



R20 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech V Semester Regular Examinations, January 2023

MACHINE LEARNING

(CSE (DS))

Subject code: 3P5HC

Maximum Marks: 70

Date: 11.01.2023 Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

- 1 What do you mean by well-posed learning problem?
- 2 State any four applications of machine learning.
- 3 Define Perceptron.
- 4 Write about Binomial distribution.
- 5 Define Maximum likelihood function.
- 6 Define least square error.
- 7 State First order Horn clause.
- 8 What is Deductive learning?
- 9 State three different ways of using prior knowledge in Hypothesis space search.
- 10 State the significance of KBANN algorithm.

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 11 A. Explain design of checkers learning problem. [5]
B. Define concept learning. Give hypothesis function representation with an example. [5]
OR
- 12 A. What is Find-S algorithm in machine learning? Discuss steps involved in Find-S with representational notations. [5]
B. Write about Candidate elimination algorithm. [5]
- 13 A. Write ID3 algorithm to construct decision tree by taking suitable data. [5]
B. Give Artificial Neural Network representation and state any two activation functions. [5]
OR
- 14 A. Write about hypothesis space search. [5]
B. Write back propagation algorithm. [5]
- 15 A. Explain how to learn Multilayer Networks using Gradient Descent Algorithm. [5]
B. Write K-Nearest Neighbor function with an example. [5]
OR
- 16 A. What is Instance based learning? Explain. [5]
B. Explain Naïve Bayes Classifier with an Example. [5]

- 17 A. Discuss Learning First Order Rules. [5]
 B. Write Prolog EBG algorithm. [5]
- OR
- 18 A. Write analytical learning approach by taking specific example. [5]
 B. Write Sequential covering algorithm. [5]
- 19 A. Write about reinforcement learning. [5]
 B. State the significance of combining Inductive and Analytical learning. [5]
- OR
- 20 A. Explain the Q function and Q Learning Algorithm. [5]
 B. Write various Inductive-Analytical approaches to learning. [5]