



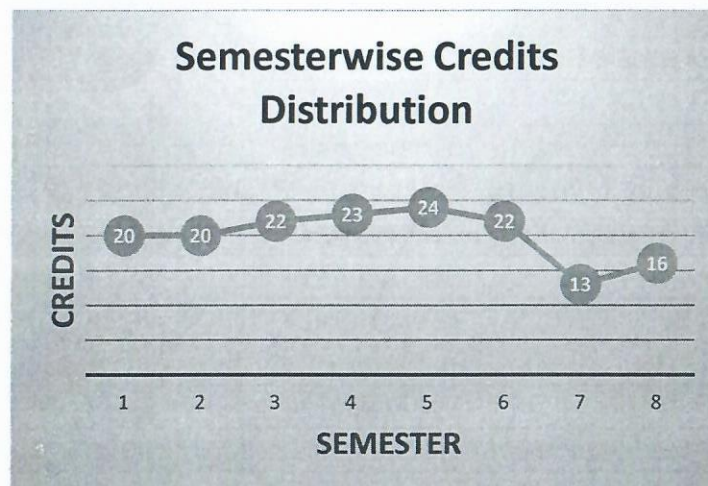
B N M Institute of Technology

An Autonomous Institution under VTU. Approved by AICTE

Department: Electronics & Communication Engineering

Scheme of Teaching and Examination-Autonomous Credit Distributions 2025 Scheme

Semester	Credits
1	20
2	20
3	22
4	23
5	24
6	22
7	13
8	16
Total Credits	160



Abbreviations
MAT - Mathematics
PCC - Professional Core Course
PCI - Professional Core Integrated
PBL - Project Based Learning
PCP - Professional Course with Project
PCL - Professional Comprehensive Learning
PLP - Professional Lab & Project
HSS - Humanity and Social Science
AEC - Ability Enhancement course

AICTE Activity points to be earned by students admitted to BE day college programme

Over and above the academic grades, every day college regular student admitted to the 4 year Degree programme and every student entering 4 years degree programme through lateral entry, shall earn 100 and 75 activity points respectively for the award of degree through AICTE activity programme. The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, minimum hour's requirement should be fulfilled. Activity points have no effect on SGPA/CGPA and shall not be considered for vertical progression. In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card

Yashraj

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Bangalore - 560 070

Additional Director & Principal
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Department: Electronics and Communication Engineering

Scheme of Teaching and Examination-Autonomous - (Effective from Academic year 2026-27) Batch:2025-2029

Third Semester B.E (ECE)

Sl. No	Course Type	Course Code	Course Title	Teaching Dept	Teaching Hours /Week					Credits	Examination		
					L	T	P	J	Hours/Week		CIA Marks	SEA Marks	Total Marks
1	MAT	25MAE131	Fourier Series, Transforms, Numerical and Statistical Techniques	MAT	2	2	–	–	4	3	50	50	100
2	PCC	25ECE132	Network Analysis	ECE	2	2	–	–	4	3	50	50	100
3	PCL	25ECE133	C Programming for Data Structures in Electronics	ECE	2	–	2	–	4	3	50	50	100
4	PCI	25ECE134	Analog Electronics Circuits	ECE	3	–	2	–	5	4	50	50	100
5	PCI	25ECE135	Digital System Design using Verilog	ECE	3	–	2	–	5	4	50	50	100
6	PBL	25ECE136	Introduction to AI and ML	ECE	–	–	2	2	4	2	50	50	100
7	UHV	25CIP137	Constitution of India and Professional Ethics	HSS	1	–	–	–	1	1	100	–	100
8	AEC	25SFT138	Soft Skill -1	HSS	–	2	–	–	2	1	100	–	100
9	IPL	25ECE139	Innovative Project Lab-1	ECE	–	–	–	2	2	1	100	–	100
TOTAL CONTACT HOURS					13	6	8	4	31	22	600	300	900

L-Theory lecture, T – Tutorial, P – Practical, J – Project

CIA: Continuous Internal Assessment, SEA: Semester End Assessment

Credit Definition: 1 hour Lecture (L) per week = 1 Credit; 2 hours Tutorial (T) per week = 1 Credit; 2 hours Practical/Drawing (P) per week = 1 Credit; 2 hours Project Component (J) per week = 1 Credit

Course Design Structure : (a) Four credit courses are to be designed for 50 hours Teaching–Learning process. (b) Three credit courses are to be designed for 40 hours Teaching–Learning process. (c) Two credit courses are to be designed for 25 hours Teaching–Learning process. (d) One credit course is to be designed for 12–15 hours Teaching–Learning process.

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Scheme of Teaching and Examination-Autonomous - (Effective from Academic year 2026-27) Batch:2025-2029

Fourth Semester B.E (ECE)

Sl. No	Course Type	Course Code	Course Title	Teaching Dept	Teaching Hours /Week						Examination		
					L	T	P	J	Hours/ Week	Credits	CIA Marks	SEA Marks	Total Marks
1	MAT	25MAE141	Complex Analysis, Probability and Random Process	MAT	2	2	—	—	4	3	50	50	100
2	PCC	25ECE142	Digital Signal Processing	ECE	3	2	—	—	5	4	50	50	100
3	PCI	25ECE143	AI-Driven Control Engineering	ECE	2	2	2	—	6	4	50	50	100
4	PCI	25ECE144	ARM Microcontroller and its Applications	ECE	3	—	2	—	5	4	50	50	100
5	PCI	25ECE145	Analog and Digital Communication	ECE	3	—	2	—	5	4	50	50	100
6	PBL	25ECE146	Signal Processing Applications using MATLAB	ECE	—	—	2	2	4	2	50	50	100
7	INT	25ECE147	Internship-I/ Innovative Project Lab -2	ECE	—	—	2	—	2	1	100	—	100
8	AEC	25SFT148	Soft Skill -2	HSS	—	2	—	—	2	1	100	—	100
TOTAL CONTACT HOURS					13	6	10	2	31	23	400	300	700

Internship-I to be carried out during the vacation between II and III Semester

of II and III semester. Internship shall include Inter / Intra Institutional activities, skill enhancement courses. Semester End Assessment will be conducted in IV semester and the prescribed credit will be included. Internship shall be considered as a head of passing and shall be considered for the award of degree. The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.

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Fifth Semester B.E. (ECE)

Sl. No	Course Type	Course Code	Course Title	Teaching Department	Teaching Hours /Week					Credits	Examination		
					L	T	P	J	Hours/Week		CIA Marks	SEA Marks	Total Marks
1	PCC	25ECE151	Digital Image Processing	ECE	3	-	-	-	3	3	50	50	100
2	PCC	25ECE152	Electromagnetic Waves and Transmission Lines	ECE	2	2	-	-	4	3	50	50	100
3	PCC	25ECE153	Information Theory and Coding	ECE	3	-	-	-	3	3	50	50	100
4	PCI	25ECE154	Data Communication and Network Security	ECE	3	-	2	-	5	4	50	50	100
5	PCL	25ECE155	Real Time Operating System	ECE	2	-	4	-	6	4	50	50	100
6	PBL	25ECE156	AI and ML in Embedded Systems	ECE	-	-	2	2	4	2	50	50	100
7	OEC	25ECE157X	Open Elective Course - I	ECE	3	-	-	-	3	3	50	50	100
8	AEC	25ECE158	Employability skills (Technical) -1	ECE	-	2	-	-	2	1	100	-	100
9	INT	25ECE159	Internship-II	ECE	-	-	-	-	-	1	100	-	100
TOTAL CONTACT HOURS					16	4	8	2	30	24	550	350	900

Open Electives offered from ECE

1	25ECE1571	Smart Sensor Technologies	2	25ECE1572	Mobile Communication and Processor
3	25ECE1573	Real Time Operating System	4	25ECE1574	Embedded System using Raspberry-Pi

Internship - II to be carried out during the vacation between IV and V Semester

Internship - II: All the students admitted shall have to undergo a mandatory internship of 04 weeks. Internship shall include Inter / Intra Institutional activities. A Viva-voce examination shall be conducted during V semester and the prescribed credit shall be included. The internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up / complete the internship shall be declared fail and shall have to complete during subsequent examination after satisfying the internship requirements. The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.

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Scheme of Teaching and Examination-Autonomous - (Effective from Academic year 2026-27) Batch:2025-2029

Sixth Semester B.E. (ECE)

Sl. No	Course Type	Course Code	Course Title	Teaching Dept	Teaching Hours /Week					Credit	Examination		
					L	T	P	J	Hours/ Week		CIA Marks	SEA Marks	Total Marks
1	PCC	25ECE161	Engineering Project Management and Finance	ECE	3	—	—	—	3	3	50	50	100
2	PCI	25ECE162	Microwave and Antennas	ECE	3	—	2	—	5	4	50	50	100
3	PCI	25ECE163	VLSI Design	ECE	3	—	2	—	5	4	50	50	100
4	PBL	25ECE164	Java Programming and its Applications	ECE	—	—	2	2	4	2	50	50	100
5	PEC	25ECE165X	Professional Elective Course - 1	ECE/MBA	3	—	—	—	3	3	50	50	100
6	PEC	25ECE166X	Professional Elective Course -2 (MOOC/NPTEL Course)	Online Platform/ MBA	2	—	—	—	2	2	50	50	100
7	OEC	25ECE167X	Open Elective Course - II	ECE	3	—	—	—	3	3	50	50	100
8	AEC	25ECE168	Employability skills (Technical) -	ECE	—	—	2	—	2	1	100	—	100
TOTAL CONTACT HOURS					17	—	8	2	27	22	450	350	800
Open Electives offered by ECE Department													
1	25ECE1671		Nanotechnology		3	25ECE1673			Robotics and Automation				
2	25ECE1672		Wearable Devices		4	25ECE1674			Automotive Electronics				
Professional Electives -1					Professional Electives-2 (MOOC - Subjected to offering by NPTEL)								
1	25ECE1651	Wireless Sensor Networks			1	25ECE1661	Multimedia System and Processing						
2	25ECE1652	System Verilog and Verification			2	25ECE1662	VLSI Physical Design						
3	25ECE1653	Wearable Technology			3	25ECE1663	Real Time Systems						
4	25ECE1654	Pattern Recognition			4	25ECE1664	AI for robotics and Autonomous Systems						
5	25ECE1655	Edge Computing			5	25ECE1665	Cyber Security and Privacy						
6	25ECE1656	The Internet of Things											

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Department: Electronics and Communication Engineering

Scheme of Teaching and Examination-Autonomous - (Effective from Academic year 2026-27) Batch:2025-2029

Seventh Semester B.E. (ECE)

Sl. No	Course Type	Course Code	Course Title	Teaching Department	Teaching Hours /Week				Hours/Week	Credits	Examination		
					L	T	P	J			CIA Marks	SEA Marks	Total Marks
1	PCC	25ECE171	Next Generation Wireless Communication	ECE	3	-	-	-	3	3	50	50	100
2	PEC	25ECE172X	Professional Elective Course -3	ECE	3	-	-	-	3	3	50	50	100
3	PEC	25ECE173X	Professional Elective Course -4 (MOOC/NPTEL Course)	Online Platform	2	-	-	-	2	2	50	50	100
4	AEC	25ECE174	Research Methodology & IPR	ECE	2	-	-	-	2	2	50	50	100
5	PPW	25ECP175	Project Work: Phase-1	ECE	-	-	-	6	6	3	100	-	100
TOTAL CONTACT HOURS					10	-	-	6	16	13	300	200	500

Professional Electives -3			Professional Electives-4 (MOOC - Subjected to offering by NPTEL)		
1	25ECE1721	Biomedical Signal Processing	1	25ECE1731	MIMO-OFDM Wireless communications
2	25ECE1722	SoC Design	2	25ECE1732	Digital VLSI Testing
3	25ECE1723	Robotics and Automation System	3	25ECE1733	Multicore Computer Architecture-Storage and interconnect
4	25ECE1724	Generative AI and LLM	4	25ECE1734	Computer Vision
5	25ECE1725	Data Science and Analytics	5	25ECE1735	Ethical Hacking

Project work:Phase-1 (25ECP175) Based on the abilities of the students and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6.

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Eighth Semester B.E. (ECE)

Sl. No	Course Type	Course Code	Course Title	Teaching Department	Teaching Hours /Week					Credits	Examination		
					L	T	P	J	Hours / Week		CIA Marks	SEA Marks	Total Marks
1	PEC	25ECE181X	Professional Elective Course-5 (MOOC/NPTEL Course)	Online Platform / MBA	3	-	-	-	3	2	50	50	100
2	INT	25ECE182	Internship- III	ECE	-	-	-	16	16	8	50	50	100
3	PPW	25ECP183	Project Work: Phase-2	ECE	-	-	-	12	12	6	50	50	100
TOTAL CONTACT HOURS					3	-	-	28	31	16	150	150	300
Professional Electives -5													
1		25ECE1811	Adaptive/Multirate Signal Processing										
2		25ECE1812	Optimization Techniques for Digital VLSI Design										
3		25ECE1813	GPU architectures and Programming										
4		25ECE1814	Deep Learning for Visual Computing										
5		25ECE1815	Cloud Computing										
Internship - III: All the students admitted to IV year of BE shall have to undergo mandatory internship of 4 months during the vacation of VI semester and till the end of VIII semester. End Assessment will be conducted in VIII semester and the prescribed credit shall be included. Internship shall be considered as a head of passing and shall be considered for the award of degree. Project work: Phase-2 Based on the abilities of the students and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6													

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