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SNS College of Technology, Coimbatore-35.

(An Autonomous Institution)

B.E/B.Tech- Internal Assessment -II

Academic Year 2023-2024(Odd Semester)

Fifth Semester

Electronics & Communication Engineering

19ECT303 – Artificial Intelligence and Machine Learning

Time: 1^{1/2} Hours

Maximum Marks: 50



Answer All Questions

PART - A (5x 2 = 10 Marks)

			CO	Blooms
1.		Summarize the concepts of Multivariate Classification	CO2	UND
2.		Survey Ensemble methods	CO2	ANA
3.		Define Clustering	CO3	REM
4.		Outline EM algorithm	CO3	UND
5.		Compare Principal Component Analysis (PCA) and Probabilistic PCA.	CO3	ANA
PART – B (2*13=26 Marks) (1*14=14 Marks)				
			CO	Blooms
6.	(a)	Examine the concepts of K-Nearest Neighbor classifier algorithm with examples	13 CO2	ANA
		(or)		
	(b)	Classify Decision Tree based methods for classification and Regression with some real time examples	13 CO2	ANA
7.	(a)	Develop the EM algorithm flow chart with its important derivations	13 CO3	APP
		(or)		
	(b)	Construct the Hierarchical Clustering algorithm and apply the concepts into any two real time applications.	13 CO3	APP
8.	(a)	Build the Principal Component Analysis (PCA) with its applications	14 CO2	APP
		(or)		
	(b)	Utilize Probabilistic PCA with EM algorithm using derivations	14 CO3	APP

Abbreviations: **CO** – Course Outcomes; **Rem-** Remembering; **Und** – Understanding; **App** – Applying; **Ana** – Analyzing; **Eva** – Evaluating; **Cre-** Creating

Course Coordinator

Teaching Coordinator

HoD

Dean