



A CMI INSTITUTION

**CHRIST COLLEGE OF ENGINEERING
(AUTONOMOUS)
(A CMI Institution)**

**DEPARTMENT OF ELECTRONICS &
COMMUNICATION ENGINEERING**

**B. Tech. CURRICULUM – 2026
(Date: 15-07-2026)**

Irinjalakuda, Thrissur – 680125



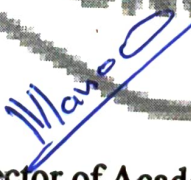
A CMI INSTITUTION

**CHRIST COLLEGE OF ENGINEERING
(AUTONOMOUS)
DEPARTMENT OF ELECTRONICS
& COMMUNICATION
CURRICULUM
B. Tech in Electronics and Communication Engineering
2026 REGULATION**

Approved by BoS meeting held on: 19/06/2026

Approved by Academic Council meeting held on: 23/06/26


BoS Chairperson


Director of Academics


Principal

CHAIRPERSON
Board of Studies
B.Tech Electronics &
Communication Engineering
Christ College of Engineering
(Autonomous)
Irinjalakuda, Kerala

(College seal)



B. Tech. Electronics & Communication 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: Electronics & Communication Engineering														
10 Days Compulsory Induction Program and Universal Human Values														
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	G26ACE101	BS	GC	Linear Algebra & Calculus with Simulation Lab	2	1	2	0	4.5	40	60	4	5
2	B	G26PHE112	BS	GC	Modern 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 ^s								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: Electronics & Communication 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	G26VDT201	BS	GC	Vector Calculus, Differential Equations & Transforms	3	1	0	0	5	40	60	4	4	
2	B	G26CYE123	BS	GC	Engineering Chemistry	2	1	2	0	4.5	40	60	4	5	
3	C	G26GPT105	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	G26CPT210	ES	CC	Problem Solving and C Programming Laboratory	2	0	2	0	3.5	40	60	3	3	
6	F	L26NTT206	PC	PC	Network Theory	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	A26EDR248	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	2	0	0	0	3	50	-	Pass/ Fail	1	
ACTIVITY POINT PROGRAMME															
10	-	A26APP215	MC	CC	Activity Point Programme								0	-	
Total										32.5			23	28	

THIRD SEMESTER: Electronics & Communication 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	G26CDT301	BS	GC	Complex Analysis, Partial Differential Equations and Transforms	2	1	0	0	3.5	40	60	3	3
2	B	L26MCR302	PC-PBL	PC	Microelectronic Circuits	2	1	0	1	4.5	60	40	4	4
3	C	L26SDT303	PC	PC	Solid State Devices	3	1	0	0	5	40	60	4	4
4	D	L26DDR304	PC	PC	Digital Design	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	L26ACP308	PC	PC	Analog Circuits Laboratory	0	0	3	0	1.5	50	50	2	3
9	I	A26EDR349	SE	CC	Engineering Design and Innovation Studio (EDIS-III)	0	0	0	2	2	50	-	1	2
10	J	L26DEP310	PC	PC	Digital Electronics Laboratory	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
2. A26FLT326 - French Language
3. A26FLT336 - Japanese Language

FOURTH SEMESTER: Electronics & Communication 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	G26SST401	BS	GC	Probability distribution, Statistics, and Stochastic Processes	2	1	0	0	3.5	40	60	3	3
2	B	L26LCT402	PC-PBL	PC	Linear Integrated Circuits	2	1	0	1	4.5	60	40	4	4
3	C	L26EMT403	PC	PC	Electromagnetic Theory	2	1	0	0	3.5	40	60	3	3
4	D	L26SST404	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	L26PE14XX	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	L26SSP408	PC	PC	System Simulation Laboratory	0	0	3	0	1.5	50	50	2	3
9	I	A26EDR449	SE	CC	Engineering Design and Innovation Studio (EDIS-IV)	0	0	0	2	2	50	-	1	2
10	J	L26LCP410	PC	PC	Linear Integrated Circuits Laboratory	0	0	3	0	1.5	50	50	2	3
MANDATORY NON-CREDIT COURSES														
11	K	A26BCT411	MC	CC	Business and Managerial Communications	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	-	VA	CC	Minor/Honours Course	3	1	0	0	5	40	60	4	4
Total										32/ 37*			25/ 29*	29/ 33*

FIFTH SEMESTER: Electronics & Communication 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	L26MER501	PC-PBL	PC	Microcontrollers & Embedded Systems	2	1	0	1	4.5	60	40	4	4
2	B	L26DCT502	PC	PC	Analog and Digital Communication	2	1	0	0	3.5	40	60	3	3
3	C	L26DST503	PC	PC	Digital Signal Processing	3	1	0	0	5	40	60	4	4
4	D	L26PE25XX	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	L26MCP507	PC	PC	Microcontroller Lab	0	0	3	0	1.5	50	50	2	3
8	H	L26CNP508	PC	PC	Communication Lab	0	0	3	0	1.5	50	50	2	3
9	I	A26EDR549	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	-	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: Electronics & Communication 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	L26CST601	PC	PC	Control Systems	2	1	0	0	3.5	40	60	3	3
2	B	L26MAT602	PC	PC	Microwave & Antennas	2	1	0	0	3.5	40	60	3	3
3	C	L26VDR603	PC-PBL	PC	VLSI Design	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	L26PE36XX	PE	PE	Professional Elective - III	3	0	0	0	4.5	40	60	3	3
6	F	L26OE16XX	OE	OE	Open Elective – I [#]	3	0	0	0	4.5	40	60	3	3
PRACTICALS														
7	G	L26MEP607	PC	PC	Microwave Engineering Lab	0	0	3	0	1.5	50	50	2	3
8	H	L26DSP608	PC	PC	Digital Signal Processing Lab	0	0	3	0	1.5	50	50	2	3
9	I	A26EDR649	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	1	0	2	60	40	Pass/ Fail	2
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										29/ 34*			22/ 26*	27/ 31*

* 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: Electronics & Communication 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	L26PE47XX	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	L26PE57XX	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	L26OE27XX	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	L26SMP704	SR	SR	Seminar (Symposium)	0	0	3	0	1.5	50	0	2	3
PRACTICALS														
5	P	L26CPR705	PR/IP	PR/IP	Option 1: Capstone Project Phase-I [#]	0	0	0	12	12	100	0	4	12
		L26INR705	PR/IP	PR/IP	Option 2: Industry Internship (4 – 6 months)*					-	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: Electronics & Communication 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	L26PE68XX	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	L26OE38XX	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	L26CPR803	PR/IP	PR/IP	Option 1: Capstone Project	0	0	0	12	12	100	0	4	12	
		L26INR803	PR/IP	PR/IP	Option 2: Industry Internship (4 – 6 Months) *				-	100					
		L26CP2803	PR/IP	PR/IP	Option 3: Capstone Project Phase - II										
Total										21			10	18	

*Option 2: Full semester Internship in Industry/Organization

Professional Electives

1. VLSI Stream

1. Introduction to MEMS - Level 3
2. Nano Electronic Devices - Level 3
3. Digital System Design - Level 3
4. High speed Digital Design - Level 3/Level 5
5. Analog & Mixed signal VLSI Design - Level 3/Level 5
6. Testing of VLSI Circuits - Level 3/Level 5

2. Communication Stream

1. Computer Communications & Networks - Level 3
2. Modern Communication Technologies - Level 3
3. Satellite Communication - Level 3/Level 5
4. Secure Communication - Level 3/Level 5
5. Fiber Optic Communication - Level 3
6. Advanced Communication Theory - Level 3/Level 5

3. Signal Processing Stream

1. Biomedical signal processing - Level 3
2. Computer Vision - Level 3/Level 5
3. Machine learning & Deep Learning - Level 3/Level 5
4. Advanced Digital signal Processing - Level 3/Level 5
5. Audio & Speech Processing - Level 3
6. Digital Image Processing - Level 3

4. Electronic system Design Stream

1. Sensors & Actuators - Level 3
2. Measurements & Instrumentation - Level 3
3. Biomedical Instrumentation - Level 3
4. Real Time Operating Systems - Level 3/Level 5
5. ARM Architecture and Programming - Level 3/Level 5
6. Internet of Things and Smart Systems - Level 3/Level 5

5. General Stream

1. Introduction to Photonics & Integrated Optoelectronic System - Level 3/ Level 5
2. Cyber-Physical Systems
3. Robotics and AI-Driven Autonomous Systems - Level 3/ Level 5
4. Information Theory and Coding
5. Cellular Communication
6. Introduction to Quantum Computing - Level 3/ Level 5

6. Language Electives

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

Open Electives**Open Elective 1 — Computing and Programmable Systems**

1. Microcontroller Architecture and Embedded Programming
2. Robotics and Autonomous Systems
3. Computer Organisation and Architecture

Open Elective 2 — Connected and Intelligent Systems

1. Internet of Things: Protocols, Platforms, and Applications
2. Embedded Systems Design and Real-Time Programming
3. MEMS, Microsystems, and Smart Sensors

Open Elective 3 — Emerging Device Technologies

1. Automotive Electronics and Vehicle Communication Systems
2. Pattern Recognition and Machine Intelligence
3. Nanoelectronics and Nanoscale Device Engineering

Open Elective 4 — Sustainable and Green Technologies

1. Sustainable Energy Systems and Renewable Technology Integration
2. Green Electronics: Low-Power Design and Eco-Friendly Manufacturing
3. Sustainable Electronic and Communication Systems Design

Open Elective 5 – Indian Knowledge System

1. Vedic Mathematics for Engineering Computation
2. Indigenous Technologies and Atmanirbhar Electronics
3. Indian Contributions to Electronics and Communication Engineering

LIST OF MINOR COURSES**Third Semester: -**

Basket 1: Microelectronics-Devices to circuits

Basket 2: Electronic system design-Hands on circuits and PCB design with CAD software

Basket 3: Analog Communication

Fourth Semester: -

Basket 1: Microprocessors and Microcontrollers

Basket 2: Introduction to Embedded System Design

Basket 3: Signals and Systems

LIST OF HONOURS COURSES**Fourth Semester: -**

Basket 1: Digital IC Design

Basket 2: Embedded Systems Design

Basket 3: FPGA Based Signal Processing Systems