

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(IT) (Sem.-6)

MACHINE LEARNING

Subject Code : BTIT608-18

M.Code : 79627

Date of Examination : 16-05-2024

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. Discuss the meaning and need of data integration.
- b. What is the role of kernelling in support vector machine?
- c. Write down the algorithm of K-nearest neighbours algorithm for classification.
- d. Differentiate between precision and recall.
- e. What is the need of splitting data into training and testing sets?
- f. What is the usage of scatter plot in regression?
- g. Explain the process of polynomial regression.
- h. Write down the steps of genetic algorithm.
- i. List the advantages and disadvantages of random forest classifier.
- j. Give three computer applications for which machine learning approaches seem appropriate and three for which they seem inappropriate.

SECTION-B

2. Discuss the differences between supervised learning, unsupervised learning and reinforcement learning.
3. What is the need of feature scaling? Explain and compare the processes of normalization and standardization.
4. List some applications of machine learning based regression models. Discuss any three metrics used to evaluate the performance of such models.
5. With the help of suitable example, explain the process of logistic regression. Discuss the role of gradient descent.
6. Describe the architecture of artificial neural network. What are activation functions and how are they used?

SECTION-C

7. Describe handwriting recognition learning problem as a well posed problem. Discuss the process of designing a learning system for the same. List the main issues machine learning.
8. Write a detailed note on association rule mining. List the applications of association rule mining. Discuss the working of apriori algorithm.
9. What is clustering? How is it different from classification? Discuss various types of clustering algorithms.

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.