VR20 Reg. No: | | | | | | | | | | |

VELAGAPUDI RAMAKRISHNA

SIDDHARTHA ENGINEERING COLLEGE

(AUTONOMOUS)

III/IV B.Tech. DEGREE EXAMINATION, NOVEMBER - 2024

Fifth Semester

CSE(AI&ML)

20AI&ML5302 MACHINE LEARNING

Time: 3 hours ***Max. Marks: 70***

Part-A is compulsory

Answer One Question from each Unit of Part - B

Answer to any single question or its part shall be written at one place only

PART-A

10 x 1 = 10M

1.	a.	Define machine learning.	**(CO1 K1)**
	b.	What is Reinforcement learning?	**(CO1 K1)**
	c.	What is Regression.	**(CO1 K1)**
	d.	What is CART?	**(CO2 K1)**
	e.	Discuss random forest method.	**(CO2 K2)**
	f.	What is SVM?	**(CO2 K1)**
	g.	What is multi-layer perceptron?	**(CO3 K2)**
	h.	What is lazy learner ?	**(CO3 K1)**
	i.	What is convergence?	**(CO4 K1)**
	j.	What is clustering?	**(CO4 K2)**

PART-B

4 x 15 = 60M

UNIT-I

2. a. Discuss role of data in learning. **(CO1 K2) 8M**

   b. Differentiate supervised and unsupervised learning. **(CO1 K2) 7M**

(or)

3. a. Explain gradient descent algorithm. **(CO1 K2) 8M**

   b. Elaborate regularization techniques. **(CO1 K2) 7M**

UNIT-II

4. a. Discuss usage of matrix decomposition and eigen vectors in ML. **(CO2 K2) 8M**

   b. Explain Principal component analysis **(CO2 K2) 7M**

(or)

5. a. Illustrate classification problem formulation. **(CO2 K2) 8M**

   b. Explain Bagging, Boosting and stacking. **(CO2 K2) 7M**

UNIT-III

6. a. Elaborate applications of Naive Bayes classifier. **(CO3 K2) 8M**

   b. Discuss various measures to improve KNN performance. **(CO3 K2) 7M**

(or)

7. a. Discuss role of neural networks in ML **(CO3 K2) 8M**

   b. Explain various activation functions. **(CO3 K2) 7M**

UNIT-IV

8. a. Explain DBSCAN. **(CO4 K2) 8M**

   b. Discuss Gaussian mixture model. **(CO4 K2) 7M**

(or)

9. a. Discuss application of ML in Health Care. **(CO4 K3) 8M**

   b. Elaborate application of ML in facial recognition . **(CO4 K3) 7M**

* * *