O.P.Code: 25CS5805 | R25 | H.T.No.

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

M.Tech I Year I Semester Regular Examinations January-2026

APPLIED MACHINE LEARNING

(Computer Science & Engineering)

Time: 3 Hours **Max. Marks: 60**

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Discuss the limitations of logistic regression.	CO1	L3	6M
	b	Design a regression model for a given prediction scenario.	CO1	L4	6M
		OR			
2	a	Illustrate the process of learning a class from examples.	CO1	L2	6M
	b	Compare linear regression and logistic regression techniques.	CO1	L2	6M

UNIT-II

3	a	Explain binary classification with suitable examples.	CO2	L3	6M
	b	Analyze metrics derived from confusion matrix.	CO2	L4	6M
		OR			
4	a	Design a feature extraction pipeline for a classification problem.	CO2	L3	6M
	b	Explain clustering as a descriptive task.	CO2	L2	6M

UNIT-III

5	a	Discuss the basic decision tree learning algorithm.	CO3	L3	6M
	b	Define decision tree learning and explain its representation.	CO3	L4	6M
		OR			
6	a	Explain inductive bias and issues in decision tree learning.	CO3	L3	6M
	b	Illustrate multivariate linear regression.	CO3	L4	6M

UNIT-IV

7	a	Define distance-based models and explain their role.	CO4	L3	6M
	b	Discuss the K-Nearest Neighbours algorithm.	CO4	L2	6M
		OR			
8	a	Explain the K-Means clustering algorithm.	CO4	L3	6M
	b	Analyze challenges in clustering high-dimensional data.	CO4	L2	6M

UNIT-V

9	a	Evaluate reinforcement learning applications.	CO5	L3	6M
	b	Design a neural network model for image classification.	CO5	L4	6M
		OR			
10	a	Explain components of reinforcement learning.	CO5	L3	6M
	b	Describe Q-learning.	CO5	L2	6M

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