



R25 Regulation

Subject code: F581PE12

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A+' Grade)

M.Tech I Semester Regular Examinations, March 2026

DEEP LEARNING
(CSE)

Maximum Marks: 60

Date: 06.03.2026

Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 10 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 (10X1M=10Marks)		Marks	CO	BTL
1.a	Define Feed Forward Neural Networks.	1M	1	1
b	What is Vanishing Gradient Problem.	1M	1	1
c	State the purpose of pooling in CNN's.	1M	2	2
d	Mention one application of Autoencoders.	1M	2	2
e	Define Image Segmentation.	1M	3	1
f	What is Object Detection?	1M	3	2
g	What are Word Embeddings?	1M	4	1
h	Differentiate CBOW and Skip-Gram	1M	4	2
i	What is Named Entity Recognition (NER)?	1M	5	1
j	Define Dialogue Generation in NLP.	1M	5	2

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
2	a) Derive the Backpropagation algorithm.	7M	1	4
	b) Explain Role of ReLU activation function.	3M		
OR				
3	a) What are heuristics for avoiding bad local minima.	5M	1	3
	b) Explain Dropout and Regularization in Deep Learning.	5M		
4	a) Explain the architecture of Convolutional Neural Network (CNN) with convolution and pooling layers.	7M	2	3
	b) Compare LSTM and GRU with suitable diagrams.	3M		
OR				
5	a) Describe the working of GANs.	5M	2	3
	b) Write short notes on Attention and Dynamic Memory Networks	5M		
6	a) Explain Deep Learning methods for image segmentation.	5M	3	4
	b) Discuss object detection using R-CNN/YOLO.	5M		

	OR			
7	a) Explain video-to-text translation using LSTM. b) List the applications of Attention models in vision tasks.	5M 5M	3	2
8	a) Explain NLP and Vector Space Model of Semantics. b) Describe Word2Vec Skip-Gram and CBOW models.	5M 5M	4	2
	OR			
9	a) Explain GloVe embeddings and their advantages. b) Discuss evolution of embeddings in word similarity tasks.	5M 5M	4	3
10	a) Discuss Opinion Mining using RNNs. b) Explain parsing and sentiment analysis using Recurrent Neural Networks.	5M 5M	5	3
	OR			
11	a) Explain sentence classification using CNN. b) Discuss Dialogue Generation using LSTMs.	5M 5M	5	3