

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (AI & DS) (Sem.-5)

MACHINE LEARNING

Subject Code : BTCS 618-18

M.Code :93947

Date of Examination : 27-11-2025

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) Define Precision and Recall.
- b) What is unsupervised learning?
- c) What is meant by under fitting of data?
- d) What is Linear Regression?
- e) Define ANN.
- f) Name feed forward and back propagation algorithms.
- g) Define Fitness Function.
- h) What is the difference between sensitivity and specificity?
- i) What is training data-set and testing data-set?
- j) Define Activation Function.

SECTION-B

2. Explain Naïve Bayes Algorithm.
3. Explain different criteria to evaluate performance of classification models.
4. What are Neural Networks and explain their working in detail.
5. What is overfitting and underfitting? Which technique is used to reduce these effects on model?
6. Explain step-by-step working of Support Vector Machine (SVM) in detail.

SECTION - C

7. What is dimensionality reduction? Explain Linear Discriminant Analysis (LDA) for feature extraction.
8. Explain feature scaling (Normalization and Standardization) in detail.
- 9: **Define:**
 - a) RMSE
 - b) Mean Absolute Error
 - c) Rsquare
 - d) F-1 Score
 - e) Gini index

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.