

Scheme of MS in Artificial Intelligence and Data Science
Department of Engineering Sciences

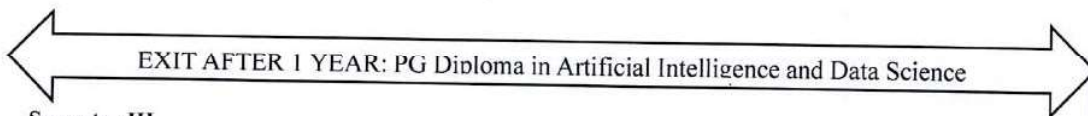
Semester-I

S. No.	Course code	Title of the course	L-T-P	Credits
1	ES511	Fundamentals of Statistics	3-1-0	4
2	ES512	Computational Linear Algebra	3-1-0	4
3	ES513	Foundations of Data Science	3-0-0	3
4	ES514	Machine Learning Techniques	3-0-2	4
5	ES515	Data Structures and Algorithms	3-0-0	3
6	ES516	Programming for Data Science	3-0-2	4
Total				22

Semester-II

S. No.	Course code	Title of the course	L-T-P	Credits
1	ES521	Statistical Inference	3-0-0	3
2	ES522	Artificial Intelligence	3-0-2	4
3	ES523	System Analysis and Design	3-0-2	4
4	ES524	Data Mining and Data Warehousing	3-0-0	3
5	ES525	Engineering Research Methodology	2-1-0	3
6	ES5XX	Elective-I/ MOOC	3-0-0	3
Total				20

**Summer Project/Internship (Tentative credits: 4)*



Semester-III

S. No.	Course code	Title of the course	L-T-P	Credits
1	ES531	Decision Support and Expert Systems	2-0-2	3
2	ES532	Deep Learning	2-0-2	3
3	ES533	Natural Language Processing	3-0-0	3
4	ES534	Big Data Analytics and Visualization	3-0-2	4
5	ES5XX	Elective-II/ MOOC	3-0-0	3
6	ES5XX	Elective-III/ MOOC	3-0-0	3
Total				19

Semester-IV

S. No.	Course code	Title of the course	L-T-P	Credits
1	ES541	Internship / Major Project	-	12
2	ES5XX	Elective- IV/ MOOC	3-0-0	3
Total				15

Distribution of credits:

1 st semester	2 nd semester	3 rd semester	4 th semester
22	20	19	15

Total Credits: 52 (core courses) & Minimum 28 (electives and project)

List of electives

S. No.	Name of Subject	L-T-P (Proposed)	Credit
1	Fuzzy Sets and Applications	3-0-0	3
2	Numerical Methods for Data Science	3-0-0	3
3	Optimization Methods for Computational Intelligence	3-0-0	3
4	Modelling and Simulation	3-0-1	4
5	Cyber Security and Cyber Law	3-0-0	3
6	Bayesian Data Analysis	3-0-0	3
7	Business Data Analysis	3-0-0	3
8	Introduction to Game Theory	3-0-0	3
9	Data Sciences for Biologists and Healthcare	3-0-0	0
10	Data Visualization and Interpretation	3-0-0	0
11	Advanced Graph Theory	3-0-0	3
12	Quantum Computing	3-0-1	4
13	Time Series and Forecasting Methods	3-0-1	4
14	Data Analytics for Material Science	3-0-0	3
15	Information Retrieval and Extraction	3-0-0	3
16	Innovation and Entrepreneurship	3-0-0	3
17	Database Management System	3-0-0	3
18	Digital Forensics	3-0-0	3