# BNM Institute of Technology

An Autonomous Institution under VTU. Approved by AICTE

## **Department: Electronics and Communication Engineering**

## Scheme of Teaching and Examination-Autonomous - (Effective from Academic year 2024-25) Batch: 2023-2027

# Third Semester B.E (ECE)

**Teaching** 

**Teaching Hours /Week** 

2

4

8

6

2

31

Hours/

**Examination** 

**SEA** 

**Total** 

100

900

CIA

100

600

**300** 

1

22

	Type			Бері	L	T	Р	J	Week	Credits	Marks	Marks	Marks
1	MAT	23MAC131	Fourier Series, Transforms, Numerical and Statistical Techniques	MAT	2	2	-	ı	4	3	50	50	100
2	PCC	23ECE132	Network Analysis	ECE	2	2	_	_	4	3	50	50	100
3	PCI	23ECE133	Data structures using C	ECE	2	ı	2	-	4	3	50	50	100
4	PCI	23ECE134	<b>Analog Electronics Circuits</b>	ECE	3	1	2	_	5	4	50	50	100
5	PCI	23ECE135	Digital System Design using Verilog	ECE	3	-	2	-	5	4	50	50	100
6	PBL	23ECE136	Advanced Python Programming on RaspberryPi	ECE	-	-	2	2	4	2	50	50	100
7	UHV	23CIP137	Constitution of India and Professional Ethics	HSS	1	ı		_	1	1	100		100
8	AEC	23SFT138	Soft Skill -1	HSS	-	2	-	_	2	1	100	1	100

**ECE** 

13

L-Theory lecture, T – Tutorial, P – Practical, J – Project NCMC- Non Credit Mandatory Course

**Course Title** 

CIA: Continuous Internal Assessment, SEA: Semester End Assessment

TOTAL CONTACT HOURS

**Innovative Project Lab -1** 

Course

**IPL** 

9

**Course Code** 

23ECE139

Sl. No

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**Teaching Hours / Week** 

J

2

2

4

P

\_

2

2

2

2

2

10

Hours/

Week

4

5

3

5

5

4

2

4

**32** 

**Examination** 

**SEA** 

Marks

**50** 

**50** 

**50** 

**50** 

**50** 

**50** 

300

**Total** 

Marks

100

100

100

100

100

100

100

100

800

CIA

Marks

**50** 

**50** 

**50** 

**50** 

**50** 

**50** 

100

100

500

**Credits** 

3

4

3

4

4

2

1

2

23

**Department: Electronics and Communication Engineering** 

Scheme of Teaching and Examination-Autonomous - (Effective from Academic year 2024-25) Batch: 2023-2027

**Fourth Semester B.E (ECE)** 

L

2

3

3

3

12

2

2

2

2

8

**Teaching** 

Dept

**MAT** 

**ECE** 

**ECE** 

**ECE** 

**ECE** 

**ECE** 

**HSS** 

**ECE** 

**Course Title** 

**Complex Analysis, Probability** 

ARM Microcontroller and its

**Signal Processing Applications** 

**Innovative Project Lab - 2** 

and Randam Process

**Control Systems** 

**Analog and Digital** 

Communication

using MATLAB

Internship - I/

Soft Skill -2

TOTAL CONTACT HOURS

**Applications** 

**Digital Signal Processing** 

Course

**Type** 

**MAT** 

**PCC** 

**PCI** 

**PCI** 

**PCI** 

**PBL** 

**AEC** 

INT

**Course Code** 

23MAC141

23ECE142

23ECE143

23ECE144

23ECE145

23ECE146

23SFT147

23ECE148

Sl. No

1

2

3

4

6

7

8

BNM Institute of Technology

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#### **Department: Electronics and Communication Engineering**

#### Scheme of Teaching and Examination-Autonomous - (Effective from Academic year 2025-26) Batch:2023-2027

#### Fifth Semester B.E. (ECE)

Sl.	Course			Teaching		Teach	Teaching Hours/Week		ng Hours /Week		Examination		
No	Type	Course Code	Course Title	<b>Department</b>	L	Т	P	J	Hours/ Week	Credits	CIA Marks	SEA Marks	Total Marks
1	PCC	23ECE151	Digital Image Processing	ECE	3	_	_	_	3	3	50	50	100
2	PCC	23ECE152	Electromagnetic Waves and Transmission Lines	ECE	2	2	-	-	4	3	50	50	100
3	PCI	23ECE153	Computer Networks and Security	ECE	3	I	2	ı	5	4	50	50	100
4	PCI	23ECE154	Real Time Operating System	ECE	2	ı	4	-	6	4	50	50	100
5	PBL	23ECE155	Artificial Intelligence and Machine Learning applications	ECE	-	ı	2	2	4	2	50	50	100
6	POE	23ECE156X	Open Elective Course - I	ECE	3	ı	ı	ı	3	3	50	50	100
7	AEC	23ECE157	Employability skills (Technical) -1	ECE	_	2	1	1	2	1	100	-	100
8	INT	23ECE158	Internship - II	ECE	-	ı	ı	ı	0	1	100	-	100
	TOTAL CONTACT HOURS 1							2	27	21	500	300	800

#### **Open Electives offered from ECE:**

1. 23ECE1561 -Smart Sensor Technologies	2. 23ECE1562 - Mobile Communication and Processor

3. 23ECE1563 - Real Time Operating System 4. 23ECE1564 - Embedded System using Raspberry-Pi

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

Summer Internship - II (23ECE158): All the students admitted shall have to undergo a mandatory summer internship of 04 weeks. 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 2025-26) Batch:2023-2027

### Sixth Semester B.E. (ECE)

Course				'	Teaching Hours /Week			ek		Examination		
Type	Course Code	Course Title	<b>Teaching Dept</b>	L T	P	J	Hours/ Week	Credit	CIA Marks	SEA Marks	Total Marks	
PCC	23ECE161	Engineering Project Management and Finance	ECE	2			_	2	2	50	50	100
PCI	23ECE162	Microwave and Antennas	ECE	3		2	_	5	4	50	50	100
PCI	23ECE163	VLSI Design	ECE	3	-	2	_	5	4	50	50	100
PBL	23ECE164	Java Programming and its Applications	ECE	0	_	2	2	4	2	50	50	100
PEC	23ECE165X	<b>Professional Elective Course - 1</b>	ECE/MBA	3	_	_	_	3	3	50	50	100
PEC	23ECE166X	Professional Elective Course -2 (MOOC/NPTEL Course)	Online Platform/ MBA	3	_	_	_	3	3	50	50	100
OEC	23ECE167X	Open Elective Course - II	ECE	3			_	3	3	50	50	100
AEC	23ECE168	Employability skills (Technical) -2	ECE	_	_	2	_	2	1	100	_	100
TOTAL CONTACT HOURS 17							2	27	22	450	350	800
	PCC PCI PBL PEC PEC	Type         Course Code           PCC         23ECE161           PCI         23ECE162           PCI         23ECE163           PBL         23ECE164           PEC         23ECE165X           PEC         23ECE166X           OEC         23ECE167X           AEC         23ECE168	Type Course Code  Course Title  Engineering Project Management and Finance  PCI 23ECE162 Microwave and Antennas  PCI 23ECE163 VLSI Design  PBL 23ECE164 Java Programming and its Applications  PEC 23ECE165X Professional Elective Course - 1  PEC 23ECE166X Professional Elective Course - 2 (MOOC/NPTEL Course)  OEC 23ECE167X Open Elective Course - II  AEC 23ECE168 Employability skills (Technical) - 2	PCC 23ECE161 Engineering Project Management and Finance PCI 23ECE162 Microwave and Antennas ECE PCI 23ECE163 VLSI Design ECE PBL 23ECE164 Java Programming and its Applications PEC 23ECE165X Professional Elective Course - 1 ECE/MBA PEC 23ECE166X Professional Elective Course - 2 (MOOC/NPTEL Course) PFOR 23ECE167X Open Elective Course - 1 ECE AEC 23ECE168 Employability skills (Technical) - 2 ECE  TOTAL CONTACT HOURS	Type Course Code  Course Title  Course Title  Course Title  Teaching Dept  L  PCC 23ECE161  Engineering Project Management and Finance  PCI 23ECE162 Microwave and Antennas  PCI 23ECE163 VLSI Design  PBL 23ECE164 Java Programming and its Applications  PEC 23ECE165X Professional Elective Course - 1  PCI 23ECE166X Professional Elective Course - 2  (MOOC/NPTEL Course)  Online Platform/ MBA  OEC 23ECE167X Open Elective Course - II  ECE 3  AEC 23ECE168 Employability skills (Technical) - 2  ECE —  TOTAL CONTACT HOURS	Type Course Code Course Title Teaching Dept L T  PCC 23ECE161 Engineering Project Management and Finance ECE 2 —  PCI 23ECE162 Microwave and Antennas ECE 3 —  PCI 23ECE163 VLSI Design ECE 3 —  PBL 23ECE164 Java Programming and its Applications ECE 0 —  PEC 23ECE165X Professional Elective Course - 1 ECE/MBA 3 —  PEC 23ECE166X Professional Elective Course - 2 (MOOC/NPTEL Course) Online Platform/ MBA  OEC 23ECE167X Open Elective Course - II ECE 3 —  AEC 23ECE168 Employability skills (Technical) - 2 ECE — —	Type         Course Code         Course Title         Teaching Dept         L         T         P           PCC         23ECE161         Engineering Project Management and Finance         ECE         2         -         -           PCI         23ECE162         Microwave and Antennas         ECE         3         2           PCI         23ECE163         VLSI Design         ECE         3         -         2           PBL         23ECE164         Java Programming and its Applications         ECE         0         -         2           PEC         23ECE165X         Professional Elective Course - 1         ECE/MBA         3         -         -           PEC         23ECE166X         Professional Elective Course - 2 (MOOC/NPTEL Course)         Online Platform/MBA         3         -         -           OEC         23ECE167X         Open Elective Course - II         ECE         3         -         -           AEC         23ECE168         Employability skills (Technical) - 2         ECE         -         -         2	Type         Course Code         Course Title         Teaching Dept and Finance         L         T         P         J           PCC         23ECE161         Engineering Project Management and Finance         ECE         2         - <td>  Type   Course Code   Course Title   Teaching Dept   L   T   P   J   Hours/ Week    </td> <td>  Type   Course Code   Course Title   Teaching Dept   L   T   P   J   Hours   Week   Credit    </td> <td>  PCC   23ECE161   Engineering Project Management and Finance   ECE   2   -   -   -   2   2   50    </td> <td>  Type   Course Code   Course Title   Teaching Dept   L   T   P   J   Hours/ Week   Credit   Marks   Marks    </td>	Type   Course Code   Course Title   Teaching Dept   L   T   P   J   Hours/ Week	Type   Course Code   Course Title   Teaching Dept   L   T   P   J   Hours   Week   Credit	PCC   23ECE161   Engineering Project Management and Finance   ECE   2   -   -   -   2   2   50	Type   Course Code   Course Title   Teaching Dept   L   T   P   J   Hours/ Week   Credit   Marks   Marks

### **Open Electives offered by ECE Department**

1. 23ECE1671 Nanotechnology	3. 23ECE1673 Robotics and Automation
2. 23ECE1672 Wearable Devices	4. 23ECE1674 Automotive Electronics

		essional Electives -1	(MOOC - Subjected to offering by NPTEL)					
1	23ECE1651	Information Theory and Coding	1	23ECE1661	<b>Satellite Communication</b>			
2	23ECE1652	Nanoelectronics	2	23ECE1662	VLSI Physical Design			
3	23ECE1653	Wearable Technology	3	23ECE1663	<b>Operating Systems</b>			
4	23ECE1654	<b>Artificial Neural Network</b>	4	23ECE1664	<b>Applied Accelerated Artificial Intelligence</b>			
5	23ECE1655	Computer Architecture and Organization	5	23ECE1665	Data Base Management System			