R18

Code No: 156BN

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
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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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