

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Periyar Nagar, Vallam Thanjavur - 613 403, Tamil Nadu, India
Phone: +91 - 4362 - 264600 Fax: +91- 4362 - 264660
Email: headcse@pmu.edu Web: www.pmu.edu



**PERIYAR
MANIAMMAI**
INSTITUTE OF SCIENCE & TECHNOLOGY
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FACULTY OF ENGINEERING AND TECHNOLOGY

B.TECH. COMPUTER SCIENCE AND ENGINEERING (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)

CURRICULUM (I – VIII SEMESTERS) Regulation 2024

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SEMESTER I

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24EN101	Technical English	3	0	0	3
2	U24MA101	Matrices and Differential Calculus	3	1	0	4
3	U24PH101	Engineering Physics	3	0	0	3
4	U24GE101	Principles of Engineering	3	0	0	3
5	U24GE102	Biology for Engineers	3	0	0	3
6	U24EM101	Coding Techniques	3	0	0	3
Practical						
7	U24MA102	Mathematics Laboratory	0	0	2	1
8	U24PH102	Engineering Physics Laboratory	0	0	2	1
9	U24EM102	Coding Techniques Laboratory	0	0	2	1
Total			18	1	6	22

SEMESTER II

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24EN151	Technical Communication Skill Development	2	0	2	3
2	U24MA151	Vector Calculus and Laplace Transforms	3	1	0	4
3	U24CH151	Engineering Chemistry	3	0	0	3
4	U24GE151	Design Thinking	3	0	0	3
5	U24GE152	Engineering Graphics	2	1	0	3
6	U24EM151	Programming in Practice	3	0	0	3
Practical						
7	U24CH152	Engineering Chemistry Laboratory	0	0	2	1
8	U24GE153	Design Thinking Laboratory	0	0	4	2
9	U24GE154	Engineering Practices	0	0	2	1
10	U24EM152	Programming in Practice Laboratory	0	0	2	1
Total			16	2	12	24

SEMESTER III

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24MA201	Multivariate Calculus and Linear Algebra	3	1	0	4
2	U24SH201	Universal Human Values	2	1	0	3
3	U24CI201	Data Structures	3	0	0	3
4	U24CI202	Digital System Design	3	0	0	3
5	U24CI203	Sensors and Actuators	3	0	2	4
6	U24CI204	Database Management Systems	3	0	0	3
Practical						
7	U24CI205	Data Structures Laboratory	0	0	4	2
8	U24CI206	Digital System Design Laboratory	0	0	2	1
9	U24CI207	Database Management Systems Laboratory	0	0	4	2
Audit Course						
10	U24AUXXX	Audit Course - I	-	-	-	-
Total			17	2	12	25

SEMESTER IV

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24MA251	Discrete Mathematics	3	1	0	4
2	U24CI251	Time Complexity and Analysis of Algorithms	3	0	0	3
3	U24CI252	Foundations of Artificial Intelligence	3	0	0	3
4	U24CI253	Operating Systems	3	0	0	3
5	U24CI254	Data Science Building Blocks	3	0	0	3
6	U24CI751	Ancient Indian Innovations in Computer Technology	3	0	0	3
Practical						
7	U24CI255	Algorithmics Laboratory	0	0	4	2
8	U24CI256	Operating Systems Laboratory	0	0	2	1
9	U24EM2XX	Internship / Practical Training / Value Added Course(s)	2	0	2	3
Audit Course						
10	U24AUXXX	Audit Course - II	-	-	-	-
Total			20	1	8	25

SEMESTER V

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24CI301	Data Communication and Networks	3	0	0	3
2	U24CI302	Exploratory Data Analytics	3	0	0	3
3	U24CI303	Machine Learning Algorithms	3	0	0	3
4	U24CI7XX	Open Elective - II	3	0	0	3
5	U24CI9XX	Professional Elective - I	3	0	0	3
6	U24CI9XX	Professional Elective - II	3	0	0	3
Practical						
7	U24CI304	Computer Networks Laboratory	0	0	2	1
8	U24CI305	Machine Learning Algorithms Laboratory	0	0	2	1
9	U24EM301	Value Added Course – Community Engagement and Social Responsibility	1	0	2	2
Audit Course						
10	U24AUXXX	Audit Course - III	-	-	-	-
Total			19	0	6	22

SEMESTER VI

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24MA351	Advanced Statistical Techniques in Data Science	3	0	0	3
2	U24CI351	Data Visualization	3	0	0	3
3	U24CI352	Neural Networks	3	0	0	3
4	U24CI7XX	Open Elective - III	3	0	0	3
5	U24CI8XX	Online Course - I	3	0	0	3
6	U24CI9XX	Professional Elective - III	3	0	0	3
7	U24CI9XX	Professional Elective - IV	3	0	0	3
Practical						
8	U24MA352	Computational Statistics Laboratory	0	0	4	2
9	U24EM3XX	Skill Enhancement / Value Added Course(s)	1	0	2	2
Audit Course						
10	U24AUXXX	Audit Course - IV	-	-	-	-
Total			22	0	6	25

SEMESTER VII

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24GE401	Professional Ethics	3	0	0	3
2	U24CI401	Cloud Computing and Virtualization Fundamentals	3	0	0	3
3	U24CI402	Deep Learning Techniques	3	0	0	3
4	U24CI403	Big Data Analytics	3	0	0	3
5	U24CI9XX	Professional Elective - V	3	0	0	3
6	U24CI9XX	Professional Elective - VI	3	0	0	3
Practical						
7	U24CI404	Cloud Computing Laboratory	0	0	4	2
8	U24CI405	Big Data Analytics Laboratory	0	0	4	2
9	U24EM401	Project Phase - I	0	0	8	4
Total			18	0	16	26

SEMESTER VIII

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	U24CI8XX	Online Course - II	3	0	0	3
Practical						
2	U24EM451	Project Phase - II	0	0	16	8
Total			3	0	16	11

Suggested List of Professional Elective Courses

Professional Elective - I

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24CI901	Advanced Python Programming	3	0	0	3
2	U24CI902	Data Warehousing and Mining	3	0	0	3
3	U24CI903	Computational Thinking	3	0	0	3
4	U24CI904	Digital Image Processing	3	0	0	3
5	U24CI905	Object Oriented Analysis and Design	3	0	0	3

Professional Elective - II

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24CI906	Web Data Mining	3	0	0	3
2	U24CI907	Web Technology	3	0	0	3
3	U24CI908	Multicore Architecture	3	0	0	3
4	U24CI909	Web Security	3	0	0	3
5	U24CI910	Natural Language Processing	3	0	0	3

Professional Elective - III

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24CI951	Unix Internals	3	0	0	3
2	U24CI952	Internet of Things	3	0	0	3
3	U24CI953	Wireless Sensor Networks	3	0	0	3
4	U24CI954	Predictive Analytics	3	0	0	3
5	U24CI955	Bioinformatics	3	0	0	3

Professional Elective - IV

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24CI956	Functional Programming Methods for Analytics	3	0	0	3
2	U24CI957	Smart Analytics	3	0	0	3
3	U24CI958	Prompt Engineering	3	0	0	3
4	U24CI959	Social Media Analytics	3	0	0	3
5	U24CI960	Human Computer Interaction	3	0	0	3

Professional Elective - V

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24CI911	Immersive Technologies	3	0	0	3
2	U24CI912	Data Modelling and Programming	3	0	0	3
3	U24CI913	Advanced Machine Learning Techniques	3	0	0	3
4	U24CI914	Reinforcement Learning	3	0	0	3
5	U24CI915	Generative AI Models	3	0	0	3

Professional Elective - VI

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
1	U24CI916	Cryptography and Network Security	3	0	0	3
2	U24CI917	Robotics and Intelligent Systems	3	0	0	3
3	U24CI918	Explainable Artificial Intelligence	3	0	0	3
4	U24CI919	Machine Learning Operations	3	0	0	3
5	U24CI920	Cyber Physical Systems	3	0	0	3