

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										
1 Lecture hour = 1 Credit, 2 Lab Hours = 1 Credit, 1 Tutorial Hour = 1 Credit										
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
Total		22	22	22	22	22	22	20	20	172

CURRICULUM STRUCTURE
Third Year B. Tech. E and TC Engineering
Semester – V

Level 5.5																
Third Year B. Tech E and TC Engineering																
Semester V																
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 25	FA 25	SA 50				
				1	ETC25PCC-301	Programme Core Course	Electromagnetic Field Theory	2			2					
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
TOTAL				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	Choose Any One
ETC25PEC-306 A	Digital Signal Processing	
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

Level 5.5																
Third Year B. Tech E and TC Engineering																
Semester VI																
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	SA				
				25	25	50										
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	25	50
TOTAL				12	1	9	12	1	18	125	125	250	50	75	125	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 –II

Course Code	Course Name	Choose Any One
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

Course Code	Course Name	Choose Any One
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

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