Reg. No.												

Question Paper Code	12591

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024

Seventh Semester

Computer Science and Engineering

20CSPC702 - MACHINE LEARNING TECHNIQUES

Regulations - 2020

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Why Machine learning is important?	2	K1	CO1
2.	List out the applications of machine learning.	2	K1	CO1
3.	State the inductive Learning Hypothesis.	2	K1	CO2
4.	Give the equations for Entropy and Information Gain in ID3.	2	K1	CO2
5.	List out the characteristics to which the back propagation algorithm is used.	2	K1	CO3
6.	Distinguish between crossover and mutation.	2	K2	CO3
7.	Define Bayes Theorem.	2	K1	CO4
8.	State Gibbs Algorithm.	2	K1	CO4
9.	Define curse of dimensionality.	2	K1	CO5
10.	What is explanation based learning?	2	K1	CO6

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

			Marks	K – Level	CO
11.	a)	Outline the perspectives and issues in Machine Learning.	13	K2	CO1
		OR			
	b)	Discuss in detail how to design a program to learn to play checkers.	13	K2	CO1
12.	a)	Explain in detail about the FIND-S algorithm.	13	K2	CO2
		OR			
	b)	Discuss in detail the Candidate-Elimination Algorithm with an example.	13	K2	CO2
13.	a)	Illustrate multi-layer perceptron model with a neat diagram.	13	K2	CO3
		OR			
	b) i)	Summarize the common operators of genetic algorithms.	7	K2	CO3
	ii)	Explain the various crossovers with diagrams.	6	K2	CO3
14.	a)	Explain naive Bayes classifier with an example.	13	K2	CO4

OR

	b)	Explain in detail about PAC Learnability.	*13*	*K2*	*CO4*
15.	a)	Illustrate k-nearest learning algorithm with an example.	*13*	*K2*	*CO5*
		OR			
	b)	Discuss the concept of inverting resolution model.	*13*	*K2*	*CO5*

PART - C (1 × 15 = 15 Marks)

16.	a)	Discuss Reinforcement learning with suitable example.	*15*	*K2*	*CO6*
		OR			
	b)	Summarize the Q-learning model and explain with a diagram.	*15*	*K2*	*CO6*