

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Odd Semester – 2022-23

LESSON PLAN

Teacher : Dr. Srinath.S Semester Starting: 17.10.2022
 Class & Section : VII Sem. 'A' Section Semester Ending on: 03.02.2023
 Subject with Code : CS745 – Pattern Classification

Sl. #	Date	Unit	Topic/s to be covered
1.	21/10/22	Unit - 1	Introduction
2.	21/10/22		Applications of Pattern Recognition
3.	22/10/22		Statistical Decision Theory and Analysis
4.	22/10/22		Probability: Introduction
5.	28/10/22		Probabilities of events
6.	28/10/22		Examples for events, experiments and sample space
7.	29/10/22		Conditional Probability with examples
8.	29/10/22		Random variables, Joint distributions and densities
9.	04/11/22		Binomial Distribution
10.	04/11/22		Moments of Random Variables
11.	12/11/22		Estimation of parameters from samples
12.	12/11/22	CO-2	Statistical Decision making
13.	18/11/22		Examples and illustration
14.	18/11/22		Introduction to Bayes theorem
15.	19/11/22		Bayes theorem continued
16.	25/11/22		Bayes theorem illustration
17.	25/11/22		Conditionally independent features
18.	26/11/22		Illustration of conditionally independent features
19.	26/11/22		Decision boundaries
20.	02/12/22		Examples for decision boundaries
21.	02/12/22		Applications of Bayes theorem
22.	03/12/22	CO-3	Non parametric decision making
23.	03/12/22		Introduction to non-parametric decision
24.	09/12/22		Histograms and its representation
25.	09/12/22		Kernel and window estimators
26.	16/12/22		Nearest neighbor classification techniques
27.	16/12/22		Example NN classifier
28.	17/12/22		KNN classifier
29.	17/12/22		Adaptive decision boundaries
30.	23/12/22		Minimum squared error discriminant functions
31.	23/12/22		Example for MSE
32.	24/12/22		Choosing a decision-making technique

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33.	24/12/22	CO-4	Clustering	
34.	30/12/22		Hierarchical clustering	
35.	30/12/22		Agglomerative clustering	
36.	31/12/22		Single linkage algorithm	
37.	31/12/22		Complete linkage algorithm	
38.	06/01/22		Example for Complete linkage algorithm	
39.	07/01/22		Partitioned clustering	
40.	13/01/22		Forgy's algorithm	
41.	13/01/22		K-Means algorithm	
42.	14/01/22		Applications of K-Means algorithm	
43.	14/01/22		CO-5	Dimensionality reduction
44.	20/01/22			Singular value Decomposition
45.	20/01/22	Applications of SVD		
46.	21/01/22	Principal component Analysis		
47.	21/01/22	Applications of PCA		
48.	27/01/22	Linear Discriminated Analysis		
49.	27/01/22	Application of LDA		
50.	28/01/22	Applications of Pattern classification		
51.	28/01/22	Use of PCA and LDA with examples		
52.	03/02/22	Use of PCA and LDA with examples continued		

Plan of action

- **Continuous Internal Evaluation process will be conducted for 50marks**

3 tests and 2 events will be conducted

TEST 1	EVENT 1	TEST 2	EVENT 2	TEST 3	Total
20 marks	Test based on the problems in Unit 1 & 2 (20 Marks)	20 marks	Mini Project- Considering the topics of Supervised and Unsupervised classifier (20 Marks)	20 marks	Total marks will be reduced to 50 marks

Teaching Methodology: Black board, Multimedia projector, Digital smart board, Mini Project Presentation
 Dr. Srinath.S