Panipat Institute of Engineering & Technology
Department of CSE-AI&DS
LESSON PLAN

Subject: Soft Computing **Subject code: PC-CSAIDS -310A**
Semester: 6th

SNo	Topic	CO Covered	Assignment No.	Teaching Methodology
1	What is Soft Computing. Difference between Hard and Soft computing	CO1	Assignment No.1	Smart board
2	Requirement of Soft computing,	CO1		Smart board
3	Major Areas of Soft Computing	CO1		Smart board
4	Applications of Soft Computing	CO1		Smart board
5	Test	CO1		Test
6	Neural Network, Learning rules and various activation functions,	CO2	Assignment No.2	Smart board
7	Single layer Perceptron, Back Propagation networks	CO2		Smart board
8	Architecture of Backpropagation (BP) Networks,	CO2		Oral test
9	Backpropagation Learning, Variation of Standard Back propagation Neural Network	CO2		PPT
10	Introduction to Associative Memory	CO2		PPT
11	Adaptive Resonance theory and Self Organizing Map	CO2		PPT
12	Recent Applications of Neural Network	CO2		PPT
13	Test	CO2		PPT
14	Fuzzy Systems: Fuzzy Logic	CO3	Assignment No.3	PPT
15	Introduction, Classical Sets (Crisp Sets), Operations on Crisp Sets	CO3		PPT
16	Properties, Function mapping of Classical Sets	CO3		PPT
17	Fuzzy Sets, Properties of Fuzzy Sets,	CO3		PPT
18	Classical Relations and Fuzzy Relations	CO3		Smart board
19	Cartesian Product of Relation	CO3		Smart board
20	Classical Relations: Cardinality, Operations,	CO3		Smart board
21	properties and Composition of crisp relations	CO3		Smart board
22	Fuzzy Relations: Cardinality, operations,	CO3		Smart board
23	Properties and Fuzzy Composition	CO3		Smart board
24	Defuzzification: Introduction, Lambda-cuts for Fuzzy Sets (Alpha- Cuts)	CO3		Written test
25	Lambda cuts for Fuzzy relations	CO3		PPT
26	Defuzzification Methods: Max Membership principle	CO3		PPT

27	Centroid Method, Weighted Average method, Mean – Max membership	CO3		PPT
28	Test	CO3		PPT
29	Genetic Algorithm	CO4	Assignment No.4	PPT
30	History of Genetic Algorithms (GA)	CO4		PPT
31	Working Principle, Various Encoding methods	CO4		PPT
32	Fitness function, GA Operators- Reproduction	CO4		PPT
33	Crossover, Mutation, Convergence of GA	CO4		PPT
34	Bit wise operation in GA	CO4		PPT
35	Multi-level Optimization.GA based Backpropagation Networks	CO4		PPT
36	GA based Weight Determination, K - factor determination in Columns	CO4		PPT
37	Revision	CO4		White board