CHRIST COLLEGE OF ENGINEERING

(AUTONOMOUS)

(A CMI Institution)

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

B. Tech. CURRICULUM – 2026

(Date: 30-06-2026)

Irinjalakuda, Thrissur – 680125

B. Tech. Electrical and Electronics Engineering

Programme Structure

Semester (Credits)	S1	S2	S3	S4	S5	S6	S7	S8	Total	%	KTU	AICTE Model
Humanities and Social Science Course including Management Course (HM)	2	-	3	3	2	-	-	-	**8**	**5.99**	5.98	**7.5**
Basic Science Course (BS)	8	8	3	3	3	-	-	-	**25**	**14.97**	11.98	**18.1**
Engineering Science Course (ES)	12	11	3	-	-	1	-	-	**29**	**16.17**	16.16	**16.87**
Programme Core Courses (PC)	-	3	15	15	15	14	-	-	**62**	**37.13**	40.71	**36.25**
Programme Elective Course (PE)	-	-	-	3	3	3	6	3	**18**	**10.78**	10.78	**5.6**
Open Elective Course (OE)	-	-	-	-	-	3	3	3	**9**	**5.39**	5.39	**5.6**
Skill Enhancement Course (SE)	1	1	1	1	1	1	-	-	**6**	**3.59**	0	**0**
Project/ Internship/Seminar (PR/IP/SR)	-	-	-	-	-	-	6	4	**10**	**5.99**	5.99	**10**
Mandatory Course (MC) (Environmental Science, Induction program, Indian Constitution, etc.)	Pass /Fail	Pass /Fail	-	Pass /Fail	Pass /Fail	Pass /Fail	-	-	**0**	**0**	0	
Total	**23**	**23**	**25**	**25**	**24**	**22**	**15**	**10**	**167#**			
Minor	0	0	4	4	4	4	0	0	**16**			
Honour	0	0	0	4	4	4	4	0	**16**			

Additional 3 Credits from Activity points

Course Distribution by Semester and Type

Sl. No.	Course Type	Number of Courses								Total
		S1	S2	S3	S4	S5	S6	S7	S8	
1	Humanities and Social Science Course including Management Course (HM)	1	0	2	2	1	0	0	0	6
2	Basic Science Course (BS)	2	2	1	1	1	0	0	0	7
3	Engineering Science Course (ES)	4	4	1	0	0	1	0	0	10
4	Programme Core Courses (PC)	0	1	5	5	5	5	0	0	21
5	Programme Elective Course (PE)	0	0	0	1	1	1	2	1	6
6	Open Elective Course (OE)	0	0	0	0	0	1	1	1	3
7	Skill Enhancement Course (SE)	1	1	1	1	1	1	0	0	6
8	Project/ Internship/Seminar (PR/IP/SR)	0	0	0	0	0	0	2	1	3
9	Mandatory Non-Credit Course (MC)	1	1	0	1	1	1	0	0	5
	Total	**9**	**9**	**10**	**11**	**10**	**10**	**5**	**3**	**67**

Course Code Format Guidelines

Each course in the curriculum shall be identified by a unique nine-character alphanumeric code structured as follows:

1. First Letter - Department Code

Indicates the parent department:

C - Civil Engineering
M - Mechanical Engineering
E - Electrical and Electronics Engineering
L - Electronics and Communication Engineering
V - VLSI
R - Computer Science and Engineering
B - Computer Science and Business Systems
D - Computer Science and Engineering (Data Science)

2. Second and Third Letters - Curriculum Scheme Year

Represents the year in which the curriculum scheme was introduced (e.g., 26 for 2026).

3. Fourth and Fifth Letters - Abbreviation of Course Title

Two-letter short form of the course title (e.g., MA for Mathematics, DS for Data Structures).

4. Sixth Letter - Course Type Indicator

Denotes the nature of the course:

T - Theory
P - Practical
E - Lab Embedded
R - Project

5. Seventh Character - Semester Number

Indicates the semester in which the course is offered (e.g., 1 for Semester I).

6. Eighth and Ninth Characters - Course Sequence Number

Represents the order of the course in that semester (e.g., 21 for the 21st course).

Example:

M26TDT403
M - Mechanical Engineering
26 - Curriculum Revision 2026
TD - Thermodynamics
T - Theory Based Course
4 - Offered in Semester IV
03 – 3rd Course in that semester

FIRST SEMESTER: Electrical and Electronics Engineering														
10 Days Compulsory Induction Program and Universal Human Values														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit L	Credit T	Credit P	Credit R	SS	Total CIA	Total ESE	Credits	Hrs./Week
THEORY														
1	A	G26MAE101	BS	GC	Linear Algebra & Calculus with Simulation Lab	2	1	2	0	4.5	40	60	4	5
2	B	G26PHE202	BS	GC	Engineering Physics	2	1	2	0	4.5	40	60	4	5
3	C	G26MHT104	ES	GC	Engineering Mechanics	3	1	0	0	5	40	60	4	4
4	D	G26ELT108	ES	GC	Basics of Electrical and Electronics Engineering	4	0	0	0	6	40	60	4	4
5	E	G26ATE110	ES	CC	Algorithmic thinking with Python	2	0	2	0	4	40	60	3	4
PRACTICALS														
6	G	G26EWP112	ES	GC	Electrical and Electronics Workshop Practice	0	0	2	0	1	50	50	1	2
7	H	A26AEE115	HM	CC	Applied English for Communication	2	0	0	0	3	50	-	2	2
8	I	A26EDR113	SE	CC	Engineering Design and Innovation Studio (EDIS-I)	0	0	0	2	2	50	-	1	2
MANDATORY NON-CREDIT COURSES														
9	J	A26HWP114	MC	CC	Health and Wellness	1	0	1	0	2	50	-	Pass /Fail	2
ACTIVITY POINT PROGRAMME														
10	-	A26APP116	MC	CC	Activity Point Programme[$]								0	-
Total										**32**			**23**	**30**

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

[$] **Activity Points:** Students are required to acquire a minimum of 120 activity points, with at least 40 points per group, to fulfil the curriculum requirement of 3 activity credits. At the end of 6th semester, the students are required to earn the minimum number of activity points from the AICTE mandated activity point programme to qualify for the award of B. Tech degree.

SECOND SEMESTER: Electrical and Electronics Engineering														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit L	T	P	R	SS	Total CIA	ESE	Credits	Hrs./Week
THEORY														
1	A	G26MAT201	BS	GC	Vector Calculus, Differential Equations & Transforms	3	1	0	0	5	40	60	4	4
2	B	G26CYE103	BS	GC	Engineering Chemistry	2	1	2	0	4.5	40	60	4	5
3	C	G26GPT106	ES	GC	Engineering Graphics	2	0	2	0	4	40	60	3	4
4	D	G26CMT106	ES	GC	Basics of Civil and Mechanical Engineering	4	0	0	0	6	40	60	4	4
5	E	G26CPE210	ES	CC	C Programming	2	0	2	0	4.5	40	60	3	4
6	F	E26MIT211	PC	PC	Measurements and Instrumentation	2	1	0	0	3.5	40	60	3	3
PRACTICALS														
7	G	G26WSP111	ES	GC	Civil and Mechanical Workshop Practice	0	0	2	0	1	50	50	1	2
8	I	A26EDR213	SE	CC	Engineering Design and Innovation Studio (EDIS-II)	0	0	0	2	2	50	-	1	2
MANDATORY NON-CREDIT COURSES														
9	J	A26EST214	MC	CC	Employability Skills and Professional Development	1	0	1	0	2	50	-	Pass / Fail	2
ACTIVITY POINT PROGRAMME														
10	-	A26APP215	MC	CC	Activity Point Programme								0	-
Total										**32.5**			**23**	**30**

THIRD SEMESTER: Electrical and Electronics Engineering														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit				SS	Total		Credits	Hrs./Week
						L	T	P	R		CIA	ESE		
THEORY														
1	A	G26MAT301	BS	GC	Partial Differential Equations, Complex Analysis and Transforms	2	1	0	0	3.5	40	60	3	3
2	B	E26ADR302	PC-PBL*	PC	Analog and Digital Electronics	2	1	0	1	4.5	60	40	4	4
3	C	E26CNT303	PC	PC	Circuits and Networks	3	1	0	0	5	40	60	4	4
4	D	E26EMT304	PC	PC	Electromagnetic Theory	2	1	0	0	3.5	40	60	3	3
5	E	A26AIT305	ES	GC	Introduction to Artificial Intelligence and Data Science	2	1	0	0	3.5	40	60	3	3
6	F	A26FLT3X6	HM	CC	Foreign Language Elective #	2	0	0	0	3	50	-	2	2
7	G	G26EST307	HM	CC	Environmental Science	1	0	0	0	1.5	40	60	1	1
PRACTICALS														
8	H	E26CMP308	PC	PC	Circuits and Measurements Lab	0	0	3	0	1.5	50	50	2	3
9	I	A26EDR309	SE	CC	Engineering Design and Innovation Studio (EDIS-III)	0	0	0	2	2	50	-	1	2
10	J	E26ADP310	PC	PC	Analog and Digital Electronics Lab	0	0	3	0	1.5	50	50	2	3
ACTIVITY POINT PROGRAMME														
11	-	A26APP311	MC	CC	Activity Point Programme								0	
VALUE ADDED COURSES														
12	M	-	VA	CC	Minor course	3	1	0	0	5			4	4
Total										**29.5/ 34.5***			**25/ 29***	**28/ 32***

*PBL (Project-Based Learning) Courses Integrated in Semesters 3 to 6

#Foreign Language Electives:

1. A26FLT316 - German Language – Level A1
2. A26FLT326 - French Language – Level 1
3. A26FLT336 - Japanese Language

FOURTH SEMESTER: Electrical and Electronics Engineering														
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		
THEORY														
1	A	G26MAT401	BS	GC	Probability Distributions, Random Process and Numerical Methods	2	1	0	0	3.5	40	60	3	3
2	B	E26PER402	PC-PBL	PC	Power Electronics	2	1	0	1	4.5	60	40	4	4
3	C	E26DTT403	PC	PC	DC Machines and Transformers	2	1	0	0	3.5	40	60	3	3
4	D	E26SST404	PC	PC	Signals and Systems	3	1	0	0	5	40	60	4	4
5	E	G26EET405	HM	GC	Management for Engineers	2	0	0	0	3	40	60	2	2
6	F	E26PE14XX	PE	PE	Professional Elective - I	3	0	0	0	4.5	40	60	3	3
7	G	G26ICT407	HM	CC	Indian Constitution	1	0	0	0	1.5	50	-	1	1
PRACTICALS														
8	H	E26DTP408	PC	PC	DC Machines and Transformers Lab	0	0	3	0	1.5	50	50	2	3
9	I	A26EDR409	SE	CC	Engineering Design and Innovation Studio (EDIS-IV)	0	0	0	2	2	50	-	1	2
10	J	E26PEP410	PC	PC	Power Electronics Lab	0	0	3	0	1.5	50	50	2	3
MANDATORY NON-CREDIT COURSES														
11	K	A26BCT411	MC	CC	Business and Managerial Communications (PC)	1	0	0	0	1.5	50	-	Pass / Fail	1
ACTIVITY POINT PROGRAMME														
12	-	A26APP412	MC	CC	Activity Point Programme					0			-	
VALUE ADDED COURSES														
13	M/H	-	VA	CC	Minor/Honours Course	3	1	0	0	5	40	60	4	4
Total										**32/ 37***			**25/ 29***	**29/ 33***

FIFTH SEMESTER: Electrical and Electronics Engineering														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit				SS	Total		Credits	Hrs./Week
						L	T	P	R		CIA	ESE		
THEORY														
1	A	E26MER501	PC-PBL	PC	Microprocessor and Embedded Systems	2	1	0	1	4.5	60	40	4	4
2	B	E26SIT502	PC	PC	Synchronous and Induction Machines	2	1	0	0	3.5	40	60	3	3
3	C	E26PGT503	PC	PC	Power Generation, Transmission and Protection	3	1	0	0	5	40	60	4	4
4	D	E26PE25XX	PE	PE	Professional Elective - II	3	0	0	0	4.5	40	60	3	3
5	E	G26EET505	HM	CC	Engineering Economics	2	0	0	0	3	40	60	2	2
6	F	A26BEE506	BS	CC	Fundamentals of Biological Engineering	2	0	2	0	4	40	60	3	4
PRACTICALS														
7	G	E26SIP507	PC	PC	Synchronous and Induction Machines Lab	0	0	3	0	1.5	50	50	2	3
8	H	E26MEP508	PC	PC	Microprocessor and Embedded Systems Lab	0	0	3	0	1.5	50	50	2	3
9	I	A26EDR509	SE	CC	Engineering Design and Innovation Studio (EDIS-V)	0	0	0	2	2	50	-	1	2
MANDATORY NON-CREDIT COURSES														
10	J	A26QRT510	MC	CC	Quantitative and Reasoning Skills	1	0	0	0	1.5	50	-	Pass/ Fail	1
ACTIVITY POINT PROGRAMME														
11	-	A26APP511	MC	CC	Activity Point Programme								-	-
VALUE ADDED COURSES														
12	M/ H	-	VA	CC	Minor/Honours Course	3	1	0	0	5	40	60	4	4
Total										**31/ 36***			**24/ 28***	**29/ 33***

Students shall undergo a minimum four-week internship in an industry, research organization, startup, or approved institution. Successful completion of the internship and submission of the internship report shall make the student eligible for the award of Activity Points as per the Activity Points guidelines. With 10 points for a minimum two-week internship and maximum of 20 points for an extended four-week internship.

SIXTH SEMESTER: Electrical and Electronics Engineering														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit				SS	Total		Credits	Hrs./ Week
						L	T	P	R		CIA	ESE		
THEORY														
1	A	E26CST601	PC	PC	Control Systems	2	1	0	0	3.5	40	60	3	3
2	B	E26EVT602	PC	PC	Electric Vehicle Technology	2	1	0	0	3.5	40	60	3	3
3	C	E26PSR603	PC-PBL	PC	Power System Analysis	2	1	0	1	4.5	60	40	4	4
4	D	A26IIT604	ES	CC	Introduction to Industry 4.0	1	0	0	0	1.5	40	60	1	1
5	E	E26PE36XX	PE	PE	Professional Elective - III	3	0	0	0	4.5	40	60	3	3
6	F	G26OE16XX	OE	OE	Open Elective – I#	3	0	0	0	4.5	40	60	3	3
PRACTICALS														
7	G	E26PSP607	PC	PC	Power Systems Lab	0	0	3	0	1.5	50	50	2	3
8	H	E26CDP608	PC	PC	Control Systems and Drives Lab	0	0	3	0	1.5	50	50	2	3
9	I	A26EDR613	SE	CC	Engineering Design and Innovation Studio (EDIS-VI)	0	0	0	2	2	50	-	1	2
MANDATORY NON-CREDIT COURSES														
10	J	A25UHT614	MC	CC	Universal Human Values and Professional Ethics	1	0	0	0	1.5	50	50	Pass/ Fail	1
ACTIVITY POINT PROGRAMME														
11	-	A26APP615	MC	CC	Activity Point Programme $								-	-
VALUE ADDED COURSES														
12	M/H	-	VA	CC	Minor/Honours Course	3	1	0	0	5			4	4
		Industrial Visit (Maximum 7 Days are permitted, not exceeding 5 working days)												
Total										**28.5/ 33.5***			**22/ 26***	**26/ 30***

***** Students are encouraged to choose professional electives from a single stream, preferably.

Open Electives are such courses which will be offered for other departments. Like ME department students have to opt open electives from CE/EEE/CS/CSDS/CSBS/ECE/VLSI/ME/EEE departments.

SEVENTH SEMESTER: Electrical and Electronics Engineering														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit L	T	P	R	SS	Total CIA	ESE	Credits	Hrs./Week
THEORY														
1	A	E26PE47XX	PE	PE	Professional Elective - IV (Internship Students: Self Study/MOOC Approved by the College/Online Classes)	3	0	0	0	4.5	40	60	3	3
2	B	E26PE57XX	PE	PE	Professional Elective - V (Internship Students: Self Study/MOOC Approved by the College/Online Classes)	3	0	0	0	4.5	40	60	3	3
3	C	G26OE27XX	OE	OE	Open Elective - II (Internship Students: Self Study/MOOC Approved by the College/Online Classes)	3	0	0	0	4.5	40	60	3	3
4	S	E26SMP704	SR	SR	Seminar (Symposium)	0	0	3	0	1.5	50	0	2	3
PRACTICALS														
5	P	E26CPR705	PR/IP	PR/IP	Option 1: Capstone Project Phase - I	0	0	0	12	12	100	0	4	12
		E26INR705	PR/IP	PR/IP	Option 2: Industry Internship#					-	100			
VALUE ADDED COURSES														
6	H	-	VA	CC	Honours Course	3	0	0	0	4.5			4	4
Total										**27/ 31.5***			**15/ 19***	**24/ 28***

* The students can take the Industry Internship option either in 7th or in 8th semester.

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

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

EIGHTH SEMESTER: Electrical and Electronics Engineering															
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit				SS	Total		Credits	Hrs./Week
						L	T	P	R		CIA	ESE		
THEORY														
1	A	E26PE68XX	PE	PE	Professional Elective - VI (Internship Students: Self Study/MOOC Approved by the College/Online Classes)	3	0	0	0	4.5	40	60	3	3
2	B	E26OE38XX	OE	OE	Open Elective - III (Internship Students: Self Study/MOOC Approved by the College/Online Classes)	3	0	0	0	4.5	40	60	3	3
PRACTICALS														
3	P	E26CPR803	PR/IP	PR/IP	Option 1: Capstone Project	0	0	0	12	12	100	0	4	12
		E26INR803	PR/IP	PR/IP	Option 2: Industry Internship(4-6 Months)				-		100			
		E26CP2803	PR/IP	PR/IP	Option 3: Capstone Project Phase - II									
Total										**21**			**10**	**18**

Professional Electives

1. POWER & ENERGY

1. Energy Storage Systems
2. Design of PV systems
3. High Voltage Engineering
4. Battery Management Systems
5. Energy Management and Auditing
6. Deregulated power system
7. Power System Operation and Control
8. Digital Protection of Power Systems

2. POWER CONVERTERS & CONTROL

1. Switched Mode Power Converters
2. Power Quality
3. HVDC and FACTS
4. Discrete time Control Systems
5. Non-Linear Control Systems
6. Analysis of Power Electronic Circuits
7. Advanced Power Electronics and Control
8. Power Electronics System Design

3. E-MOBILITY

1. Electric Drives and Control
2. Energy Storage and Battery Management Systems
3. Hybrid and Electric Vehicles
4. Electric Machine Design
5. Autonomous Vehicles
6. Systems Engineering for Electric Vehicles
7. Drone systems and Control
8. Unmanned Aerial Vehicle

4. EMBEDDED SYSTEMS AND AUTOMATION

1. Semiconductor Devices and Circuits
2. Mechatronic Systems
3. Robotics and Automation
4. Mechanics and Control of Robotic Manipulators
5. Digital Signal Processing
6. Process Control and Instrumentation
7. Embedded System Design
8. Industrial Automation

5. GENERAL STREAM

1. Biomedical Instrumentation
2. Renewable Energy Sources
3. Electrical System Design & Estimation
4. Advanced Control Systems
5. Special Electrical Machines
6. Internet of Things
7. Soft Computing
8. Smart Grid Technologies

6. Language Electives

1. German Language – Level A1.1
2. French Language – Level 1
3. Japanese Language

<u>Open Electives</u>

Open Elective Group 1

1. Introduction to Power Engineering
2. Introduction to Control Systems
3. Introduction to Energy Storage Systems
4. Introduction to Power Electronics

Open Elective Group 2

1. Renewable Energy Systems
2. Principles of Instrumentation
3. Electric Drives
4. Switched Mode Power Converters

Open Elective Group 3

1. Energy Management
2. Mechatronics Systems and Control
3. Battery Management Systems
4. Electric Vehicles

Open Elective Group 4

1. Sustainable Energy Systems and Technologies
2. Introduction to Sustainable Manufacturing
3. Waste Heat Recovery and Utilization

Open Elective Group 5

1. Introduction to Indian Knowledge Systems
2. Indian Knowledge Systems – Kerala Architectural Style and Engineering Wisdom
3. Indian Knowledge Systems – Indian Metallurgical Science and Engineering Heritage