

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. Computer Science and 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 COMPUTER SCIENCE and ENGINEERING

To be a premier place of education in Computer Science and Engineering, preparing graduates with commendable knowledge, excellent skills and commitment to build a flourishing nation & world.

MISSION OF COMPUTER SCIENCE and ENGINEERING

- To inculcate experiential learning with contemporary software skills.
 - To prepare students to satisfy industry, R&D demands and solves real life problems.
 - To imbibe sense of societal and ethical responsibilities amongst learners.
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COURSE-WISE CREDIT DISTRIBUTION

Sr. 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										
SR 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										
SR 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. Computer Science and Engineering

Semester – V

Level 5.5																		
Third Year B. Tech Computer Science and Engineering																		
Semester V																		
Sr. No.	Course Code	Course Type	Course Name	Credit Scheme			Teaching Scheme (Hours/Week)			Examination Scheme and Marks								
				TH	TUT	PR	L	TUT	PR	CCE		ESE	PR	OR	TW	TOTAL		
										UT	FA	SA						
									25	25	50							
1	CSE25PCC-301	Programme Core Course	Theory of Computation	2			2					25	25	50				100
2	CSE25PCC-302	Programme Core Course	Big Data Analytics	2			2					25	25	50				100
3	CSE25PCC-303	Programme Core Course	Big Data Analytics Laboratory			2			4						50		25	75
4	CSE25PCC-304	Programme Core Course	Web Technology	2			2					25	25	50				100
5	CSE25PCC-305	Programme Core Course	Web Technology Laboratory			2			4						25		25	50
6	CSE25PEC-306	Programme Elective Course I	Elective I	3			3					25	25	50				100
7	CSE25PEC-307	Programme Elective Course I	Elective I Lab			1			2							50		50
8	CSE25MDM-308	Multi-disciplinary Minor	Internet of Things	3			3					25	25	50				100
9	CSE25MDM-309	Multi-disciplinary Minor	Internet of Things Laboratory			1			2								25	25
10	--	Open Elective Course	Open Elective Course III		1	1		1	2								25	25
11	CSE25ELC-311	Experiential Learning Course	Seminar- Research Methodology I			2			4								25	25
TOTAL				12	1	9	12	1	18			125	125	250	75	50	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

Semester - V

Basket: List of Courses - Programme Elective Course-I

Course Code	Course Name	
CSE25PEC-306A	Artificial Intelligence	Choose Any One
CSE25PEC-306B	Data Science	
CSE25PEC-306C	Agile Software Development	

Basket : List of Courses - Program Elective Courses Laboratory (PECL-I)

Course Code	Course Name	
CSE25PEC-307A	Artificial Intelligence Laboratory	Choose Any One
CSE25PEC-307B	Data Science Laboratory	
CSE25PEC-307C	Agile Software Development Laboratory	

Basket : List of Courses - Open Elective Courses (OEC-III)

Course Code	Course Name	
CE25OEC-310	Fundamentals of Fintech	Choose Any One
AIDS25OEC-310	Supply Chain Management	
ETC25OEC-310	Industrial Organization and Management	

CURRICULUM STRUCTURE

Third Year B.Tech. Computer Science and Engineering

Semester – VI

Level 5.5																	
Third Year B. Tech Computer Science and Engineering																	
Semester VI																	
Sr. 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	TOTAL	
										UT	FA	SA					
											25	25	50				
1	CSE25PCC-351	Programme Core Course	Design and Analysis of Algorithms	2			2				25	25	50				100
2	CSE25PCC-352	Programme Core Course	Machine Learning	2		1	2							25		25	50
3	CSE25PCC-353	Programme Core Course	Machine Learning Lab								25	25	50				100
4	CSE25PCC-354	Programme Core Course	Computer Network			1			2					25		25	50
5	CSE25PCC-355	Programme Core Course	Computer Network Lab	2							25	25	50				
6	CSE25PEC-356	Programme Elective Course	Programme Elective Course II	2			2				25	25	50				100
7	CSE25PECL-357	Programme Elective Course	Programme Elective Course II			2			4						50		25
8	CSE25PEC-358	Programme Elective Course	Programme Elective Course III	3			3				25	25	50				100
9	CSE25MDM-359	Multi-disciplinary Minor	Industry 4.0		1	1		1	2							25	100
10	CSE25VSEC-360	Vocational & Skill Enhancement Course	Vocational & Skill Enhancement Course II			2			4							25	50
11	CSE25ELC-361	Experiential Learning Course	Internship			2			4						25	25	50
TOTAL				12	1	9	12	1	18		125	125	250	50	50	125	750
				22			31										

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

Semester – VI

Basket: List of Courses – Programme Elective Course-II

Course Code	Course Name	
CSE25PEC-355A	Software Testing and Quality Assurance	Choose Any One
CSE25PEC-355B	Full Stack Development	
CSE25PEC-355C	High Performance Computing	

Basket : List of Courses - Program Elective Courses Laboratory-II

Course Code	Course Name	
CSE25PECL-356A	Software Testing and Quality Assurance Laboratory	Choose Any One
CSE25PECL-356B	Full Stack Development Laboratory	
CSE25PECL-356C	High Performance Computing Laboratory	

Basket: List of Courses – Programme Elective Course-III

Course Code	Course Name	
CSE25PEC-358A	Human Computer Interaction	Choose Any One
CSE25PEC-358B	Cyber Security	
CSE25PEC-358C	Data Warehouse & Data Mining	

Basket: List of Courses – Vocational & Skill Enhancement

Course-II

Course Code	Course Name	
CSE25VSE360A	Advanced Java Programming	Choose Any One
CSE25VSE360B	Flutter Programming	
CSE25VSE360C	Data Visualization Tools and Software	