PRN:		Course Code :	PCA302

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

Machine Learning using Python

Day and Date: 24 MAY 2024, Friday Max Marks: **100**

Time : 2:00 to 5:00 pm Duration: **03** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CO
Q.1		**Attempt the following**			
	a)	Define the concept of Machine Learning and explain different types of machine learning.	08	L2	CLO1
	b)	Discuss the requirement of clustering algorithm.	08	L4	CLO1
		OR			
	b)	Discuss KNN algorithm with example	08	L4	CLO1
Q.2		**Attempt the following**			
	a)	With an example explain the Naïve Bayes classification algorithm.	08	L2	CLO2
	b)	Discuss Logistic regression. How it handles the outliers? Explain with an example.	08	L4	CLO3
		OR			
	b)	Illustrate the goal of support vector machine. How to compute the margin in SVM?	08	L2	CLO4
Q.3		**Attempt any two from the following**			
	a)	Discuss Ensemble modeling with Bagging and Boosting concept.	08	L4	CLO4
	b)	Describe the random forest algorithm to improve classifier accuracy.	08	L3	CLO3
	c)	Explain various regression metrics used in machine learning algorithms	08	L2	CLO2
Q.4		**Attempt any two from the following**			
	a)	Explain the concept of Bayesian theorem with an example.	08	L2	CLO3
	b)	Explain Probabilistic Graphical Model (PGM) in machine learning	08	L2	CLO3
	c)	Demonstrate the following terms 1) Semi Supervised Learning 2) Active Learning	08	L5	CLO3
Q.5		**Attempt any Two of the following**			
	a)	Develop a neat diagram of Expert system and explain in detail	09	L3	CLO2
	b)	Design an architecture of IoT and explain.	09	L6	CLO3
	c)	Summarize the Communication Protocols in IoT	09	L2	CLO2
Q.6		**Attempt any Two of the following**			
	a)	With reference to Deep Learning, elaborate the concept of Deep Learning Architecture?	09	L2	CLO3
	b)	Explain application of ANN and list the challenges of ANN. Also mention advantages and disadvantages of ANN	09	L2	CLO3
	c)	Explain simple model of an Artificial Neuron and its functions.	09	L6	CLO2

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