SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY (AUTONOMOUS)

VIDYA NAGAR, PALISSERY, KARUKUTTY – 683 576

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Curriculum for B.Tech. in Electrical and Electronics Engineering Branch Code – EE

(Group B)

2026 Scheme • Semesters S1 – S8

Vision

To be a premier Department of Electrical and Electronics Engineering, shaping innovative leaders for sustainable and societal transformation.

Mission

- Deliver competency-based education through practical learning, research, and industry engagement to meet the evolving needs of Electrical Engineering practice.
- Promote innovation in electric vehicle technologies and sustainable electrical systems through service-learning aligned with the Sustainable Development Goals (SDGs).
- Develop lifelong learning, innovation and leadership through skill-based education.

Program Outcomes (POs)

- PO1: Engineering Knowledge: Apply math, science, computing, and engineering fundamentals to complex problems.
- PO2: Problem Analysis: Formulate and analyse complex engineering research and literature.
- PO3: Design/Development of Solutions: Design solutions considering public safety, cost, and net-zero carbon goals.
- PO4: Conduct Investigations: Use research methods, experiment design, and data analysis for valid conclusions.
- PO5: Engineering Tool Usage: Select and apply modern engineering and IT tools with an understanding of limits.
- PO6: The Engineer and the World: Evaluate societal, health, legal, and environmental sustainability impacts
- PO7: Ethics: Apply professional ethics, human values, inclusivity, and legal compliance.
- PO8: Individual and Collaborative Teamwork: Function effectively as an individual or team leader.
- PO9: Communication: Communicate and write effectively across diverse cultural and technical communities.
- PO10: Project Management and Finance: Apply management and economic principles in multidisciplinary settings.
- PO11: Life-Long Learning: Adapt to emerging technologies and engage in independent critical thinking.

Program Specific Outcomes (PSOs)

- PSO1: Apply Electrical Engineering principles to design sustainable, energy-efficient and clean energy solutions.
- PSO2: Develop competencies in electrical technologies to address industry requirements and promote eco-friendly innovations.
- PSO3: Design and execute multidisciplinary engineering projects to support sustainability goals.

Program Educational Objectives (PEOs)

- PEO1: Graduates will apply engineering knowledge and practical skills to pursue careers in power, energy and related domains.
- PEO2: Graduates will contribute to the development of sustainable and energy-efficient solutions aligned with the Sustainable Development Goals.
- PEO3: Graduates will apply lifelong learning and innovation to meet evolving industrial needs.

ABBREVIATIONS & COURSE CATEGORIES

L – Lecture (hours)	T – Tutorial (hours)	P – Practical (hours)
SL – Self-Learning (hours)	MC – MOOC Course	Cr. - Credits
IAT1 / IAT2 – Internal Assessment Test 1 / 2	CIA – Continuous Internal Assessment	SEE – Semester End Examination
BSC – Basic Science Course	ESC – Engineering Science Course	PC / PCL – Programme Core / Programme Core Lab
PC-PBL – Programme Core – Project Based Learning	PE – Programme Elective	OE– Open Elective
HMC – Humanities Management Course	SEC – Skill Enhancement Course	HWP – Health & Wellness Programme
PWS – Project Work / Seminar	GC / UC / UE – Group Course / Universal Course/ Universal Elective	MOOC – Massive Open Online Course

SEMESTER 1 (S1)

Sl.	Slot	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Over all Marks
							L	T	P	SL		IAT 1	IAT 2			
1	A	26GYMAT101	BSC	GC	Matrices, Ordinary Differential Equations and Transforms	3	45	0	0	45	90	40	40	40	60	100
2	B	26GBPHT121 / 26GXCYT122	BSC	GC	Physics for Electrical Science/ Chemistry for Information Science and Electrical Science	4	45	0	30	45	120	40	40	40	60	100
3	C	26GXEST103	ESC	GC	Engineering Graphics	3	30	0	30	30	90	60	60	40	60	100
4	D	26GXEST104	ESC	GC	Introduction to Electrical and Electronics Engineering	4	60	0	0	60	120	40	40	40	60	100
5	E	26UCEST105	ESC	UC	Programming in C	4	45	0	30	45	120	40	40	40	60	100
6	F	26GXESL106	ESC	GC	Basic Electrical and Electronics Engineering Workshop	1	0	0	30	0	30	-	-	100	-	100
7	G	26UCHWT127	HWP	UC	Health and Wellness	1	0	0	30	0	30	-	-	50	-	50
		26UCHUT128	HMC		Life Skills and Professional Communication	1	0	0	30	0	30	-	-	100	-	-
8		26UCSEM129	SEC	UC	MOOC Course/Communicative English (8 WEEKS)	0	0	0	0	0	0	-	-	-	-	-
TOTAL						**20**	**225**	**0**	**150**	**225**	**600**					
Bridge Course: Total 15 Hours																

SEMESTER 2 (S2)

Sl.	Slot	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Over all Marks
							L	T	P	SL		IAT 1	IAT 2			
1	A	26GYMAT201	BSC	GC	Partial Differential Equations and Vector Calculus	3	45	0	0	45	90	40	40	40	60	100
2	B	26GBPHT121 / 26GXCYT122	BSC	GC	Physics for Electrical Science/ Chemistry for Information Science and Electrical Science	4	45	0	30	45	120	40	40	40	60	100
3	C	26GBEST203	ESC	GC	Foundation for Artificial Intelligence and Data Science	3	45	0	0	45	90	40	40	40	60	100
4	D	26PCEET204	PC	PC	Digital Electronics	4	45	15	0	60	120	40	40	40	60	100
5	E	26UCEST205	ESC	UC	Engineering Entrepreneurship & IPR	3	45	0	0	45	90	40	40	60	40	100
6	F	26GBESL206	ESC	GC	IoT Workshop	1	0	0	30	0	30	-	-	100	-	100
7	G	26UCHWT127	HWP	UC	Health and Wellness	1	0	0	30	0	30	-	-	50	-	50
		26UCHUT128	HMC		Life Skills and Professional Communication	1	0	0	30	0	30	-	-	100	-	-
8		26UCSEM129	SEC	UC	MOOC Course/Communicative English (8 WEEKS)	1	0	0	0	30	30	-	-	-	-	-

Sl.	Slot	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Overall Marks
							L	T	P	SL		IAT 1	IAT 2			
					TOTAL	**20**	**225**	**15**	**90**	**270**	**600**					

SEMESTER 3 (S3)

Sl.	Slot	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Overall Marks
							L	T	P	SL		IAT 1	IAT 2			
1	A	26GYMAT301	BSC	GC	Complex Analysis and Integral Transforms	3	45	0	0	45	90	40	40	40	60	100
2	B	26PCEET302	PC	PC	Measurements and Instrumentation	3	45	0	0	45	90	40	40	40	60	100
3	C	26PCEET303	PC	PC	Circuits and Networks	4	45	15	0	60	120	40	40	40	60	100
4	D	26PBEET304	PC-PBL	PB	Analog Electronics	4	60	0	0	60	120	40	40	60	40	100
5	E	26GEEST305	ESC	PC	Introduction to Renewable Energy	3	45	0	0	45	90	40	40	40	60	100
6	F	26UCHUT346	HMC	UC	Economics for Engineers	2	30	0	0	30	60	40	40	50	50	100
		26UCHUT347	HMC	UC	Engineering Ethics and Sustainable Development	2	30	0	0	30	60	-	-	50	50	100
7	G	26PCEEL307	PCL	PC	Circuits and Measurements Lab	2	0	0	45	15	60	-	-	50	50	100
8	H	26PCEEL308	PCL	PC	Analog Electronics Lab	2	0	0	45	15	60	-	-	50	50	100
9			SEC	MC	MOOC Course (8 WEEKS)	0	0	0	0	0	0	-	-	-	-	-
					TOTAL	**23**	**270**	**15**	**90**	**315**	**690**					
Bridge Course for Lateral Entry Students: Total 15 Hours																

SEMESTER 4 (S4)

Sl.	Slot	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Overall Marks
							L	T	P	SL		IAT 1	IAT 2			
1	A	26GBMAT401	BSC	GC	Probability Distributions, Statistical Inference and Random Processes	3	45	0	0	45	90	40	40	40	60	100
2	B	26PCEET402	PC	PC	Electromagnetic Theory	3	45	0	0	45	90	40	40	40	60	100
3	C	26PCEET403	PC	PC	DC Machines and Transformers	4	45	15	0	60	120	40	40	40	60	100
4	D	26PBEET404	PC-PBL	PB	Power Electronics	4	60	0	0	60	120	40	40	60	40	100
5	E	26PEEET41N	PE	PE	Program Elective-1	3/5	45	0	0	45/105	90/150	40	40	40	60	100
6	F	26UCHUT346	HMC	UC	Economics for Engineers	2	30	0	0	30	60	40	40	50	50	100
		26UCHUT347	HMC	UC	Engineering Ethics and Sustainable Development	2	30	0	0	30	60	-	-	50	50	100
7	G	26PCEEL407	PCL	PC	DC Machines and Transformers Lab	2	0	0	45	15	60	-	-	50	50	100
8	H	26PCEEL408	PCL	PC	Power Electronics Lab	2	0	0	45	15	60	-	-	50	50	100
9			SEC	MC	MOOC Course (8 WEEKS)	1	0	0	0	30	30	-	-	-	-	-
					TOTAL	**24/26**	**270**	**15**	**90**	**345/405**	**720/780**					

SEMESTER 5 (S5)

Sl.	Slot	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Over all Marks
							L	T	P	SL		IAT 1	IAT 2			
1	A	26PCEET501	PC	PC	Power Generation, Transmission and Distribution	3	45	0	0	45	90	40	40	40	60	100
2	B	26PCEET502	PC	PC	Signals and Systems	3	45	0	0	45	90	40	40	40	60	100
3	C	26PCEET503	PC	PC	Synchronous and Induction Machines	4	45	15	0	60	120	40	40	40	60	100
4	D	26PBEET504	PC-PBL	PB	Microcontroller and Embedded Systems	4	60	0	0	60	120	40	40	60	40	100
5	E	26PEEET52N	PE	PE	Program Elective-2	3/5	45	0	0	45/105	90 /150	40	40	40	60	100
6	F	26GXEST566	ESC	GC	Design Thinking and Product Development (Group specific)	2	30	0	0	30	60	40	40	40	60	100
		26UCHUT567	HMC	UC	Constitution of India											
7	G	26PCEEL507	PCL	PC	AC Machines Lab	2	0	0	45	15	60	-	-	50	50	100
8	H	26PCEEL508	PWS	PC	Microcontroller Lab	2	0	0	45	15	60	-	-	50	50	100
9			SEC	MC	MOOC (8 weeks)	0	0	0	0	0	0	-	-	-	-	-
TOTAL						**23/25**	**270**	**15**	**90**	**315/375**	**690/750**					

Industrial Visit: Maximum 12 days are permitted in S5/S6, not exceeding more than 6 working days.
Industrial Training: Students who are not participating in the industrial visit must attend industrial training during that period.

SEMESTER 6 (S6)

Sl.	Slot	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Over all Marks
							L	T	P	SL		IAT 1	IAT 2			
1	A	26PCEET601	PC	PC	Electrical System Design and Estimation	3	45	0	0	45	90	40	40	40	60	100
2	B	26PCEET602	PC	PC	Control Systems	4	45	15	0	60	120	40	40	40	60	100
3	C	26PBEET603	PC-PBL	PB	Power System Analysis	4	60	0	0	60	120	40	40	60	40	100
4	D	26PEEET63N	PE	PE	Program Elective-3	3/5	45	0	0	45/105	90 /150	40	40	40	60	100
5	E	26OEEET61N	OE	OE	Open Elective-1	3	45	0	0	45	90	40	40	40	60	100
6	F	26GXEST566	ESC	GC	Design Thinking and Product Development (Group specific)	2	30	0	0	30	60	40	40	40	60	100
		26UCHUT567	HMC	UC	Constitution of India											
7	G	26PCEEL607	PCL	PC	Control Systems Lab	2	0	0	45	15	60	-	-	50	50	100
8	H	26PCEEL608	PCL	PC	Power Systems Lab	2	0	0	45	15	60	-	-	50	50	100
9			SEC	MC	MOOC (8 weeks)	1	0	0	0	30	30	-	-	-	-	-
TOTAL						**24/26**	**270**	**15**	**90**	**345/405**	**720/780**					

Industrial Visit: Maximum 12 days are permitted in S5/S6, not exceeding more than 6 working days.
Industrial Training: Students who are not participating in the industrial visit must attend industrial training during that period.

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

SEMESTER 7 (S7)

Sl.	Slot	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Over all Marks
							L	T	P	SL		IAT 1	IAT 2			
1	A	26PEEET74N/ 26PEEEM74N	PE	PE	Program Elective-4 (Self Study/ MOOC/Online)	3/5	45	0	0	45/105	90 /150	40	40	40	60	100
2	B	26PEEET75N/ 26PEEEM75N	PE	PE	Program Elective-5 (Self Study/ MOOC/Online)	3/5	45	0	0	45/105	90 /150	40	40	40	60	100
3	C	26UEHUT71N/ 26UHUM71N	HMC	UE	HMC Elective-1 (Self Study/ MOOC/Online)	2	30	0	0	30	60	40	40	50	50	100
4	D	26OEEET72N/ 26OEEEM72N	OE	OE	Open Elective-2 (Self Study/ MOOC/Online)	3	45	0	0	45	90	40	40	40	60	100
5	E	26PCEES705	PWS	PC	Seminar	2	0	0	45	15	60	-	-	50	-	50
6	F	26PCEEP706/ 26PCEEI706	PWS	PC	Option 1: Major Project Option 2: Internship (4-6 Months)	5	0	0	150	0	150	-	-	100	-	100
					TOTAL	**18/ 20/ 22**	**165**	**0**	**195**	**180/ 240/ 300**	**540/ 600/ 660**					

SEMESTER 8 (S8)

Sl.	Slot	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Overall Marks
							L	T	P	SL		IAT 1	IAT 2			
1	A	26PEEET86N/ 26PEEEM86N	PE	PE	Program Elective-6 (Self Study/ MOOC/Online)	3/5	45	0	0	45/105	90 /150	40	40	40	60	100
2	B	26UCHUT802/ 26UCHUM802	HMC	UC	Organizational Behavior and Business Communication (Self Study/ MOOC/Online)	2	30	0	0	30	60	40	40	50	50	100
3	C	26OEEET83N/ 26OEEEM83N	OE	OE	Open Elective-3 (Self Study/ MOOC/Online)	3	45	0	0	45	90	40	40	40	60	100
4	D	26PCEEP804/ 26PCEEI804/ 26PCEEJ804	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)	5	0	0	150	0	150	-	-	100	-	100
					TOTAL	**13/ 15**	**120**	**0**	**150**	**120 / 180**	**390/ 450**					

TOTAL PROGRAMME CREDITS (S1 – S8):
165+Additional Credits from Level 5 courses (if awarded) +3 Credits from Activity Points

PROGRAMME ELECTIVES, OPEN ELECTIVES & HMC ELECTIVES

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. - 2026 regulations. If those conditions are not fulfilled, the student will receive only 3 credits for the course.

PROGRAM ELECTIVE-1

Sl.	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Over all Marks
						L	T	P	SL		IAT 1	IAT 2			
1	26PEEET411	PE	PE	Electronic Instrumentation	3	45	0	0	45	90	40	40	40	60	100
2	26PEEET412	PE	PE	Mathematics For Machine Learning	3	45	0	0	45	90	40	40	40	60	100
3	26PEEET413	PE	PE	Theory Of Computation	3	45	0	0	45	90	40	40	40	60	100
4	26PEEET414	PE	PE	Computer Organization	3	45	0	0	45	90	40	40	40	60	100
5	26PEEET415	PE	PE	Illumination Technology	3	45	0	0	45	90	40	40	40	60	100
6	26PEEET416	PE	PE	Object Oriented Programming	3	45	0	0	45	90	40	40	40	60	100
7	26PEEET417	PE	PE	Biomedical Instrumentation	3	45	0	0	45	90	40	40	40	60	100
8	26PEEET418	PE	PE	Advanced Power Electronics	5/3	45	0	0	105	150	40	40	40	60	100

PROGRAM ELECTIVE-2

Sl.	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Over all Marks
						L	T	P	SL		IAT 1	IAT 2			
1	26PEEET521	PE	PE	Energy Storage Systems	3	45	0	0	45	90	40	40	40	60	100
2	26PEEET522	PE	PE	Electric Vehicles	3	45	0	0	45	90	40	40	40	60	100
3	26PEEET523	PE	PE	Digital System Design	3	45	0	0	45	90	40	40	40	60	100
4	26PEEET524	PE	PE	Software Engineering	3	45	0	0	45	90	40	40	40	60	100
5	26PEEET525	PE	PE	Data Structures	3	45	0	0	45	90	40	40	40	60	100
6	26PEEET526	PE	PE	Introduction To Machine Learning	3	45	0	0	45	90	40	40	40	60	100
7	26PEEET527	PE	PE	Computer Network Systems	3	45	0	0	45	90	40	40	40	60	100
8	26PEEET528	PE	PE	Solid State Devices	3	45	0	0	45	90	40	40	40	60	100
9	26PEEET529	PE	PE	Advanced Electric Vehicles	5/3	45	0	0	105	150	40	40	40	60	100

PROGRAM ELECTIVE-3

Sl.	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Over all Marks
						L	T	P	SL		IAT 1	IAT 2			
1	26PEEET631	PE	PE	Digital Protection of Power Systems	3	45	0	0	45	90	40	40	40	60	100
2	26PEEET632	PE	PE	Operating Systems	3	45	0	0	45	90	40	40	40	60	100
3	26PEEET633	PE	PE	High Voltage Engineering	3	45	0	0	45	90	40	40	40	60	100
4	26PEEET634	PE	PE	Internet Of Things	3	45	0	0	45	90	40	40	40	60	100
5	26PEEET635	PE	PE	Digital Signal Processing	3	45	0	0	45	90	40	40	40	60	100
6	26PEEET636	PE	PE	Material Science	3	45	0	0	45	90	40	40	40	60	100
7	26PEEET637	PE	PE	Optimization Techniques	5/3	45	0	0	105	150	40	40	40	60	100

PROGRAM ELECTIVE-4

Sl.	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Over all Marks
						L	T	P	SL		IAT 1	IAT 2			
1	26PEEET741	PE	PE	Power System Operation And Control	3	45	0	0	45	90	40	40	40	60	100
2	26PEEET742	PE	PE	Special Electric Machines	3	45	0	0	45	90	40	40	40	60	100
3	26PEEET743	PE	PE	Discrete Time Control Systems	3	45	0	0	45	90	40	40	40	60	100
4	26PEEET744	PE	PE	Digital Image Processing	3	45	0	0	45	90	40	40	40	60	100
5	26PEEET745	PE	PE	Electrical Machine Design	3	45	0	0	45	90	40	40	40	60	100
6	26PEEET746	PE	PE	Energy Management And Auditing	5/3	45	0	0	105	150	40	40	40	60	100

PROGRAM ELECTIVE-5

Sl.	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Over all Marks
						L	T	P	SL		IAT 1	IAT 2			
1	26PEEET751	PE	PE	Power Quality	3	45	0	0	45	90	40	40	40	60	100
2	26PEEET752	PE	PE	Deep Learning	3	45	0	0	45	90	40	40	40	60	100
3	26PEEET753	PE	PE	Computer Vision	3	45	0	0	45	90	40	40	40	60	100
4	26PEEET754	PE	PE	Industrial Instrumentation & Automation	3	45	0	0	45	90	40	40	40	60	100
5	26PEEET755	PE	PE	Solar PV System	3	45	0	0	45	90	40	40	40	60	100
6	26PEEET756	PE	PE	Advanced Control Systems	5/3	45	0	0	105	150	40	40	40	60	100

PROGRAM ELECTIVE-6

Sl.	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Over all Marks
						L	T	P	SL		IAT 1	IAT 2			
1	26PEEET861	PE	PE	HVDC And Facts	3	45	0	0	45	90	40	40	40	60	100
2	26PEEET862	PE	PE	Mechatronic Systems	3	45	0	0	45	90	40	40	40	60	100
3	26PEEET863	PE	PE	Electronic Communication	3	45	0	0	45	90	40	40	40	60	100
4	26PEEET864	PE	PE	Cloud Computing	3	45	0	0	45	90	40	40	40	60	100
5	26PEEET865	PE	PE	Electric Drives	3	45	0	0	45	90	40	40	40	60	100
6	26PEEET866	PE	PE	Advanced Smart Grid Technologies	5/3	45	0	0	105	150	40	40	40	60	100

OPEN ELECTIVE-1

Sl.	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Over all Marks
						L	T	P	SL		IAT 1	IAT 2			
1	26OEEET611	OE	OE	Introduction to Control Systems	3	45	0	0	45	90	40	40	40	60	100
2	26OEEET612	OE	OE	Energy Management	3	45	0	0	45	90	40	40	40	60	100
3	26OEEET613	OE	OE	Renewable Energy Systems	3	45	0	0	45	90	40	40	40	60	100
4	26OEEET614	OE	OE	Electrical Technology and Safety	3	45	0	0	45	90	40	40	40	60	100
5	26OEEET615	OE	OE	Principles of Electrical Power Conversion	3	45	0	0	45	90	40	40	40	60	100

OPEN ELECTIVE-2

Sl.	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Over all Marks
						L	T	P	SL		IAT 1	IAT 2			
1	26OEEET721	OE	OE	Design Of Solar PV Systems	3	45	0	0	45	90	40	40	40	60	100
2	26OEEET722	OE	OE	Hybrid And Electric Vehicles	3	45	0	0	45	90	40	40	40	60	100
3	26OEEET723	OE	OE	Introduction To Energy Storage Systems	3	45	0	0	45	90	40	40	40	60	100
4	26OEEET724	OE	OE	Material Science	3	45	0	0	45	90	40	40	40	60	100
5	26OEEET725	OE	OE	Power Generation Systems	3	45	0	0	45	90	40	40	40	60	100

OPEN ELECTIVE-3

Sl.	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Over all Marks
						L	T	P	SL		IAT 1	IAT 2			
1	26OEEET831	OE	OE	Introduction To Robotics	3	45	0	0	45	90	40	40	40	60	100
2	26OEEET832	OE	OE	Biomedical Instrumentation	3	45	0	0	45	90	40	40	40	60	100
3	26OEEET833	OE	OE	Mechatronic System and Control	3	45	0	0	45	90	40	40	40	60	100
4	26OEEET834	OE	OE	Industrial Instrumentation & Automation	3	45	0	0	45	90	40	40	40	60	100
5	26OEEET835	OE	OE	Electrical Safety Management	3	45	0	0	45	90	40	40	40	60	100
6	26OEEET836	OE	OE	Introduction To Robotics	3	45	0	0	45	90	40	40	40	60	100
7	26OEEET837	OE	OE	Biomedical Instrumentation	3	45	0	0	45	90	40	40	40	60	100

HMC ELECTIVE

Sl.	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Overall Marks
						L	T	P	SL		IAT 1	IAT 2			
1	26UEHUT711	HMC	UE	Project Management: Planning, Execution, Evaluation and Control	2	30	0	0	30	60	40	40	50	50	100
2	26UEHUM712	HMC	UE	Proficiency course in foreign language (MOOC Only)	2	0	0	0	60	60	-	-	-	-	-
3	26UEHUT713	HMC	UE	Financial Management	2	30	0	0	30	60	40	40	50	50	100

MINOR PROGRAM -1 CONTROL ENGINEERING

Semester	Course Code	Type	Cat.	Course Title	Cr.	Hour Structure				Total Hrs.	Internal Test		CIA	SEE	Overall Marks
						L	T	P	SL		IAT 1	IAT 2			
S3	26MNEET319	MN	MN	Introduction to product design and Associated Development Tools	4	45	15	0	60	120	40	40	40	60	100
S4	26MNEET419/ 26MNEEM41N	MN	MN	Introduction to Computational Methods / MOOC	4	45	15	0	60	120	40	40	40	60	100
S5	26MNEET519/ 26MNEEM51N	MN	MN	Intelligent Design Practices and Smart Manufacturing / MOOC	4	45	15	0	60	120	40	40	40	60	100
S6	26MNEET619/ 26MNEEM61N	MN	MN	Mechatronics and robotics / MOOC	3	45	0	0	45	90	40	40	40	60	100

MINOR PROGRAM -2 ENERGY ENGINEERING

S3	26MNEET329	MN	MN	Introduction to Power System	4	45	15	0	60	120	40	40	40	60	100
S4	26MNEET429/ 26MNEEM42N	MN	MN	Energy and Storage Systems /MOOC	4	45	15	0	60	120	40	40	40	60	100
S5	26MNEET529/ 26MNEEM52N	MN	MN	Power Plant Instrumentation and Automation /MOOC	4	45	15	0	60	120	40	40	40	60	100
S6	26MNEET629/ 26MNEEM62N	MN	MN	Energy Audit and Management/MOOC	3	30	0	0	60	90	40	40	40	60	100

MINOR PROGRAM – 3 POWER CONVERTERS & DRIVES															
S3	26MNEET339	MN	MN	Electric Circuit Analysis	4	45	15	0	60	120	40	40	40	60	100
S4	26MNEET439/ 26MNEEM43N	MN	MN	Electrical Machines/MOOC	4	45	15	0	60	120	40	40	40	60	100
S5	26MNEET529/ 26MNEEM53N	MN	MN	Power Electronic Converters/MOOC	4	45	15	0	60	120	40	40	40	60	100
S6	26MNEET639/ 26MNEEM63N	MN	MN	Power Semiconductor Drives/MOOC	3	45	0	0	45	90	40	40	40	60	100
				TOTAL	**15**										

Slot M is assigned to Minor Examinations in the respective semesters.

HONOURS PROGRAM

Semester	**Course Code**	**Type**	**Cat.**	**Course Title**	**Cr.**	**Hour Structure**				**Total Hrs.**	**Internal Test**		**CIA**	**SEE**	**Overall Marks**
						L	**T**	**P**	**SL**		**IAT 1**	**IAT 2**			
S4	26HNEET409	HN	HN	Analysis of Power Converters	4	45	15	0	60	120	40	40	40	60	100
S5	26HNEET509 / 26HNEEM50N	HN	HN	Electric Drives & Control/ MOOC	4	45	15	0	60	120	40	40	40	60	100
S6	26HNEET609 / 26HNEEM60N	HN	HN	Advanced Control Theory / MOOC	4	45	15	0	60	120	40	40	40	60	100
S7	26HNEET709 / 26HNEEM70N	HN	HN	Power System Automation / MOOC	3	45	0	0	45	90	40	40	40	60	100
				TOTAL	**15**										

Slot N is assigned to Honours Examinations in the respective semesters.

COURSES UNDER VARIOUS COURSE CLASSIFICATION

Engineering Science Courses (ESC)				
Sl. No:	**Semester**	**Course Category**	**Course Name**	**Credits**
1	S1	GC	Engineering Graphics Drawing (A &B)/ Engineering Mechanics (C)	**3**
2		GC	Introduction to Electrical & Electronics Engineering (A & B)	**4**
3		UC	Programming in C	**4**
4		GC	Basic Electrical and Electronics Engineering Workshop	**1**
5	S2	GC	Foundations of Artificial Intelligence and Data Science	**3**
6		UC	Engineering Entrepreneurship & IPR	**3**
7		GC	IOT Workshop	**1**
8	S3	GC	Introduction to Renewable energy	**3**
9	S5/S6	GC	Design Thinking and Product Development (Group specific)	**2**
			TOTAL	**24**

Basic Science Course (BSC)				
Sl. No:	**Semester**	**Course Category**	**Course Name**	**Credits**
1	S1	GC	Matrices, Ordinary Differential Equations and Transforms	**3**
2	S1/S2	GC	Physics for Electrical Science	**4**
3			Chemistry for Electrical Science	**4**
4	S2	GC	Partial Differential Equations and Vector Calculus	**3**
5	S3	GC	Complex Analysis and Integral Transforms	**3**
6	S4	GC	Probability Distributions, Statistical Inference and Random Process	**3**
			TOTAL	**20**

Humanities Based Courses (HMC)/Health and Wellness (HWP)				
Sl. No:	**Semester**	**Course Category**	**Courses**	**Credits**
1	S1/S2	UC	Health and Wellness	1
2	S1/S2	UC	Life Skills and Professional Communication	1
3	S3/S4	UC	Economics for Engineers	2
4	S3/S4	UC	Engineering Ethics and Sustainable Development	2
5	S5/S6	UC	Constitution of India	2
6	S7	UE	HMC Elective-1 (Self Study/MOOC/Online)	2
7	S8	UC	Organizational Behavior and Business Communication (Self -Study/MOOC/Online)	2
			TOTAL	**12**

Program Core (PC) Courses				
Sl. No:	**Semester**	**Course Category**	**Courses**	**Credits**
1	S2	PC	Digital Electronics	4
2	S3	PC	Measurements and Instrumentation	3
3	S3	PC	Circuits and Networks	4
4	S4	PC	Electromagnetic Theory	3
5	S4	PC	DC Machines and Transformers	4
6	S5	PC	Power Generation, Transmission and Distribution	3
7	S5	PC	Signals & Systems	3
8	S5	PC	Synchronous and Induction Machines	4
9	S6	PC	Electrical System Design and Estimation	3
10	S6	PC	Control Systems	4
			TOTAL	**35**
Project Based Program Core (PC-PBL) Course				
1	S3	PB	Analog Circuits	4
2	S4	PB	Power Electronics	4
3	S5	PB	Microprocessor and Embedded Systems	4
4	S6	PB	Power System Analysis	4
			TOTAL	**16**
Program Core Laboratory (PCL) Course				
1	S3	PC	Circuits and Measurements Lab	2
2	S3	PC	Analog Electronics Lab	2
3	S4	PC	DC Machines and Transformers Lab	2
4	S4	PC	Power Electronics Lab	2
5	S5	PC	AC Machines Lab	2
6	S5	PC	Microprocessor and Embedded Systems Lab	2
7	S6	PC	Control Systems Lab	2
8	S6	PC	Power Systems Lab	2
			TOTAL	**16**
			GRAND TOTAL for Program Core	**67**

Program Elective (PE) Courses				
Sl. No:	**Semester**	**Course Category**	**Courses**	**Credits**
1	S4	PE	Program Elective-1	3
2	S5	PE	Program Elective-2	3
3	S6	PE	Program Elective-3	3
4	S7	PE	Program Elective-4 (Self Study/ MOOC/ Online)	3
5	S7	PE	Program Elective-5 (Self Study/ MOOC/ Online)	3
6	S8	PE	Program Elective-6 (Self Study/ MOOC/ Online)	3
			TOTAL	**18**

Project/Internship & Seminar (PWS)				
Sl. No:	**Semester**	**Course Category**	**Course Name**	**Credits**
1	S7	PC	Seminar	2
2		PC	Option 1: Major Project Option 2: Internship (4-6 Months)	5
3	S8	PC	Option 1: Major Project Option 2: Internship (4-6 Months) Option 3: Major Project Phase-2 (For the students who have not opted for internship in either S7 or S8)	5
			TOTAL	**12**

Open Elective (OE) Courses				
Sl. No:	**Semester**	**Course Category**	**Courses**	**Credits**
1	S6	OE	Open Elective-1	3
2	S7	OE	Open Elective-2 (Self Study/ MOOC/ Online)	3
3	S8	OE	Open Elective-3 (Self Study/ MOOC/ Online)	3
			TOTAL	**9**

Skill Enhancement (SEC) Courses				
Sl. No:	**Semester**	**Course Category**	**Courses**	**Credits**
1	S1/S2	UC	MOOC (8 Weeks)	1
2	S3/S4	MC	MOOC (8 Weeks)	1
3	S5/S6	MC	MOOC (8 Weeks)	1
			TOTAL	**3**

Activity Points					
Sl. No.	**Group**	**Activities**	**Point**	**Credit**	**Minimum Credit Requirements**
Participation					**3 Credits (One credit from each Group)**
1	I	Short Term Internship (Minimum 2 weeks offline).	10 points	1 Credit for 40 Points	
2		Industrial Training (Minimum 2 weeks).	10 points		
3		Attending Conference (Within Institute or outside).	5 points		
4		Attended Conference with Paper Presentation (Within Institute or outside).	10 points		
5		Attended Workshops/STTP (Totaling 5 days of all programs per semester).	5 points per semester		
6		Professional Body member.	5 points		
7		Participation in Club activity within institutions.	2 points		
8		Participation in Inter/Intra college. Hackathons/project competitions/ Technical festivals/Technical Events.	5 points per event		
9		Participation in Industrial Visit organized as per S5/S6 curriculum.	10 points		
10		Participation in GATE/National Examination (On submission of score card/result).	10 points		
11		Participation in IEDC Activities (minimum 2 activities per year).	10 points per year		
12		MOOC certification on Indian knowledge systems (IKS).	10 points		
Technical/ Academic/Cocurricular ACHIEVEMENTS					
1	II	Journal/Conference Publication.	40 points per publication	1 Credit for 40 Points	
2		Patent Publishing.	40 points per publication		
3		Department/College owned Magazine/newsletter publication.	5 points per year		
4		Winners in Inter/Intra college. Hackathons/project competitions/ Technical festivals/Technical Events.	20 points per win		
5		Winners of Club Activities (college level).	10 points per win		
6		Academic achievement (Above 9 SGPA in any semester).	20 points		
7		Silver or above certification in any NPTEL/SWAYAM MOOCs .	20 points for each MOOC		
8		Aptitude Proficiency Certification (GRE, CAT, GMAT etc.)/ Valid Gate Score.	40 points for every single GATE score		
9		Funded Projects.	40 points per funded project		
10		Individual Start-up/Entrepreneurship activity validated by the department.	20 points (per year)		
11		Elected Student Representatives of Club/University/National/International Technical Bodies.	20 points		
12		Foreign Language Skill (TOEFL/IELTS/BEC exams).	20 points per score		
13		International Internship.	40 points		
14		Coordinators of Editorial board/Club/University/National Technical events.	10 points per year		
Extracurricular					
1	III	NSS, NCC, NSO (National Sports Organization) (minimum 2 years of activity done as member).	40 points	1 Credit for 40 Points	
2		Arts/Sports/Games: (Multiply by 2 for University level, Multiply by 3 for state level, Multiply by 4 for national level).	5 points for Participation per year		
			10 points for winning in any event per year		
			10 points for coordinating any event per year		

3		Union Activities	5 points for Participation in Election as a voter per year		
			10 points for Standing in Election as a candidate per year (must have come in top 5 in election result within the category)		
			15 points for Elected members		
4		Participation Social outreach program (initiated or approved by Department/College/NSS/Government bodies/professional bodies).	5 points per certificate		

Course classifications of the B. Tech Program and Overall Credit Structure			
S.No.	**Code Type**	**Category**	**Credits**
1	ESC	Engineering Science Courses	24
2	BSC	Basic Science Course	20
3	HMC/ HWP	Humanities Based Courses /Health and Wellness	12
4	PC	Program Core Courses	35
5	PC-PBL	Project Based Program Core Course	16
6	PCL	Program Core Laboratory Course	146
7	PE	Program Elective Courses	18
8	PWS	Project/Internship & Seminar	12
9	OE	Open Elective Courses	9
10	SEC	Skill Enhancement Courses	3
11	MSA	Mandatory Student Activities	3
		TOTAL CREDITS	**168**