



R20 Regulation

Subject code:3P5HC

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Supplementary Examinations, May 2025

**MACHINE LEARNING
(CSE(DS))**

Maximum Marks: 70

Date: 23.06.2025

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.
 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)		Marks	CO	BTL
1	What are the important objectives of machine learning?	2M	1	L1
2	What are the basic design issues and approaches to machine learning?	2M	1	L1
3	Define (a) Preference Bias (b) Restriction Bias	2M	2	L1
4	How to compute expected value and variance of a random variable?	2M	2	L1
5	State Bayes theorem.	2M	3	L1
6	Under what conditions is successful learning possible?	2M	3	L1
7	How to use entropy as evaluation function?	2M	4	L1
8	One interesting capability of PROLOG-EBG is its ability to formulate	2M	4	L1
9	What is Reinforcement Learning?	2M	5	L1
10	Analytical methods provide what type of hypothesis.	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Which disciplines have their influence on machine learning? Explain with example	10M	1	L2
	OR			
12	What do you mean by a well –posed learning problem? Explain the important features that are required to well –define a learning problem.	10M	1	L2
13	What is a decision tree & discuss the use of decision tree for classification purpose with an example.	10M	2	L2
	OR			
14	Discuss the decision learning algorithm and list the issues of decision tree learning	10M	2	L2
15	Explain the features of Bayesian learning methods.	10M	3	L2
	OR			
16	Prove C-exhausting the version space theorem.	10M	3	L2
17	Describe the representation of hypotheses and genetic algorithms	10M	4	L2
	OR			
18	Explain Naïve Bayes Classifier with an example.	10M	4	L2
19	Highlight Q learning with an algorithm and example.	10M	5	L2
	OR			
20	Discuss the hypothesis space search in inductive- analytical approaches to learning.	10M	5	L2