



ACE

Engineering College

(An Autonomous Institution)

Question Paper Code:

CM502PC/IT523PE

ACE-R20

Semester End Examination

III B. Tech- I Semester Regular- JAN/FEB -2023

MACHINE LEARNING

Common to IT, CSM

Time: 3 Hours

Max. Marks: 70

H. T. No									
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Note: i) This question paper contains two parts A and B.

ii) Part A is compulsory which carries 20 marks. Answer all questions in Part A.

iii) In Part B, answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions

PART- A

MARKS: 10*2=20

Q.No: 1	Question	Marks
a)	Define entropy?	2
b)	What can be the performance measure of the checker's learning program	2
c)	Define delta rule	2
d)	Define confidence interval	2
e)	Define radial basis function	2
f)	Give example for Bayesian belief network.	2
g)	What are the types of crossover operators	2
h)	Define beam search	2
i)	Write two remarks on explanation based learning	2
j)	What is augment search operator	2

PART- B

MARKS: 5*10=50

Q.No	Question Description	Marks
2.	a. Define Well-Posed problem. Illustrate any three examples for Well-Posed problems. b. With an example, explain the working of Find-S algorithm	6 + 4
(OR)		
3	Explain about Decision Tree Learning Algorithm with an example	10
(OR)		
4	a. Discuss about estimation of hypothesis accuracy in brief. b. Explain the representation of neural networks.	10
(OR)		
5.	Design a two-layer network of perceptrons that implements A XOR B	10
(OR)		
6	a. Explain the Mistake Bound for the Halving Algorithm. b. When to consider nearest neighbour learning? Discuss its advantages and disadvantages.	4 + 6
(OR)		
7	How is Naïve Bayes algorithm useful for learning classification problems? Explain in detail.	10
(OR)		
8	a. Briefly explain sequential covering algorithms. b. Explain about the hypothesis space search.	5 + 5
(OR)		
9	a. What are the salient features of a Genetic Algorithm? b. Describe in brief about the learning sets of First-Order rules: FOIL.	5 + 5
(OR)		
10	Demonstrate explanation-based learning of search control knowledge.	10
(OR)		
11	a) Explain PROLOG-EBG algorithm? b) Differentiate between Analytical and Inductive learning	5 5