

NUTAN MAHARASHTRA VIDYA PRASARAK MANDAL'S  
**NUTAN MAHARASHTRA INSTITUTE OF ENGINEERING  
AND TECHNOLOGY**

AN AUTONOMOUS INSTITUTE | UNDER ADMINISTRATIVE SUPPORT OF PCET



**Curriculum Structure and Syllabus  
of  
Third Year B.Tech. Electronics and  
Telecommunication Engineering (2025 Pattern)**



## **VISION OF THE INSTITUTE**

To be a notable institution for providing quality technical education and ensuring ethical, moral and holistic development of students.

## **MISSION OF THE INSTITUTE**

To nurture engineering graduates with state of the art competence, professionalism and problem solving skills to serve needs of industry as well as society.

## **VISION OF ELECTRONICS AND TELECOMMUNICATION**

### **ENGINEERING**

To be a renowned department of Electronics and Telecommunication engineering for providing quality technical education through holistic development of the students.

## **MISSION OF ELECTRONICS AND TELECOMMUNICATION**

### **ENGINEERING**

- To impart quality technical education for students with continuous upgraded teaching learning process.
- To enhance the employability and entrepreneurship through Industry Institute association.
- To enhance the research competency in students by adapting state of art technology in Electronics and Communication Engineering.
- To inculcate the needs of profession for the society.

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## COURSE-WISE CREDIT DISTRIBUTION

Sl. No.	Type of Course	No. of Courses	Total Credits	
			No.	%
1.	Basic Science Course (BSC)	8	14	8.14
2.	Engineering Core Course (ECC)	10	15	8.72
3.	Programme Core Course (PCC)	28	54	31.40
4.	Programme Elective Course (PEC)	9	20	11.63
5.	Multidisciplinary Minor (MDM)	7	13	7.56
6.	Open Elective Course (OEC)	3	8	4.65
7.	Vocational and Skill Enhancement Course (VSEC)	4	8	4.65
8.	Ability Enhancement Course (AEC)	2	4	2.33
9.	Entrepreneurship / Management Course(EMC)	2	4	2.33
10.	Value Education Course (VEC)	2	4	2.33
11.	Experiential Learning Courses	8	22	12.79
12.	Indian Knowledge System	1	2	1.16
13.	Co-curricular Courses	2	4	2.33
TOTAL		86	172	100

## SEMESTER-WISE COURSE DISTRIBUTION

COURSE DISTRIBUTION: SEMESTER WISE										
Sl. No.	TYPE OF COURSE	NO. OF COURSES / SEMESTER								Total
		1	2	3	4	5	6	7	8	
1.	Basic Science Course (BSC)	4	4	-	-	-	-	-	-	8
2.	Engineering Science Course (ESC)	6	4	-	-	-	-	-	-	10
3.	Programme Core Course (PCC)	-	2	5	5	5	5	4	2	28
4.	Programme Elective Course (PEC)	-	2	-	-	2	3	2	2	11
5.	Multidisciplinary Minor (MDM)	-	-	1	1	2	1	-	2	7
6.	Open Elective Course (OEC)	-	-	1	1	1	-	-	-	3
7.	Vocational and Skill Enhancement Course (VSEC)	1	1	1	1	-	-	-	-	4
8.	Ability Enhancement Course (AEC)	1	1	-	1	-	-	-	-	3
9.	Entrepreneurship / Management Course(EMC)	-	-	1	1	-	-	-	-	2
10.	Value Education Course (VEC)	-	-	1	1	-	-	-	-	2
11.	Experiential Learning Courses	-	-	-	1	1	1	1	1	5
12.	Indian Knowledge System	-	1	-	-	-	-	-	-	1
13.	Co-curricular Courses	1	1	-	-	-	-	-	-	2
Total		13	16	10	12	11	10	07	07	86

## SEMESTER-WISE CREDIT DISTRIBUTION

COURSE DISTRIBUTION: SEMESTER WISE										
Sl. No.	TYPE OF COURSE	NO. OF COURSES / SEMESTER								Total
		1	2	3	4	5	6	7	8	
1.	Basic Science Course (BSC)	7	7	-	-	-	-	-	-	14
2.	Engineering Science Course (ESC)	9	6	-	-	-	-	-	-	15
3.	Programme Core Course (PCC)	-	3	10	10	10	8	8	4	53
4.	Programme Elective Course (PEC)	-	-	-	-	4	8	4	4	20
5.	Multidisciplinary Minor (MDM)	-	-	2	2	4	2	-	4	14
6.	Open Elective Course (OEC)	-	-	4	2	2	-	-	-	8
7.	Vocational and Skill Enhancement Course (VSEC)	2	2	2	2	-	2	-	-	10
8.	Ability Enhancement Course (AEC)	2	-	-	2	-	-	-	-	4
9.	Entrepreneurship / Management Course(EMC)	-	-	2	2	-	-	-	-	4
10.	Value Education Course (VEC)	-	-	2	-	-	-	-	-	2
11.	Experiential Learning Courses	-	-	-	2	2	2	8	8	22
12.	Indian Knowledge System	-	2	-	-	-	-	-	-	2
13.	Co-curricular Courses	2	2	-	-	-	-	-	-	4
<b>Total</b>		22	22	22	22	22	22	20	20	172

**CURRICULUM STRUCTURE**  
**Third Year B. Tech. E and TC Engineering**

**Semester – V**

<b>Level 5.5</b>																
<b>Third Year B. Tech E and TC Engineering</b>																
<b>Semester V</b>																
Sl. No.	Course Code	Course Type	Course Name	Credit Scheme			Teaching Scheme (Hours/Week)			Examination Scheme and Marks						
				TH	TUT	PR	L	T	P	CCE	ESE	PR	OR	TW		
				25	25	50				UT	FA					
1	ETC25PCC-301	Programme Core Course	Electromagnetic Field Theory	2			2			25	25	50			100	
2	ETC25PCC-302	Programme Core Course	Advanced Communication Systems	2			2			25	25	50			100	
3	ETC25PCC-303	Programme Core Course	Advanced Communication Systems Lab			2			4				50	25	75	
4	ETC25PCC-304	Programme Core Course	Microcontroller and Applications	2			2			25	25	50			100	
5	ETC25PCC-305	Programme Core Course	Microcontroller and Applications Lab			2			4				25	25	50	
6	ETC25PEC-306	Programme Elective Course	Program Elective Course-I	3			3			25	25	50			100	
7	ETC25PEC-307	Programme Elective Course	Program Elective Course-I Lab			1			2				50		50	
8	ETC25MD M-308	Multi-disciplinary Minor	Big Data Analytics	3			3			25	25	50			100	
9	ETC25MD M-309	Multi-disciplinary Minor	Big Data Analytics Lab			1			2					25	25	
10	-	Open Elective Course	Open Elective Course-III		1	1		1	2					25	25	
11	ETC25ELC-311	Experiential Learning Course	Research Methodology-I			2			4					25	50	
<b>TOTAL</b>				12	1	9	12	1	18	125	125	250	50	50	150	750
				22			31									

**CCE**- Comprehensive Continuous Evaluation, **ESE**- End Semester Evaluation, **TW**-Term Work, **OR**-Oral, **PR**-Practical, **TH**-Theory, **L**-Lecture, **T/TUT**-Tutorial, **UT**- Unit Test, **FA**-Formative Assessment, **SA** - Summative Assessment

**Basket: List of Program Elective Courses -I**

Course Code	Course Name	
ETC25PEC-306 A	Digital Signal Processing	Choose Any One
ETC25PEC-306 B	Computer Networks	
ETC25PEC-306 C	Internet of Things	
ETC25PEC-306 D	Artificial Intelligence	

**CURRICULUM STRUCTURE**  
**Third Year B. Tech. E and TC Engineering**

**Semester – VI**

<b>Level 5.5</b>																
<b>Third Year B. Tech E and TC Engineering</b>																
Sl. No.	Course Code	Course Type	Course Name	Credit Scheme			Teaching Scheme (Hours/Week)			Examination Scheme and Marks						
										CCE	ESE	PR	OR	TW	TOTAL	
				TH	TUT	PR	L	T	P	UT	FA					
1	ETC25PCC-351	Programme Core Course	VLSI Design and Technology	2			2			25	25	50				100
2	ETC25PCC-352	Programme Core Course	VLSI Design and Technology Lab			1			2				25		25	50
3	ETC25PCC-353	Programme Core Course	Cellular Network	2			2			25	25	50				100
4	ETC25PCC-354	Programme Core Course	Cellular Network Lab			1			2				25		25	50
5	ETC25PCC-355	Programme Core Course	Power Devices and Circuits	2			2			25	25	50				100
6	ETC25PEC-356	Programme Elective Course	Program Elective-II	3			3			25	25	50				100
7	ETC25PEC-357	Programme Elective Course	Program Elective-II Lab			2			4				50			50
8	ETC25PEC-358	Programme Elective Course	Program Elective-III	3			3			25	25	50				100
9	ETC25MD M-359	Multi-disciplinary Minor	Programming Skills in JAVA		1	1		1	2						25	25
10	ETC25VSE C360	Vocational & Skill Enhancement Course	Vocational & Skill Enhancement Course - II			2			4						25	25
11	ETC25ELC-361	Experiential Learning Course	Internship			2			4						25	50
<b>TOTAL</b>				12	1	9	12	1	18	125	125	250	50	75	125	750

**CCE**- Comprehensive Continuous Evaluation, **ESE**- End Semester Evaluation, **TW**-Term Work, **OR**-Oral, **PR**-Practical, **TH**- Theory, **L**-Lecture, **T/TUT**-Tutorial, **UT**- Unit Test, **FA**-Formative Assessment, **SA** - Summative Assessment

### **Basket: List of Program Elective Courses -II**

<b>Course Code</b>	<b>Course Name</b>	<b>Choose Any One</b>
ETC25PEC-355 A	Digital Image Processing	
ETC25PEC-355 B	Network Security	
ETC25PEC-355 C	Embedded System Design	
ETC25PEC-355 D	Natural Language Processing	

### **Basket: List of Program Elective Courses -III**

<b>Course Code</b>	<b>Course Name</b>	<b>Choose Any One</b>
ETC25PEC-357 A	Smart Agriculture & Electronics	
ETC25PEC-357 B	Healthcare Electronics & Instrumentation	
ETC25PEC-357 C	Smart Cities	
ETC25PEC-357 D	5G & Beyond (6G) Communication Systems	

### **Basket: List of Vocational & Skill Enhancement Courses -II**

<b>Course Code</b>	<b>Course Name</b>	<b>Choose Any One</b>
ETC25VSEC-360 A	PCB Designing and Product Development	
ETC25VSEC-360 B	Automation & Industrial Control (PLC/SCADA)	
ETC25VSEC-360 C	MATLAB for Wireless Communication	