R20 Regulation *Subject code:3E8FF*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VIII Semester Supplementary Examinations, May 2026

DEEP LEARNING

(IT)

Maximum Marks: 70 Date: 08.05.2026 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 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)		Marks	CO	Bloom Tx
1	Differentiate between AI, ML and DL.	2M	1	BL2
2	Difference between Bias and Variance?	2M	1	BL2
3	What are the advantages of Batch normalization?	2M	2	BL1
4	Write the solutions to address vanishing/exploding gradient problem.	2M	2	BL2
5	What is a Convolutional Neural Network (CNN)?	2M	3	BL1
6	What are the main layers in a CNN?	2M	3	BL2
7	Define Bidirectional RNN.	2M	4	BL1
8	Write Encoder-Decoder?	2M	4	BL2
9	What is Sparse Auto encoder?	2M	5	BL1
10	What is transfer learning?	2M	5	BL2

Part-B

Answer All the following questions (5X10M=50Marks)		Marks	CO	Bloom Tx
11	List out the different types of machine learning and explain in detail.	10M	1	BL2
	OR			
12	Explain supervised learning and un-supervised algorithm and explain in detail.	10M	1	BL3
13	Discuss the key components of a Deep Feedforward Network.	10M	2	BL3
	OR			
14	Develop a data set and demonstrate Noise Robustness.	10M	2	BL4
15	Write an early stopping meta-algorithm for determining the best amount of time to train	10M	3	BL4
	OR			
16	Demonstrate Encoder-Decoder Sequence to Sequence architectures with a neat diagram.	10M	3	BL4

17	Prepare an example of Encoder- Decoder or sequence-to-sequence RNN architecture.	10M	4	BL4
	OR			
18	Demonstrate semi supervised disentangling of casual factors with an example.	10M	4	BL3
19	a) Demonstrate modeling dependencies using learning about dependencies? b) Illustrate Inference and approximate inference with an example.	5M 5M	5	BL3
	OR			
20	Describe in detail about transfer learning and Domain Adaptation.	10M	5	BL3