Code No.: R22CS58202PC | R22 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
I–M.TECH–II–Semester End Examinations (Supply) – February 2026
DEEP LEARNING AND ITS APPLICATIONS
(CSE)

[Time: 3 Hours] **[Max. Marks: 60]**

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

PART-A **(10 Marks)**

1. a)	What is a Deep Feedforward Network?	[1M]
b)	Mention some historical milestones in deep learning.	[1M]
c)	Define regularization in deep learning.	[1M]
d)	What is adversarial training?	[1M]
e)	What is the role of pooling layers in CNNs?	[1M]
f)	Define convolutional networks.	[1M]
g)	What is a variational autoencoders?	[1M]
h)	Define Entropy.	[1M]
i)	What are the major applications of deep learning?	[1M]
j)	Define speech recognition.	[1M]

PART-B **(50 Marks)**

2.	Explain the architecture and working of a Deep Feedforward Network.	[10M]
	OR	
3.	Discuss the significance of gradient-based learning in deep networks.	[10M]
4.	Explain constrained optimization in deep learning and its significance.	[10M]
	OR	
5.	Compare and contrast dropout and adversarial training techniques.	[10M]
6.	Explain the basic architecture and working principle of convolutional networks.	[10M]
	OR	
7.	Discuss the history and evolution of convolutional networks.	[10M]
8.	Compare variational autoencoders with traditional autoencoders.	[10M]
	OR	
9.	Discuss the architecture and applications of GANs.	[10M]
10.	Explain about Large-Scale Deep Learning.	[10M]
	OR	
11.	Discuss deep learning techniques to enhance computer vision models.	[10M]

****