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
Fourth Year B. Tech. Computer 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 ENGINEERING

Imbibing Quality Technical Education and Overall Development by Endowing Students with Societal and Ethical skills in Computer Engineers.

MISSION OF COMPUTER ENGINEERING

- To impart engineering knowledge and skills by adopting effective teaching learning processes.
- To develop professional, entrepreneurial & research competencies encompassing continuous intellectual growth.
- To produce educated students to exhibit societal and ethical responsibilities in the working environment.

INDEX

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**

Curriculum Structure: Fourth Year B.Tech. Computer

SEMESTER-WISE COURSE DISTRIBUTION

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

Curriculum Structure: Fourth Year B.Tech. Computer

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: Fourth Year B.Tech. Computer

CURRICULUM STRUCTURE
Fourth Year B. Tech. Computer Engineering

Semester – VII

Level 6.0															
Fourth Year B. Tech Computer Engineering															
Semester VII															
Sr. No.	Course Code	Course Type	Course Name	Credits			Teaching Scheme (Hours/Week)			Examination Scheme and Marks						
										CCE		ESE				
				TH	TUT	PR	L	T	P	UT	FA	SA	PR	OR	TW	TOTAL
										25	25	50				
1	CE25PCC-401	Programme Core Course	Cloud Computing	2			2			25	25	50				**100**
2	CE25PCC-402	Programme Core Course	Cloud Computing Laboratory			2			4				25		25	**50**
3	CE25PCC-403	Programme Core Course	Deep Learning	2			2			25	25	50				**100**
4	CE25PCC-404	Programme Core Course	Deep Learning Laboratory			2			4				25		25	**50**
5	CE25PEC-405	Programme Elective Course	Programme Elective Course -IV	3			3			25	25	50				**100**
6	CE25PEC-406	Programme Elective Course	Programme Elective Course- IV Laboratory			1			2					25	25	**50**
7	CE25ELC-407	Experiential Learning/Internship/OJT	Internship			6			12					100	100	**200**
8	CE25ELC-408		Project Stage I			2			4					50	50	**100**
TOTAL				7	-	13	7	-	26	75	75	150	50	175	225	750
				20			33									

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

Curriculum Structure: Fourth Year B.Tech. Computer

Basket: List of Courses – Programme Elective Course-IV

Course Code	Course Name	
CE25PEC-405A	Block chain Technology	Choose Any One
CE25PEC-405B	Generative Artificial Intelligence	
CE25PEC-405C	Devops and Continuous Delivery	
CE25PEC-405D	Augmented Reality & Virtual Reality	

Level 6.0														
Fourth Year B. Tech Computer Engineering														
Semester VIII														
Sr. No.	Course Code	Course Type	Course Name	Credits			Teaching Scheme (Hours/Week)			Examination Scheme and Marks					
										CCE		ESE				
				TH	TUT	PR	L	T	P	UT	FA	SA	PR	OR	TW	TOTAL
										25	25	50				
1	CE25PCC-451	Programme Core Course	Distributed System	2			2			25	25	50				100
2	CE25PCC-452	Programme Core Course	Distributed System Laboratory			2			4				25		25	50
3	CE25PEC-453	Programme Elective Course	Programme Elective Course -V	3			3			25	25	50				100
4	CE25PEC-454	Programme Elective Course	Programme Elective Course –V Laboratory			1			2				25		25	50
5	CE25MDM-455	Multidisciplinary Course	AI for Autonomous Vehicles	2			2			25	25	50				100
6	CE25MDM-456	Multidisciplinary Course	AI for Autonomous Vehicles Laboratory			2			4					25	25	50
7	CE25ELC-457	Experiential Learning Course /Internship /OJT	Internship			4			8					100	50	150
8	CE25ELC-458		Research Methodology - II			2			4						50	50
9	CE25ELC-459		Project Stage- II			2			4					50	50	100
TOTAL				**7**		**13**	**7**		**26**	75	75	150	50	175	225	750
				20			**33**									

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 Courses – Programme Elective Course-V

Course Code	Course Name	
CE25PEC-453A	Artificial Intelligence in Robotics	Choose Any One
CE25PEC-453B	Artificial Intelligence in Healthcare	
CE25PEC-453C	Quantum Computing	

Curriculum Structure: Fourth Year B.Tech. Computer