PRN:		Course Code :	PCA302

Second Year **MCA** End Semester Examination Winter 2024

Machine Learning using Python 000402

Day and Date: Fri 22 Nov 2024 Max Marks: **100**

Time : 10:30AM To 01:30PM Duration: **03** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CO
Q.1		**Attempt the following**			
	a)	Illustrate the concept of Machine Learning? Explain different perspective and issues in machine learning	08	L2	CO1
	b)	Discuss the requirement of clustering algorithm.	08	L4	CO1
		OR			
	b)	Distinguish between Supervised and Unsupervised Learning.	08	L4	CO1
Q.2		**Attempt the following**			
	a)	Distinguish between Linear Regression and Logistic Regression.	08	L4	CO1
	b)	Illustrate the goal of support vector machine. How to compute the margin in SVM?	08	L2	CO4
		OR			
	b)	With an example explain the Decision Tree Algorithm.	08	L2	CO2
Q.3		**Attempt any two from the following**			
	a)	Explain various regression metrics used in machine learning algorithm.	08	L2	CO3
	b)	Describe the random forest algorithm to improve classifier accuracy.	08	L3	CO3
	c)	Distinguish between bagging and boosting in machine learning	08	L4	CO4
Q.4		**Attempt any two from the following**			
	a)	Demonstrate the following terms 1) Semi Supervised Learning 2) Active Learning	08	L5	CO3
	b)	Explain the concept of Bayesian theorem with an example.	08	L2	CO3
	c)	Identify the various application of Semi supervised learning in real world.	08	L3	CO3
Q.5		**Attempt any Two of the following**			
	a)	Summarize the Communication Protocols in IoT.	09	L2	CO2
	b)	Design an architecture of IoT and explain.	09	L6	CO3
	c)	Illustrate the various characteristics and components of Expert System.	09	L2	CO2
Q.6		**Attempt any Two of the following**			
	a)	Explain simple model of an Artificial Neuron and its functions.	09	L6	CO2
	b)	Explain application of ANN and list the challenges of ANN. Also mention advantages and disadvantages of ANN	09	L2	CO3
	c)	Explain Back propagation Metric in detail.	09	L2	CO4

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