B.N.M. Institute of Technology

An Autonomous Institution under VTU

Department of Electronics and Communication Engineering
Scheme of Teaching and Examination - Autonomous Effective from Academic year 2021-22
Third 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	21MAC131	Fourier Series, Transforms, Numerical and Statistical Techniques	MAT	2	2	–	–	4	3	50	50	100
2	PCC	21ECE132	Network Analysis and Control System	ECE	3	2	–	–	5	4	50	50	100
3	PCI	21ECE133	Data structures using C	ECE	2	–	2	–	4	3	50	50	100
4	PCI	21ECE134	Analog Electronics Circuits	ECE	3	–	2	–	5	4	50	50	100
5	PCI	21ECE135	Digital System Design using Verilog	ECE	3	–	2	–	5	4	50	50	100
6	PBL	21ECE136	Python Programming on RaspberryPi	ECE	–	–	2	2	4	2	50	50	100
7	HSS	21KAN1371 / 21KAN1372	Samskruthika Kannada / Balake Kannada	HSS	1	–	–	–	1	1	100	–	100
8	AEC	21SFT138	Soft Skill -1	HSS	–	–	2	–	2	1	100	–	100
9	IPL	21ECE139	Innovative Project Lab -1	ECE	–	–	–	2	2	1	100	–	100
	TOTAL CONTACT HOURS				14	4	10	4	32	23	600	300	900

L-Theory lecture,   T – Tutorial,   P – Practical,   J – Project   NCMC- Non Credit Mandatory Course
CIA: Continuous Internal Assessment, SEA: Semester End Assessment

Note: BSC: Basic Science Course, PCC: Professional Core Course, HSS: Humanity and Social Science & Management Courses, PCI: Professional Core Integrated
PBL: Project Based Learning AEC:Ability Enhancement Courses, UHV: Universal Human Values, PE: Professional Elective, OE: Open Elective, INT: Summer Internship

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
(a) 4 Credit courses are to be designed for 50 hours Teaching – Learning process.	(b) 3 Credit courses are to be designed for 40 hours Teaching – Learning process.
(c) 2 Credit courses are to be designed for 25 hours Teaching – Learning process	(d) 1 Credit course are to be designed for 12-15 hours Teaching – Learning process

Audit Course: All lateral entry students have to register and complete course on Additional Mathematics- 1

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
10	MDP	21MATDIP131	Bridge Mathematics - I	MAT	2	–	–	–	2	NCMC	100	–	100

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An Autonomous Institution under VTU

Department of Electronics and Communication Engineering
Scheme of Teaching and Examination - Autonomous Effective from Academic year 2021-22
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	21MAC141	Complex Analysis, Probability and Randam Process	MAT	2	2	–	–	4	3	50	50	100
2	PCC	21ECE142	Digital Signal Processing	ECE	3	2	–	–	5	4	50	50	100
3	PCI	21ECE143	ARM Microcontroller and its Applications	ECE	3	–	2	–	5	4	50	50	100
4	PCI	21ECE144	Analog and Digital Communication	ECE	3	–	2	–	5	4	50	50	100
5	PBL	21ECE145	Signal Processing Applications using MATLAB	ECE	–	–	2	2	4	2	50	50	100
6	HSS	21CIP146	Constitution of India and Professional Ethics	HSS	1	–	–	–	1	1	100	–	100
7	EVS	21EVS147	Environmental Science	HSS	–	2	–	–	2	1	100	–	100
8	AEC	21SFT148	Soft Skill -2	HSS	–	–	2	–	2	1	100	–	100
9	INT	21ECE149	Internship - I / Innovative Project Lab - 2	ECE	–	–	2	2	4	2	100	–	100
		TOTAL CONTACT HOURS			12	6	10	4	32	22	650	250	900

Audit Course: All lateral entry students have to register and complete course on Additional Mathematics- II													
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
10	MDP	21MATDIP141	Bridge Mathematics - II		2	–	–	–	2	NCMC	100	–	100

Summer Internship -I to be carried out during the vacation between II & III Semester OR III & IV Semester

Summer Internship - I (21ECE149): All the students registered to II year of BE shall have to undergo mandatory internship of 4 weeks during II semester or III semester vacation. 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. 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.)

B N M Institute of Technology

Department: Electronics and Communication Engineering

Scheme of Teaching and Examination-Autonomous - (Effective from Academic year 2021-22)

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	21ECE151	Digital Image Processing	ECE	3	–	–	–	3	3	50	50	100
2	PCC	21ECE152	Electromagnetic Waves and Transmission Lines	ECE	2	2	–	–	4	3	50	50	100
3	PCI	21ECE153	Computer Networks and Security	ECE	3	–	2	–	5	4	50	50	100
4	PCI	21ECE154	Embedded Systems and RTOS	ECE	3	–	2	–	5	4	50	50	100
5	PBL	21ECE155	Artificial Intelligence and Machine Learning applications	ECE	–	–	2	2	4	2	50	50	100
6	POE	21ECE156X	Open Elective Course - I	ECE	3	–	–	–	3	3	50	50	100
7	AEC	21ECE157	Employability Skills (Technical) -I	ECE	–	2	–	–	2	1	100	–	100
8	INT	21ECE158	Internship - II	ECE	–	–	–	–	0	1	100	–	100
			TOTAL CONTACT HOURS		14	4	6	2	26	21	500	300	800

Open Electives offered from ECE :

1. Smart Sensor Technologies	3. Satellite Communication
2. Mobile Communication and Processor	4. Embedded System Design using RaspberryPi

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

Summer Internship - II (21ECE158): All the students admitted shall have to undergo a mandatory summer internship of 04 weeks during the vacation of IV semesters. Summer Internship shall include Inter / Intra Institutional activities. A Viva-voce examination shall be conducted during IV semesters and the prescribed credit shall be included in IV semesters. 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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Department: Electronics and Communication Engineering

Scheme of Teaching and Examination-Autonomous - (Effective from Academic year 2021-22)

Sixth Semester B.E. (ECE)

Sl. No	Course Type	Course Code	Course Title	Teaching Dept	Teaching Hours /Week						Examination		
					L	T	P	J	Hours/ Week	Credit	CIA Marks	SEA Marks	Total Marks
1	PCC	21ECE161	Engineering Project Management and Finance	ECE	2	–	–	–	2	2	50	50	100
2	PCI	21ECE162	Microwave and Antennas	ECE	3	–	2	–	5	4	50	50	100
3	PCI	21ECE163	VLSI Design	ECE	3	–	2	–	5	4	50	50	100
4	PBL	21ECE164	Java Programming and its Applications	ECE	0	–	2	2	4	2	50	50	100
5	PEC	21ECE165X	Professional Elective Course - 1	ECE/MBA	3	–	–	–	3	3	50	50	100
6	PEC	21ECE166X	Professional Elective Course -2 (MOOC/NPTEL Course)	Online Platform/ MBA	3	–	–	–	3	3	50	50	100
7	OEC	21ECE167X	Open Elective Course - II	ECE	3	–	–	–	3	3	50	50	100
8	AEC	21ECE168	Employability skills (Technical) -2	ECE	–	–	2	–	2	1	100	–	100
			TOTAL CONTACT HOURS		17	–	8	2	27	22	450	350	800

Open Electives offered by ECE Department

1. 21ECE1671 Nanotechnology		3. 21ECE1673 Robotics and Automation	
2. 21ECE1672 Wearable Devices		4. 21ECE1674 Automotive Electronics	

Professional Electives -1				Professional Electives-2 (Tentative, Changes may be there based on the Courses offered during the semester)		
1	21ECE1651	Information Theory and Coding		1	21ECE1661	Satellite Communication
2	21ECE1652	Nanoelectronics		2	21ECE1662	VLSI Physical Design
3	21ECE1653	Wearable Technology		3	21ECE1663	Operating Systems
4	21ECE1654	Artificial Neural Network		4	21ECE1664	Applied Accelerated Artificial Intelligence
5	21ECE1655	Computer Architecture and Organization		5	21ECE1665	Data Base Management System
6	21ECE1656	Strategic Management		6	21ECE1666	Digital Marketing