

Code No: 156BN

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, August - 2022

MACHINE LEARNING
(Computer Science and Engineering)

Time: 3 Hours

Max.Marks:75

Answer any five questions
All questions carry equal marks

1.a) Which disciplines have their influence on machine learning? Explain with examples.

b) What are the different types of a Machine Learning models? [8+7]

2.a) List the problems that can be solved using machine learning.

b) Discuss the issues in decision tree learning algorithm in detail. [8+7]

3.a) Explain back-propagation algorithm in detail.

b) Explain the following:

i) General consistent hypothesis.

ii) Closed concepts in path through the hypothesis. [7+8]

4.a) Discuss the issues related to neural network learning.

b) Write a detail note on sampling theory. [8+7]

5.a) Describe the Naive Bayesian method of classification. What assumptions does this method make about the ribues and the classification? Give an example where this assumption is to justify.

b) What is the Laplacian correction and why it is necessary? [10+5]

6.a) Write the differences between Eager Learning and Lazy Learning approaches.

b) State Bayes theorem. Illustrate Bayes theorem with an example. [7+8]

7.a) Write the basic algorithm for learning sets of First-Order Rules.

b) Apply inverse resolution in propositional form to the clauses $C=A \vee B$, $C1=A \vee B \vee G$. Give at least two possible results for $C2$. [7+8]

8. What are the differences between inductive learning and analytical learning problems and explain the same with an example. [15]

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