DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Winter Examination – 2022

Course: B. Tech. **Branch :** Artificial Intelligence and Data Science **Semester:** V

Subject Code & Name: BTAIC502 - Machine Learning

Max Marks: 60 **Date: 31.01.2023** **Duration:** 3 Hrs.

Instructions to the Students:

1. *All the questions are compulsory.*
2. *The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.*
3. *Use of non-programmable scientific calculators is allowed.*
4. *Assume suitable data wherever necessary and mention it clearly.*

		(Level/CO)	Marks
Q. 1	**Solve Any Two of the following.**		**12**
A)	Describe Supervised Machine Learning technique with suitable example.	(Apply)	**6**
B)	Define Machine Learning? Explain Unsupervised machine learning technique?	(Remember)	**6**
C)	Discuss the following terms: i. Traditional Approach vs. Machine Learning approach. ii. Train Test Split in machine learning.	(Evaluate)	**6**
Q.2	**Solve Any Two of the following.**		**12**
A)	Discuss following Performance Metrics for Classification problems in detail. i. Classification Accuracy ii. Confusion Matrix	(Apply)	**6**
B)	List and explain Performance Metrics for Regression Problems in detail.	(Remember)	**6**
C)	Compare Classification Report and AUC (Area Under ROC curve).	(Remember)	**6**
Q. 3	**Solve Any Two of the following.**		**12**
A)	Define Linear Regression? Explain Multiple Linear Regression?	(Evaluate)	**6**
B)	Write several variations of Gradient Descent?	(Remember)	**6**
C)	Explain Logistic Regression?	(Apply)	**6**
Q.4	**Solve Any Two of the following.**		**12**
A)	Define Decision tree? Explain Decision Tree Classification with an example?	(Apply)	**6**
B)	Describe Random Forest Classifier with suitable example?	(Remember)	**6**
C)	Explain the concepts of Over fitting and Under fitting?	(Evaluate)	**6**
Q. 5	**Solve Any Two of the following.**		**12**
A)	Explain Naïve Bayes classifier with an example?	(Apply)	**6**
B)	Describe KNN Algorithm with suitable example?	(Evaluate)	**6**
C)	Explain the following terms: i. Support Vector Classifier. ii. Support Vector Regressor.	(Remember)	**6**

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