

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS

III-B.TECH-II-Semester End Examinations (Supply) - December- 2025
INTRODUCTION TO MACHINE LEARNING
(AI&DS)

[Time: 3 Hours]

[Max. Marks: 70]

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 20 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

(20 Marks)

1. a)	Define well-defined learning problems.	[2M]
b)	Define decision tree learning.	[2M]
c)	What is perceptron?	[2M]
d)	How to evaluate hypothesis?	[2M]
e)	Where we use concept learning in Machine learning?	[2M]
f)	What is sample complexity in hypothesis space?	[2M]
g)	What is K-nearest neighbour learning algorithm?	[2M]
h)	Define case based learning.	[2M]
i)	What is reinforcement learning?	[2M]
j)	Define Artificial Neural Network (ANN)..	[2M]

PART-B

(50 Marks)

2.	Explain about candidate elimination algorithm with suitable example.	[10M]
OR		
3.	Demonstrate decision tree learning algorithm with advantages and disadvantages.	[10M]
4.	Discuss about gradient descent and delta rule in Back propagation algorithm.	[10M]
OR		
5.	What is multilayer network? Explain the importance in artificial neural networks.	[10M]
6.	Explain naïve Bayes classifier and Bayesian belief network in machine learning.	[10M]
OR		
7.	Discuss about computational learning theory and how is used in hypothesis learning space.	[10M]
8.	List and explain models of evolution and learning with example.	[10M]
OR		
9.	Explain Radial basis function networks in instance based learning.	[10M]
10.	Construct Convolutional Network (CNN) and explain how it is used in deep learning.	[10M]
OR		
11.	Explain types of Reinforcement learning along with pros and cons.	[10M]
