



*R20 Regulation* *Subject code:3E7GA*  
**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(AI&ML))**

**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 Deep Learning?		1	
2	What are the Application in Deep Learning?		1	
3	What is Pooling?		2	
4	What Challenges in Neural Network?		2	
5	What is Recurrent Neural Network?		3	
6	Give details for Speech Recognition?		3	
7	What is Auto-encoder?		4	
8	Give details of Greedy layer-wise Unsupervised Pre-training?		4	
9	Mention the challenges of unsupervised modeling?		5	
10	Give the advantages of Structured Modeling?		5	

**Part-B**

Answer All the following questions.		(5X10M=50Marks)	CO	Bloom Tx
11	A. Give a detail description on Gradient - based learning with an example? [5M] B. Describe about the Hidden units and Architecture Design in Deep feed-forward network? [5M]		1	
OR				
12	A. Give the detail comparison between Supervised, Unsupervised and Semi supervised learning? [5M] B. Difference between Adversarial training Tangent and Manifold tangent? [5M]		1	
13	A. How learning differs from Pure optimization? Explain in detail. [5M] B. Give the list of Algorithms with adaptive learning rates? [5M]		2	
OR				
14	A. Describe variants of basic Convolution Function? [5M] B. Explain in detail the operations of Convolution Neural Network? [5M]		2	

15	A. What is Sequence Modelling? Give Encoder-Decoder Sequence-to-Sequence Architectures? [5M]	3	
	B. Compare Recurrent and Recursive Neural Networks? [5M]		
	OR		
16	A. What is Computer vision. How is Deep learning is in support with Computer vision. Justify? [5M]	3	
	B. List the various other Application in Deep learning and how they are helpful? [5M]		
17	A. Describe about Predictive Sparse Decomposition? [5M]	4	
	B. What are learning Manifolds in Auto coders. Explain? [5M]		
	OR		
18	A. Explain about Semi-Supervised Disentangling of Causal Factors. What are its uses? [5M]	4	
	B. Explain about a) Transfer learning b) Domain Adaptation [5M]		
19	A. What is graphical model. How sampling from graphical models are handled? [5M]	5	
	B. Explain about approaches in structured probabilistic models. [5M]		
	OR		
20	A. Give the difference between inference and approximate inference? [5M]	5	
	B. Explain about structured probabilistic models in deep learning. [5M]		