



**Dr. D. Y. Patil Educational Federation's
Dr. D. Y. Patil College of Engineering and Innovation**
APPROVED BY AICTE, RECOGNIZED BY GOVT. OF MAHARASHTRA,
AUTONOMOUS INSTITUTE AFFILIATED TO SAVITRIBAI PHULE PUNE UNIVERSITY
Accredited by NAAC with "A" Grade



ACADEMIC COURSE STRUCTURED

SY, TY, B.Tech.

Computer Engineering (CE)

B.Tech. 4 YEAR UG COURSE

(Applicable for the batches admitted from AY 2025-2026 at FY)

Dr. D. Y. Patil College of Engineering & Innovation

Survey No. 27/A/1/2C, Varale Campus,
Near Talegaon Railway Station,
Tal. Maval, Dist. Pune 410 507,
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Vision and Mission of the Institute

Vision of DYPCOEI

To achieve excellence in quality education through value based rapidly changing technologies and create technical Human-Resource with proficiencies of accepting new challenges.

Mission of DYPCOEI

M1: Continuously strive to impart value-based education to elevate the satisfaction level of all stakeholders.

M2: Take dedicated efforts to create competent professionals by effective teaching learning process with passion of lifelong learning attitude.

M3: Our endeavour is to promote and support innovative research, entrepreneurship and development activities through Industry Interaction.

Vision and Mission of the Department

Vision of Department:

To Groom - Motivated, Environment Friendly, Self-esteemed, Creative and Oriented Engineers.

Mission of Department:

M1: Adapt changes in recent trends and technologies by effective Teaching-Learning process to train the students.

M2: Prepare competent Computer Engineers to sustain in the competitive global corporate world with a spirit of good work ethics.

M3: Inculcate self and continuous learning and the ability to work in a team to share innovation and research.

Program Educational Objectives (PEOs)

PEO1: Prepare graduates to apply their Computer Engineering knowledge while framing the solutions to the real-life problems

PEO2: Inculcate ability of communication, soft skills, ethics and work in a team while demonstrating the professionalism.

PEO3: Impart life-long learning among students to adapt new trends and technologies in the field of Computer Engineering.

Knowledge and Attitude Profile (WK)

A Knowledge and Attitude Profile (KAP), often represented as WK (Knowledge and Attitude Profile) in some contexts, is a framework or assessment tool used to evaluate an individual's knowledge and attitudes related to a specific area, topic, or domain

- WK1:** A systematic, theory-based understanding of the natural sciences applicable to the discipline and awareness of relevant social sciences.
- WK2:** Conceptually-based mathematics, numerical analysis, data analysis, statistics and formal aspects of computer and information science to support detailed analysis and modelling applicable to the discipline.
- WK3:** A systematic, theory-based formulation of engineering fundamentals required in the engineering discipline.
- WK4:** Engineering specialist knowledge that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline.
- WK5:** Knowledge, including efficient resource use, environmental impacts, whole-life cost, re-use of resources, net zero carbon, and similar concepts, that supports engineering design and operations in a practice area.
- WK6:** Knowledge of engineering practice (technology) in the practice areas in the engineering discipline.
- WK7:** Knowledge of the role of engineering in society and identified issues in engineering practice in the discipline, such as the professional responsibility of an engineer to public safety and sustainable development.
- WK8:** Engagement with selected knowledge in the current research literature of the discipline, awareness of the power of critical thinking and creative approaches to evaluate emerging issues.
- WK9:** Ethics, inclusive behaviour and conduct. Knowledge of professional ethics, responsibilities, and norms of engineering practice. Awareness of the need for diversity by reason of ethnicity, gender, age, physical ability etc. with mutual understanding and respect, and of inclusive attitudes.

Program Outcomes (POs)

PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)

PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)

PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).

PO5: Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)

PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).

PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)

PO8: Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make

effective presentations considering cultural, language, and learning differences

PO10: Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

PO11: Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)

Program Specific Outcomes (PSOs)

PSO1: Enhance the ability of design and develop algorithms while studying core courses consisting of concepts of Computer Network, Databases, System Programs, Software Testing and quality assurance.

PSO2: Rigorous hands-on training to enhance the skills in emerging trends and technologies such as WT, IoT, Machine Learning and Information Security.

PSO3: Inculcate professionalism with ethics and compassion towards humanity while working in a team.

Program Outcomes (PO) Mapping with WA & WK												
(As per National Board of Accreditation (NBA))												
PO	Domain	WA	Knowledge and Attitude Profile (WK)									
			1	2	3	4	5	6	7	8	9	
P01	Engineering Knowledge	WA1	X	X	X	X						Analysis of problems & synthesis of solutions
P02	Problem Analysis	WA2	X	X	X							
P03	Design/development of solutions	WA3					X					
P04	Investigation	WA4								X		
P05	Tool Usage	WA5		X				X				
P06	The Engineer and the World	WA6	X				X		X			Responsibilities
P07	Ethics	WA7									X	
P08	Individual and Collaborative Team work	WA8									X	Required In work place
P09	Communication	WA9										
P010	Project Management and Finance	WA10										
P011	Lifelong learning	WA11								X		

Program – B. Tech. (Computer Engineering)

(Autonomous Curriculum Structure for students admitted from AY 2025-26 at FY)

A. Definition of Credit:

1 Hr. Lecture (L) per week	1 credit
1 Hr. Tutorial (T) per week	1 credit
2 Hours Practical (Lab) per week	1 credit

B. Range of Credits:

Student will become eligible to get Under Graduate (UG) BTech degree in Computer Engineering (CE) after earning **160 credits**. A student will be eligible to get Under **Graduate degree with Honors** or additional **Minor Engineering**, if he/she completes an additional **20 credits from SEM-V to SEM-VIII**.

C. Credit for B.Tech Degree in CE:

Sr. No.	Year	Semester	Credits
1	First Year	I	22
2		II	22
3	Second Year	III	21
4		IV	23
5	Third Year	V	19
6		VI	17
7	Final Year	VII	18
8		VII	18
Total Credits			160

D. Structure of B.Tech. Program

Abbreviation	Course Type	Credit
BSC	Basic Science Courses	18
ESC	Engineering Science Courses	12
PCC	Program Core Courses	44
PEC	Program Elective Courses	20
MDM	Multidisciplinary Minor	14
OEC	Open Elective Courses	08
VSE	Vocational and Skill Enhancement Course	06
AEC	Ability Enhancement Course	04
EMC	Entrepreneurship and Management Courses	04
IKS	Indian Knowledge System	02
VEC	Value Education Courses	04
REM	Research Methodology	04
CEP	Community Engagement Project	02
IAP	Internship and Project	1
CCC	Co-curricular Courses	04
Total		160

Credit Distribution of Various Courses across Eight Semesters:

SEM	Total Marks	BSC	ESC	PCC	PEC	MDM	OEC	VSE	AEC	EMC	IKS	VEC	REM	CEP	IAP	CCC	Total Credit
I	700	9	6	4				1	2								22
II	700	9	6	3				1			2					1	22
III	700			9		2	4			2		2		2			21
IV	700			8		2	2	2	2	2		2			2	1	23
V	700			5	8	4	2										19
VI	700			3	4	2		2							4	2	17
VII	700			6	2	2							4		4		18
VIII	700			6	6	2									4		18
	5600	18	12	44	20	14	8	6	4	4	2	4	4	2	14	4	160

E. Minor Structure: B. Tech. (Core Computing Systems)

Sr. No.	Course Code	Courses Name	SEM	Credits
1	CEMS301T	Database Management Systems	V	3
2	CEMS301W	Database Management Systems - Lab		2
3	CEMS302T	Fundamental of Web Technology	VI	3
4	CEMS302W	Fundamental of Web Technology - Lab		2
5	CEMS401T	Cryptography and System Security	VII	3

6	CEMS401W	Cryptography and System Security - Lab	VIII	2
7	CEMS402T	Software Testing and Quality Assurance		3
8	CEMS402W	Software Testing and Quality Assurance - Lab		2
Total				20

F. Honors Structure: B. Tech. (Next-Generation Intelligent Systems)

Sr. No.	Corse Code	Courses Name	SEM	Credits
1	CEHS301T	Compiler Design for Domain-Specific Languages (DSLs)	V	5
2	CEHS301W	Compiler Design for Domain-Specific Languages (DSLs) - Lab		
3	CEHS302T	Probabilistic Graphical Models	VI	5
4	CEHS302W	Probabilistic Graphical Models - Lab		
5	CEHS401T	Semantic Web and Ontology Engineering	VII	5
6	CEHS401W	Semantic Web and Ontology Engineering - Lab		
7	CEHS402T	Interactive and Transparent Machine Learning	VIII	5
8	CEHS402W	Interactive and Transparent Machine Learning - Lab		
			Total	20



**Department Autonomous
Coordinator
DYPCEI**

**Head of Department
Computer Engineering,
DYPCEI**

**Dean Academics
DYPCEI**

**Director
Dr. D. Y. Patil College of
Engineering, Talegaon,
Pune**

2.0 Course Structure – Computer Engineering

2.1 Course Structure – SY B.Tech (Computer Engineering)

Computer Engineering - Second Year (Semester –III)												
Level - 5												
Sr. No.	Code	Course Title	Teaching Scheme (Hours/week)			Credits	Examination scheme					
			L	T	P		CCE	SEE	TW	PR	OR	Total
1	CEPCC201T	Discrete Structures and Graph Theory	3	0	0	3	50	50	0	0	0	100
2	CEPCC202T	Computer Architecture and Organization	2	0	0	2	50	50	0	0	0	100
3	CEPCC203T	Data Structures and Algorithms	2	0	0	2	50	50	0	0	0	100
4	ILMDM201T	Multidisciplinary Minor-I	2	0	0	2	50	50	0	0	0	100
5	CEPCC204P	Data Structures and Algorithms - Lab	0	0	4	2	0	0	25	50	25	100
6	CEVEC205W	Social Well-being	1	1	0	2	0	0	25	0	0	25
7	CECEP206O	Community Engagement – Field Project	0	0	4	2	0	0	25	0	50	75
8	ILOEC201O	Open Elective I	2	0	0	2	0	0	25	0	25	50
9	ILOEC202W	Open Elective II	2	0	0	2	0	0	25	0	0	25
10	CEEMC207W	Entrepreneurship and Startup Ecosystem	1	1	0	2	0	0	25	0	0	25
Total			15	2	8	21	200*	200#	150\$	50\$	100\$	700

MDM-I (ILMDM201T)	
ILMDM201T-1	Smart cities and intelligent infrastructure
ILMDM201T-2	Fundamentals of autonomy and intelligent behaviour
ILMDM201T-3	Introduction to smart and precision agriculture
ILMDM201T-4	Fundamentals of electric vehicles and comparison with ICE vehicles
ILMDM201T-5	Fundamentals of additive manufacturing
ILMDM201T-6	Fundamentals of healthcare systems and digital health
ILMDM201T-7	Microcontrollers and Industrial Applications

Open Elective -I (ILOEC201W&O)		Open Elective -II (ILOEC202W)	
ILOEC201O-1	Engineering Economics	ILOEC202W-1	MOOC - I
ILOEC201O-2	AI in Finance Management	ILOEC202W-2	Foreign Language - I
ILOEC201O-3	Digital Finance	ILOEC202W-3	Universal Human Values
ILOEC201O-4	Financial Literacy	ILOEC202W-4	Sustainable Development and Employability Skills

Computer Engineering - Second Year (Semester –IV)												
Level - 5												
Sr. No.	Code	Course Title	Teaching Scheme (Hours/week)			Credits	Examination scheme					
			L	T	P		CCE	SEE	TW	PR	OR	Total
1	CEPCC208T	Operating Systems	2	0	0	2	50	50	0	0	0	100
2	CEPCC209T	Fundamentals of Computer Network	2	0	0	2	50	50	0	0	0	100
3	CEPCC210T	Computer Graphics Design	2	0	0	2	50	50	0	0	0	100
4	ILMDM202T	Multidisciplinary Minor-II	2	0	0	2	50	50	0	0	0	100
5	CEPCC211P	Operating Systems and Computer Graphics Design - Lab	0	0	4	2	0	0	25	50	0	75
6	CEVSE212P	Basic Web Application Development	0	0	4	2	0	0	0	50	0	50
7	CEIAP213W	Internship	0	0	4	2	0	0	25	0	0	25
8	CEVEC214W	Software Engineering & Project Management	2	0	0	2	0	0	25	0	0	25
9	ILOEC203O	Open Elective III	2	0	0	2	0	0	25	0	25	50
10	CEAEC215W	Employability Skill Development	1	1	0	2	0	0	25	0	0	25
11	CEEMC216O	Entrepreneurship and Management	1	1	0	2	0	0	0	0	25	25
12	CECCC217W	Co-Curriculum Course II	0	0	2	1	0	0	25	0	0	25
Total			14	2	14	23	200*	200#	150\$	50\$	100\$	700

MDM-II (ILMDM202T)	
ILMDM202T-1	Sustainable energy and environment
ILMDM202T-2	Perception, sensing, and sensor fusion
ILMDM202T-3	Robotics and automation in farming operations
ILMDM202T-4	Electric powertrain architecture and motor technologies
ILMDM202T-5	3D printing processes: FDM, SLA, SLS, DMLS, Binder Jetting, etc.
ILMDM202T-6	AI techniques (ML, DL, NLP, CV) in diagnostics and prognosis
ILMDM202T-7	Introduction to Embedded Processors

Open Elective -III (ILOEC203W&O)	
ILOEC203O-1	Digital Marketing
ILOEC203O-2	Critical Thinking and Problem Solving
ILOEC203O-3	Ethics in Artificial Intelligence

Co-Curriculum Course II (CECCC217W)
Professional Self Initiatives and Social Activity

• Technical Events/Quiz/Paper Contest/Project Contest / Model Making etc.
• MOOC/ NPTEL/ SWAYAM/ Coursera etc. related to Professional Development and Social Activity
• Competitions/ Events Conducted by Professional Societies (ISTE, IEI, CSI, IEEE, IETE, SAE, ISRO-IIRS, SWE, ISHRAE, ASM, ISNT etc.)
• Attending Full time Conference/ Seminars/ Exhibitions/ Workshop/ STTP Conducted at IITs/ NITs/ Reputed Institutes/ Universities
• Attending Full time Conference/ Seminars/ Exhibitions/ Workshop/ STTP Conducted at DYPCOEI
• Paper Presentation in National/ International Conference of High Repute
• Poster Presentation in National/ International Conference of High Repute
• Paper Publication in National/ International Journal of High Repute
• Industrial Training/ Internship (at least for 04 Weeks)
• Participation in Institute Level Student Clubs
• Elected Student Representative of Student Council (University Representative, General Secretary, Cultural, Sports, NSS Secretary, Ladies Representative, Academic Toppers, Invitee Members)
• Office Bearer of Professional Society Chapter (ISTE, IEI, CSI, IEEE, IETE, SAE, ISRO-IIRS, SWE, ISHRAE, ASM, ISNT etc.)
• Office Bearer of Institute Level Student Club
• Office Bearer of Departmental Student Association
• Office Bearer of ECell, Digital Content Lab etc.
• Student Ambassador for Mayura AICTE IDEA Lab/ NIDHI iTBI etc.
• Editorial Board Member of Annual Magazine
• Editorial Board Member of E-Newsletter
• Member of Governance Committee/ Statutory Committee

2.2 Course Structure – TY B.Tech (Computer Engineering)

Computer Engineering - Third Year (Semester –V)												
Level – 5.5												
Sr. No.	Code	Course Title	Teaching Scheme (Hours/week)			Credits	Examination scheme					
			L	T	P		CCE	SEE	TW	PR	OR	Total
1	CEPCC301T	Database Management Systems	2	0	0	2	50	50	0	0	0	100
2	CEPCC302T	Design Analysis and Algorithm	2	0	0	2	50	50	0	0	0	100
3	CEPEC303T	Program Elective I	3	0	0	3	50	50	0	0	0	100
4	CEPEC304T	Program Elective II	3	0	0	3	50	50	0	0	0	100
5	ILMDM303T	Multidisciplinary Minor III	2	0	0	2	50	50	0	0	0	100

6	ILMDM304T	Multidisciplinary Minor IV	2	0	0	2	50	50	0	0	0	100
7	CEPCC305P	Database Management Systems - Lab	0	0	2	1	0	0	25	25	0	50
8	CEPEC306P	Elective I & II - Lab	0	0	4	2	0	0	0	25	0	25
9	CEOEC304W	Open Elective IV	0	0	4	2	0	0	25	0	0	50
Total			14	0	10	19	300*	300#	50\$	50\$	0	700

Program Elective -I (CEPEC303T)		Program Elective -II (CEPEC304T)	
CEPEC303T-1	Fundamentals of Web Technology	CEPEC304T-1	Foundations of Intelligent AI Agent Frameworks
CEPEC303T-2	Big data & data Modeling	CEPEC304T-2	Cyber Security and Digital Forensic
CEPEC303T-3	Cloud Computing Technology and Fundamentals	CEPEC304T-3	Multimedia Technology
CEPEC303T-4	Data centres and Network operations	CEPEC304T-4	Deep Learning

MDM-III (ILMDM303T)

ILMDM303T-1	Role of IoT, AI, and data analytics in sustainability
ILMDM303T-2	AI and machine learning for autonomous decision-making
ILMDM303T-3	IoT and wireless sensor networks for field monitoring
ILMDM303T-4	Battery systems and energy storage technologies
ILMDM303T-5	CAD modelling and slicing software
ILMDM303T-6	Medical imaging analysis using AI
ILMDM303T-7	Embedded Machine Learning

MDM-IV (ILMDM304T)

ILMDM304T-1	Waste, water, and resource management
ILMDM304T-2	Robotics and embedded systems
ILMDM304T-3	AI and data analytics for crop prediction and decision-making
ILMDM304T-4	Power electronics and charging systems
ILMDM304T-5	Materials for 3D printing: plastics, metals, ceramics, composites, bio-materials
ILMDM304T-6	Predictive analytics for patient monitoring and disease outbreaks
ILMDM304T-7	Introduction to Microcontrollers and IoT

Open Elective -IV (ILOEC304W)

ILOEC304W-1	Intellectual Property Rights
ILOEC304W-2	MOOC - II
ILOEC304W-3	Foreign Language - II

Computer Engineering - Third Year (Semester –VI)												
Level – 5.5												
Sr. No.	Code	Course Title	Teaching Scheme (Hours/week)			Credits	Examination scheme					
			L	T	P		CCE	SEE	TW	PR	OR	Total
1	CEPCC308T	Machine Learning	2	0	0	2	50	50	0	0	0	100
2	CEPEC309T	Program Elective III	3	0	0	3	50	50	0	0	0	100
3	ILMDM305T	Multidisciplinary Minor V	2	0	0	2	50	50	0	0	0	100
4	CEPEC310P	Program Elective III - Lab	0	0	2	1	0	0	50	50	0	100
5	CEPCC311P	Machine Learning - Lab	0	0	2	1	0	0	50	50	0	100
6	CEIAP312O	Internship / On Job Training	0	0	8	4	0	0	50	0	50	100
7	CEVSE313O	Data Analytics Tools and Techniques - Lab	0	0	4	2	0	0	50	0	25	75
8	CECCC314W	Co-Curriculum Course III	0	0	4	2	0	0	50	0	0	50
Total			7	0	18	17	150*	150#	225\$	100\$	75\$	700

Program Elective -III (CEPEC309T)

CEPEC309T-1	Web Technology & its Applications
CEPEC309T-2	Business Intelligence
CEPEC309T-3	Cloud Computing Technique
CEPEC309T-4	System Engineering and Network Services

MDM-V (ILMDM305T)

CEMDM305T-1	Life-cycle thinking and system optimization
CEMDM305T-2	Real-time systems and control
CEMDM305T-3	Drone technologies in agriculture (e.g., for spraying, mapping)
CEMDM305T-4	Vehicle dynamics and control systems
CEMDM305T-5	Design for Additive Manufacturing (DfAM)
CEMDM305T-6	AI in drug discovery and personalized medicine
CEMDM305T-7	Embedded Systems and RTOS

Co-Curriculum Course III (CECCC314W)
Leadership & Management of Clubs/ Activities

• Prototype Developed and Tested
• Awards for Products Developed
• Innovative Technologies Developed and Used by Industries
• Got Funding from Government/ Industry for Innovative Ideas
• Patent-Filed/ Published/ Approved/ Licensed
• Social Innovations
• Implementation of Mind Mapping
• Idea to Market: Implementation of Startup
• Development of Business Model through Technology

2.3 Course Structure – B.Tech. (Computer Engineering)

Computer Engineering - Final Year (Semester –VII)

Level - 6

Sr. No.	Code	Course Title	Teaching Scheme (Hours/week)			Credits	Examination scheme					
			L	T	P		CCE	SEE	TW	PR	OR	Total
1	CEPCC401T	High Performance Computing	2	0	0	2	50	50	0	0	0	100
2	CEPCC402T	Computer Network and Security	2	0	0	2	50	50	0	0	0	100
3	CEPEC403T	Program Elective IV	2	0	0	2	50	50	0	0	0	100
4	ILMDM406T	Multidisciplinary Minor VI	2	0	0	2	50	50	0	0	0	100
5	CEREM404T	Research Methodology	4	0	0	4	50	50	0	0	0	100
6	CEPCC405P	High Performance Computing - Lab	0	0	2	1	0	0	25	25	0	50
7	CEPCC406P	Design Analysis and Algorithm - Lab	0	0	2	1	0	0	25	25	0	50
8	CEIAP407O	Project Phase I	0	0	8	4	0	0	50	0	50	100
Total			12	0	12	18	250*	250[#]	100^{\$}	50^{\$}	50^{\$}	700

Program Elective -IV (CEPEC403T)

CEPEC403T-1	Advanced Applied AI
CEPEC403T-2	Cryptography & System Security
CEPEC403T-3	Artificial Intelligence for Multimedia
CEPEC403T-4	Natural Language Processing

MDM-VI (ILMDM406T)	
ILMDM406T-1	Sustainable mobility and urban planning
ILMDM406T-2	Human-machine interaction and ethics
ILMDM406T-3	Automated irrigation and fertigation systems
ILMDM406T-4	Environmental impact and sustainability of EVs
ILMDM406T-5	Post-processing techniques and quality control
ILMDM406T-6	Clinical decision support systems (CDSS)
ILMDM406T-7	System Engineering

Computer Engineering - Final Year (Semester –VIII)												
Level - 6												
Sr. No.	Code	Course Title	Teaching Scheme (Hours/week)			Credits	Examination scheme					
			L	T	P		CCE	SEE	TW	PR	OR	Total
1	CEPCC408T	Quantum Computing	2	0	0	2	50	50	0	0	0	100
2	CEPCC409T	Software Testing and Quality Assurance	2	0	0	2	50	50	0	0	0	100
3	CEPEC410T	Program Elective V	3	0	0	3	50	50	0	0	0	100
4	CEPEC411T	Program Elective VI	3	0	0	3	50	50	0	0	0	100
5	ILMDM407T	Multidisciplinary Minor VII	2	0	0	2	50	50	0	0	0	100
6	CEPCC412P	Software Testing and Quality Assurance - Lab	0	0	2	1	0	0	25	25	0	50
7	CEPCC413P	Computer Network and Security - Lab	0	0	2	1	0	0	25	25	0	50
8	CEIAP414O	Project Phase II	0	0	8	4	0	0	50	0	50	100
Total			12	0	12	18	250*	250[#]	100\$	50\$	50\$	700

MDM-VII (ILMDM407T)	
ILMDM407T-1	Policy frameworks and Sustainable Development Goals
ILMDM407T-2	Applications in transportation, healthcare, defence, and industry 4.0
ILMDM407T-3	Sustainable practices and environmental impact
ILMDM407T-4	EV infrastructure, standards, and smart grid integration
ILMDM407T-5	Applications in medical, automotive, aerospace, and prototyping
ILMDM407T-6	Ethical, regulatory, and legal issues in AI for healthcare
ILMDM407T-7	Capstone Project using Microcontrollers lab (CPML)

Program Elective -V (CEPEC410T)		Program Elective -VI (CEPEC411T)	
CEPEC410T-1	Applied Generative AI	CEPEC411T-1	Usability Engineering
CEPEC410T-2	Modelling and Analysis Network	CEPEC411T-2	Ethical Hacking and Network Defence
CEPEC410T-3	Cloud Service oriented Architecture	CEPEC411T-3	Image Processing
CEPEC410T-4	Cognitive Computing	CEPEC411T-4	Blockchain Technology

L	Lecturer	T	Tutorial	P	Practical
W	Term Work	P	Practical	O	Oral
#	Semester End Examination (SEE) based on subjective questions.				
\$	LAB /Practical or Handson/ Activity based Evaluation.				
*	Comprehensive Continuous Evaluation (CCE) based on Unit Tests, Home Assignment/Comprehensive, Presentation/Group Discussion/Laboratory Work/Course Project/Viva Voce/Blog Writing/Case Study/Survey/Multiple-Choice Question (MCQ) examination.				
@	For MOOCs: Assignments marks will be converted on the scale of 50 marks.				
%	For MOOCs: Score of examination conducted by the respective authority of MOOC or Score of SEE Conducted by Institute will be converted on the scale of 50 marks.				