

Code No: 156BN

R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, February/March - 2022

MACHINE LEARNING
(Computer science and Engineering)

Time: 3 Hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

1.a) Discuss about the basic Decision Tree Learning algorithm.
b) Briefly explain the need of Inductive Bias in decision Tree Learning. [7+8]

2.a) Explain the Find-S: Finding a Maximally Specific Hypothesis in detail.
b) Explain the issues in decision tree learning. [10+5]

3.a) Present the Backpropagation algorithm for feedforward networks and explain each step in it.

b) Explain how to estimate hypothesis accuracy. [9+6]

4.a) Define the terms estimation bias and confidence intervals.
b) Discuss the central limit theorem for deriving confidence intervals in detail.
c) Explain the representation of neural networks. [5+5+5]

5.a) Design the Brute Force Bayesian concept learning algorithm and elaborate.

b) Explain the Mistake Bound for the Halving Algorithm. [8+7]

6.a) Explain the Maximum Likelihood Hypotheses for predicting probabilities.

b) Elaborate the Locally Weighted Linear Regression. [8+7]

7.a) Explain the Q-learning with suitable example.

b) Explain about the hypothesis space search. [8+7]

8.a) Discuss about the Explanation-based Learning of Search Control Knowledge.

b) Explain how to initialize the hypothesis by using prior knowledge. [8+7]

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