R20 Regulation *Subject code: 3E7GA & 3P7HB*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VII Semester Supplementary Examinations,

DEEP LEARNING

(Common to CSE(AIML) & CSE(DS))

Maximum Marks: 70 Date: 05.05.2026 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.
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)		Marks	CO	BTL
1	Differentiate between AI, ML and DL.	2M	1	L1
2	Define Dataset Augmentation.	2M	1	L1
3	What is an optimization problem in deep learning?	2M	2	L1
4	What is Pooling?	2M	2	L1
5	What is a computational graph.?	2M	3	L1
6	Define computer vision.	2M	3	L1
7	What is Sparse Auto encoder?	2M	4	L1
8	What is transfer learning?	2M	4	L1
9	What is density estimation?	2M	5	L1
10	What are the advantages of Structured Modeling?	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Explain L1 and L2 Regularization along with its weight update.	10M	1	L2
	OR			
12	a) Explain Feed Forward Neural Networks. b) What is deep learning? Give the applications of Deep Learning.	5M 5M	1	L2
13	Discuss how learning differs from pure optimization.	10M	2	L2
	OR			
14	a) Write the motivation behind CNNs. b) Explain Pooling with suitable diagrams.	5M 5M	2	L2
15	a) Explain Recurrent Neural Networks. b) Explain Bidirectional RNN.	5M 5M	3	L2
	OR			
16	Explain the deep learning application: Computer vision and speech recognition.	10M	3	L2

17	a) Explain about layer size and depth in neural network. b) What are the two forms of transfer learning in deep learning? Discuss.	5M 5M	4	L2
	OR			
18	a) Describe the use cases of auto encoders. b) Write short notes on distributed representation.	5M 5M	4	L2
19	a) Explain converting between undirected and directed graphs. b) Explain learning about dependencies.	5M 5M	5	L2
	OR			
20	Explain the deep learning approach to structured probabilistic models.	10M	5	L2