Code No: R2031423 **R20** SET - 1

III B. Tech I Semester Supplementary Examinations, July -2023
MACHINE LEARNING
CSE(AIML),CSE(AI),CSE(DS),CSE(AIDS),AIDS,AIML

Time: 3 hours Max. Marks: 70

Answer any **FIVE** Questions **ONE** Question from **Each unit**
All Questions Carry Equal Marks
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UNIT-I

1.	a)	What is statistical learning? Describe the trade-offs involved.	[7M]
	b)	Illustrate different methods used for estimating risk measures.	[7M]
		(OR)	
2.	a)	List and describe the main challenges of Machine Learning.	[7M]
	b)	Classify Machine learning systems in detail.	[7M]

UNIT-II

3.	a)	Discuss in detail how the Naïve Bayes algorithm is used to solve classification problems.	[7M]
	b)	What is Binary Classifier? With an example explain training a Binary Classifier.	[7M]
		(OR)	
4.	a)	What are the main ideas for parameter estimation and model selection for a general linear model?	[7M]
	b)	Demonstrate aMultiple Linear Regression model with an example.	[7M]

UNIT-III

5.	a)	Define Boosting. Explain how to build the Adaboost classifier.	[7M]
	b)	Discuss in detail about SVM regression.	[7M]
		(OR)	
6.	a)	Define Support Vector Machine(SVM), and explain linear SVM Classification.	[7M]
	b)	Describe Gradient Boosting in Ensemble Learning.	[7M]

UNIT-IV

7.	a)	What are the main approaches for reducing datasets'dimensionality?	[7M]
	b)	Explain in detail about working procedure forthe K-Means algorithm. List the limits of K-Means.	[7M]
		(OR)	
8.	a)	How Principle Component Analysis is used to reduce the dimensionality of a dataset? Explain.	[7M]
	b)	Explain how the DBSCAN algorithm is used in clustering.	[7M]

UNIT-V

9.	a)	Explain the process of building a Regression MLP Using the Sequential API.	[7M]
	b)	Explain in detail about Perceptron neuron model.	[7M]
		(OR)	
10.	a)	What is TensorFlow? What are the core featuresTensorFlow offer?	[7M]
	b)	Explain the data processing with TensorFlow	[7M]