.5	50	0	2	3
6	P	25ECP706/ 25ECI706	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.

PROGRAM ELECTIVE 4: 25ECT74N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
A	25ECT 741	Advanced Mobile Communication	3-0-0-0	**3**	3
	25ECT 742	Deep Learning	3-0-0-0		3
	25ECT 743	Robotics and Automation	3-0-0-0		3
	25ECT 744	Coding Theory	3-0-0-0		3
	25ECT 746	Advanced DSP	3-0-0-0		3
	25ECT 747	Cryptography	3-0-0-0		3
	25ECT 745	**Deep Learning Techniques**	3-0-0-0		**5/3**

PROGRAM ELECTIVE 5: 25ECT75N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
B	25ECT 751	Satellite and Radar Communication	3-0-0-0	**3**	3
	25ECT 752	Internet of Things	3-0-0-0		3
	25ECT 753	Real Time Operating System	3-0-0-0		3
	25ECT 754	Mixed Signal Circuits	3-0-0-0		3
	25ECT 756	Speech and Audio Processing	3-0-0-0		3
	25ECT 757	Microwave Devices and Circuits	3-0-0-0		3
	25ECT 755	**Mixed Signal Circuit Design**	3-0-0-0		**5/3**

OPEN ELECTIVE 2: 25ECT72N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
O	25ECT 721	Optical Communication	3-0-0-0	3	3
	25ECT 722	Digital Image Processing	3-0-0-0		3
	25ECT 723	Optimization Techniques	3-0-0-0		3

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)

EIGHTH SEMESTER (January-June)														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs/ Week
						L	T	P	R		CIA	ESE		
1	A	25ECT86N/ 25ECX86N	PE	PE	PE-6 (Internship Students: Self Study/MOOC Approved by the University /Online Classes)	3	0	0	0	4.5	40	60	3	3
2	O	25ECT83N /25ECI83N/ 25ECX83N	OE/ILE	OE/IE	OE/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/ 25HUX803	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	25ECP807/ 25ECI806/ 25ECP806	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**)*

PROGRAM ELECTIVE 6: 25ECT86N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
A	25ECT861	Wireless Sensor Networks	3-0-0-0	**3**	3
	25ECT862	RF Engineering	3-0-0-0		3
	25ECT863	Renewable Energy Systems	3-0-0-0		3
	25ECT864	Cyber-Security	3-0-0-0		3
	25ECT866	Low Power VLSI	3-0-0-0		3
	25ECT867	Blockchain	3-0-0-0		3
	25ECT868	Antenna Theory & Wave Propagation	3-0-0-0		3
	25ECT865	**Antenna Theory & Design**	3-0-0-0		**5/3**

OPEN ELECTIVE 3: 25ECT83N					
SLOT	**COURSE CODE**	**COURSES**	**L-T-P-R**	**HOURS**	**CREDIT**
O	25ECT 831	Internet of Things	3-0-0-0	3	3
	25ECT 832	Satellite and Radar Communication	3-0-0-0		3

HMC Courses			
Sl. No:	**Semester**	**Course Area**	**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**

BSC Courses			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S1**	Mathematics-1	3
2	**S1/S2**	Physics for Engineers	4
3		Chemistry for Engineers	4
4	**S2**	Mathematics-2	3
5	**S3**	Mathematics-3	3
6	**S4**	Mathematics-4	3
Total Credits			**20**

ESC Courses			
Sl. No:	**Semester**	**Course Area**	**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**	Foundations of Computing: From Hardware Essentials to Web Design / Engineering Mechanics (EEE, CP, RA and RU)	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**

Program Core Courses (PC)			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S2**	Network Theory	4
2	**S3**	Solid State Devices	4
3		Analog Circuits	4
4		Analog Circuits Lab	2
5		Logic Circuit Design Lab	2
6	**S4**	Signals and Systems	4
7		Linear Integrated Circuits	4
8		Linear Integrated Circuits Lab	2
9		Microcontroller Lab	2
10	**S5**	Electromagnetics	4
11		Analog & Digital Communication	4
12		Control Systems	3
13		DSP Lab	2
14		Communication Lab I	2

15	**S6**	Advanced Communication Theory	4
16		Microwave and Antennas	3
17		Communication Lab II	2
Total Credits (Theory -10, Lab-7)			**52**

Program Core-Project Based Learning (PBL)			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S3**	Logic Circuit Design	4
2	**S4**	Microcontrollers	4
3	**S5**	Digital Signal Processing	4
4	**S6**	VLSI Circuit Design	4
Total Credits			**16**

Program Elective Courses (PE)			
Sl. No:	**Semester**	**Course Type**	**Credits**
1	**S4**	PE-1	3
2	**S5**	PE-2	3
3	**S6**	PE-3	3
4	**S7**	PE-4	3
5		PE-5	3
6	**S8**	PE-6	3
Total Credits			**18**

Open Elective Courses/Industry Elective(OE/IEL)			
Sl. No:	**Semester**	**Course Type**	**Credits**
1	**S6**	OE/ILE-1	3
2	**S7**	OE/ILE-2	3
3	**S8**	OE/ILE-3	3
Total Credits			**9**

Project/ Internship and Seminar			
Sl. No:	**Semester**	**Course Type**	**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**	**Courses**	**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	**Category**	**Code**	**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,Project Work/Internship and Seminar	PWS	12
9	Health and Wellness	HWP	1
10	Skill Enhancement Courses (Digital 101)	SEC	1
11	Mandatory Student Activities	MSA	3
Total Credits			**170**