R20 Regulation *Subject code:* **3P7HB**

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VII Semester Regular/Supplementary Examinations, December 2024

DEEP LEARNING

(CSE(DS))

Maximum Marks: 70 Date:10.01.2025 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20 Marks)		**CO**	**Bloom Tx**
1	What is overfitting?	1	L1
2	What is Bias and Variance?	1	L1
3	What is Learning XOR?	2	L1
4	What is Local and Global Structure?	2	L1
5	What are the Challenges of Neural Network Optimization?	3	L1
6	What is Adagrad Algorithm?	3	L1
7	What is unfolding?	4	L1
8	What is Leaky Units?	4	L1
9	What are Auto Encoders?	5	L1
10	What is Transfer Learning?	5	L1

Part-B

Answer All the following questions. **(5X10M=50Marks)**		**CO**	**Bloom Tx**
11	A) Explain about Maximum Likelihood Estimations in Machine Learning? [5M] B) Explain about Overfitting and Underfitting in ML? [5M]	1	L2 L2
	OR		
12	A) Explain about the tangent distance. [5M] B) Explain supervised learning algorithms. [5M]	1	L2 L2
13	A) Explain about Learning XOR in Deep Feed Forward Networks. [5M] B) Explain Gradient-Based Learning in Deep Feed Forward Networks [5M]	2	L2 L2
	OR		
14	A) Describe semi supervised learning. [5M] B) Describe noise robustness. [5M]	2	L2 L2

15	A) Explain about Speech Recognition.? [5M] B) Write the Advantages of Structured Modeling for Deep Learning. [5M]	3	L2 L1
	OR		
16	A) Explain challenges in neural network optimization. [5M] B) Explain the Neuroscientific Basis for Convolutional Networks. [5M]	3	L2 L2
17	A) What are the Methods to Approximate Second-Order Methods for Training Deep Models? [5M] B) Explain Different Data Types in CNN? [5M]	4	L2 L2
	OR		
18	A) Describe recursive neural networks. [5M] B) Explain about the natural language processing. [5M]	4	L2 L2
19	A) Explain Different Types of Autoencoders? [5M] B) Explain about Representational Power, Layer Size and Depth in Autoencoders? [5M]	5	L2 L2
	OR		
20	A) Explain Predictive Sparse Decomposition. [5M] B) Explain the application of autoencoders. [5M]	5	L2 L2