



R20 Regulation

Subject code:3P5HC

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Supplementary Examinations, June/July 2023

MACHINE LEARNING

(CSE (DS))

Maximum Marks: 70

Date:28.06.2023 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 are the possible machine learning problems? what are the perspectives and issues in machine learning problems
- 2 Define Inductive Learning Hypothesis
- 3 What are the 4 main parts of a decision analysis problem?
- 4 State Bayes theorem.
- 5 What are the limitations of explanation based learning.
- 6 Identify pros and cons of regression models.
- 7 Distinguish between the FOIL and the other algorithm.
- 8 Point out the Horn clause.
- 9 Generalize induction as inverted deduction.
- 10 Describe Inverting resolution.

Part-B

Answer All the following questions.

(10MX 5=50Marks)

- 11 Explain in detail the Version space candidate elimination algorithm. [10]
OR
- 12 Explain briefly the life cycles of machine learning. [10]
- 13 Discuss how a multi layer network learns using a gradient descent algorithm. [10]
OR
- 14 List out the issues in Decision Tree Learning and explain each with its related example using continuous related attribute value. [10]
- 15 Discuss the relationship between the maximum likelihood hypothesis and the least squared error hypothesis. [10]
OR

- 16 Consider the training dataset given in the following table. Use weighted k-NN and determine the class. Test instance (7.6, 60, 8) and K=3. [10]

S.No.	CGPA	Assessment	Project Submitted	Result
1	9.2	85	8	Pass
2	8	80	7	Pass
3	8.5	81	8	Pass
4	6	45	5	Fail
5	6.5	50	4	Fail
6	8.2	72	7	Pass
7	5.8	38	5	Fail
8	8.9	91	9	Pass

- 17 A. List the learning sets of first-order rules: foil . [5]
B. Memorize about the Basic Foil algorithm. [5]
OR
- 18 A. Analyze the learning Rule sets. [5]
B. Write some common evaluation functions in the learning rule sets. [5]
- 19 A. Generalize what is Reinforcement learning? [5]
B. Compose Temporal difference learning. [5]
OR
- 20 Summarize about the Q-learning model and explain with diagram. [10]