DEPARTMENT OF COMPUTER SCIENCE

Name of the Programme : **M. TECH.** COMPUTER SCIENCE & ENGINEERING WITH SPECIALIZATION IN DATA SCIENCE & ARTIFICIAL INTELLIGENCE

Semester I

Sl. No.	Course Code	Course	Core/ Elective	Credits	Lec.	Lab/Tutorial	Marks
1	25-479-0101	Mathematics for Computing	C	4	4	2	100
2	25-479-0102	Artificial Intelligence and Machine Learning	C	4	4	2	100
3	25-479-0103	Design and Analysis of Algorithms	C	4	4	2	100
4	-	Elective I	E	3	4	2	100
5	-	Elective II	E	3	4	2	100
Total for Semester I				18	20	10	500

Electives

Course Code	Course
25-479-0104	Advanced Optimization Techniques
25-479-0105	Advanced Natural Language Processing
25-479-0106	Digital Image and Video Processing
25-479-0107	Mathematics for Machine Learning
25-479-0108	Algorithmic Game Theory
25-479-0109	Data Engineering, Analytics and Visualization
25-479-0110	Algorithms for Modern Data Models

Semester II

Sl. No.	Course Code	Course	Core/ Elective	Credits	Lec.	Lab/Tutorial	Marks
1	25-479-0201	Reinforcement Learning	C	4	4	2	100
2	25-479-0202	Applied Data Science	C	4	4	2	100
3	25-479-0203	Deep Learning	C	4	4	2	100
4	25-479-0204	Seminar	C	1	0	3	100
5	-	Elective III	E	3	4	2	100
6	-	Elective IV	E	3	4	2	100
Total for Semester II				19	20	13	600

Electives

Course Code	Course
25-479-0205	Probabilistic Graphical Models
25-479-0206	Bioinformatics
25-479-0207	Large Language Models
25-479-0208	Programming Massively Parallel Processors
25-479-0209	Modelling Cyber Physical Systems
25-479-0210	Foundations of Federated Learning
25-479-0211	Image and Video Coding
25-479-0212	Natural Language Processing with Deep Learning

Semester III

Sl. No.	Course Code	Course	Core/Elective	Credits	Lec.	Lab/Tutorial	Marks
1	25-479-0301	Elective – MOOC	E	2	0	10	100
2	25-479-0302	Internship*	C	1	0	0	100
3	25-479-0303	Dissertation & Viva Voce	C	15	0	20	100
Total for Semester III				18	0	30	300

Semester IV

Sl. No.	Course Code	Course	Core/Elective	Credits	Lec.	Lab/Tutorial	Marks
1	25-479-0401	Dissertation & Viva Voce	C	17	0	30	100
Total credits for Degree : 72						**Total Mark: 1500**	

*The students should complete the **Course 25-479-0302 : Internship** during the Vacation period (May-June).