

Satyug Darshan Institute of Engineering and Technology

Lesson Plan / Teaching Plan / Lecture Plan with Progress : B Tech – 7th Semester : 2025-26

Course Name (Code) : Neural Network Deep Learning (PEC-CS-D-703)

Faculty – Deepika Khurana

Topics / lectures are arranged in sequence - same - as to be taught in the class. Maintain data related to "Date" in its hard copy.

S. No.	Lecture No	Topic Description	Teaching Pedagogy	Reference Material	Remarks, if any
1	1	Artificial neurons,	PPT	T1	
2	2	Neural networks and architectures,	PPT	T1	
3	3	Feedforward and feedback architectures	PPT	T1	
4	4	Feedforward and feedback architectures	PPT	T1	
5	5	learning mechanisms-Gradient Descent, Boltzmann	PPT	T1	
6	6	learning mechanisms-Hebbian	PPT	T1	
7	7	Learning types-supervised, unsupervised and reinforced	PPT	T1	
8	8	Learning types-Reinforced	PPT	T1, T2	
9	9	Single Perceptron as classifier	PPT	T1	
10	10	Multi-layer perceptron model.	PPT	T1	
11	11	Revision			
12	12	Revision			
13	13	Attractor Neural Network	PPT	T1	
14	14	Associative learning	PPT	T1	
15	15	Memory Model	PPT	T1	
16	16	Discrete Hopfield Network	PPT	T1	
17	17	Condition for Perfect Recall in Associative Memory	PPT	T1	
18	18	Bi-direction Associative memories (BAM)	PPT	T1	
19	19	Bi-direction Associative memories (BAM)Architecture	PPT	T1	
20	20	Auto and Hetro-association	PPT	T1	
21	21	Auto and Hetro-association	PPT	T1	
22	22	Boltzmann machine	PPT	T1	
23	23	Introduction to Adaptive Resonance Networks	PPT	T1	
24	24	Adaptive Resonance Networks Architecture	PPT	T1, T2	
25	25	Revision			
26	26	Revision			
27	27	Gradient Descent and Least Mean Squares Algorithm	PPT	T1,T3	
28	28	Back Propagation Algorithms	PPT	T1,T3	
29	29	Back Propagation Algorithms Numerical	Board	T1,T3	
30	30	MultiClass Classification Using Multi-layered Perceptrons	PPT	T1,T3	
31	31	Multi-layered Perceptrons	PPT	T1,T3	
32	32	Support Vector Machine (SVM),	PPT	T1, T2	
33	33	Radial Basis Function Networks:Numerical	Board	T1, T2	
34	34	Radial Basis Function Networks:	PPT	T1, T2	
35	35	Cover's Theorem	PPT	T1	
36	36	Learning Mechanisms in RBF	PPT	T1	
37	37	Learning Mechanisms in RBF	PPT	T1	
38	38	Revision			
39	39	Revision			
40	40	Introduction to PCA,	PPT	T1	
41	41	Dimensionality reduction Using PCA	PPT	T1, T2	
42	42	Principal Component Analysis Numerical	Board	T2	
43	43	Hebbian-Based Principal Component Analysis,	PPT	T1, T2	
44	44	Introduction to Self Organizing Maps :	PPT	T2	
45	45	Self Organizing Maps Numerical	Board	T3	
46	46	Cooperative and Adaptive Processes in SOM	PPT	T1	
47	47	Vector-Quantization Using SOM.	PPT	T1	
48	48	Revision			
49	49	Revision			
50	50	Revision			

Study Material / Books / Web-resources / Online Courses Links etc.

S. No.	Description
1	Haykin S., "Neural Networks-A Comprehensive Foundations", Prentice-Hall International, New Jersey, 1999.
2	Anderson J.A., "An Introduction to Neural Networks", PHI, 1999.
3	Satish Kumar, "Neural Networks: A Classroom Approach"
4	Hertz J, Krogh A, R.G. Palmer, "Introduction to the Theory of Neural Computation", Addison-Wesley, California, 1991.