LESSON PLAN

Sl.No.	Module	Proposed Date	Proposed Hour	Topic	Delivery Method	Remark
1	1	01-07-2025	2	Introduction to course	Lecture-Presentations	
2	1	02-07-2025	5	Human Intelligence and Animal Intelligence - Discussions	Lecture-Presentations	
3	1	03-07-2025	7	Artificial Intelligence and Machine Learning - Basic Concepts - Types of Machine Learning systems and its basic concepts	Lecture-Presentations,Quiz	Interactive Quiz
4	1	04-07-2025	6	Supervised learning model example - Linear Regression; Classification model example - Logistic regression	Lecture-Presentations,Demonstration using Google COLAB - Python	Interactive Quiz
5	1	07-07-2025	3	Supervised learning model example - K Nearest Neighbor, SVM, Decision Tree and Random Forest	Lecture-Presentations,Demonstration using Google COLAB - Python	Interactive Quiz
6	1	08-07-2025	2	Unsupervised model example - K-means clustering	Lecture-Presentations,Quiz,Demonstration using Google COLAB - Python	Interactive Quiz
7	1	09-07-2025	5	Biological Neural Network - Artificial	Lecture-Presentations	Interactive Quiz

Sl.No.	Module	Proposed Date	Proposed Hour	Topic	Delivery Method	Remark
				Neural Network - Basic concepts of Perceptron		
8	1	10-07-2025	7	Perceptron Training - Perceptron Model for an AND Gate - Multiple Perceptron - Multi-Layer Perceptron - Deep Neural Network - Universal Approximation Theorem (statement only) and explanation	Lecture-Chalk and Talk,Presentations	Interactive Quiz
9	1	11-07-2025	6	Demonstration of regression and classification problems using MLP.	Lecture-Demonstration using Google COLAB - Python	Interactive Quiz
10	2	14-07-2025	3	Role of linear algebra in Data representation and analysis - An Introduction	Lecture-Presentations	Interactive Quiz
11	2	15-07-2025	2	Matrix decomposition - Singular Value Decomposition (SVD)	Lecture-Presentations	
12	2	16-07-2025	5	Matrix decomposition - Singular Value Decomposition (SVD)	Tutorial-Presentations,Tutorial	Interactive Quiz
13	2	17-07-2025	7	Matrix decomposition - Singular Value Decomposition (SVD)	Tutorial-Presentations,Tutorial	

Sl.No.	Module	Proposed Date	Proposed Hour	Topic	Delivery Method	Remark
14	2	18-07-2025	6	Spectral decomposition	Lecture-Chalk and Talk	
15	2	21-07-2025	3	Spectral decomposition	Tutorial-Presentations,Tutorial	Interactive Quiz
16	2	22-07-2025	2	Dimensionality reduction technique - Principal Component Analysis (PCA).	Lecture-Presentations,Demonstration using Google COLAB - Python	
17	3	23-07-2025	5	Basics of probability	Lecture-Presentations	
18	3	24-07-2025	7	Random variables	Tutorial-Presentations	
19	3	25-07-2025	6	Statistical measures	Lecture-Presentations,Quiz	Interactive Quiz
20	3	28-07-2025	3	Rules in probability	Lecture-Presentations,Quiz	
21	3	29-07-2025	2	Rules in probability	Lecture-Presentations,Quiz	Interactive Quiz
22	3	30-07-2025	5	Bayes theorem and its applications	Tutorial-Presentations,Tutorial	
23	3	31-07-2025	7	Statistical estimation Maximum Likelihood Estimator (MLE)	Tutorial-Presentations	
24	3	01-08-2025	6	Statistical summaries	Lecture-Presentations	Interactive Quiz
25	3	04-08-2025	3	Correlation analysis - linear correlation (direct problems only)	Tutorial-Presentations,Tutorial	
26	3	05-08-2025	2	Regression analysis - linear regression (using least square method)	Tutorial-Presentations,Tutorial	
27	4	06-08-2025	5	Benefits of data science - Use of statistics and	Lecture-Presentations	Class Activity

Sl.No.	Module	Proposed Date	Proposed Hour	Topic	Delivery Method	Remark
				Machine Learning in Data Science		
28	4	07-08-2025	7	Data Science Process	Tutorial-Presentations	
29	4	08-08-2025	6	Applications of Machine Learning in Data Science	Lecture-Presentations,DEMOSTRATION	
30	4	11-08-2025	3	Modelling process	Lecture-Presentations	
31	4	12-08-2025	2	Demonstration of ML applications in data science	Lecture-Presentations	
32	4	20-10-2025	3	Big Data and Data Science	Lecture-Presentations	Interactive Quiz
33	4	21-10-2025	2	Visualization using Python	Lecture-Presentations	
34	4	22-10-2025	5	Visualization using Python	Lecture-Presentations	
35	4	23-10-2025	7	Subject Activity, External Talk	Tutorial-Presentations	