Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FOURTH SEMESTER REGULAR AND SECOND SEMESTER SECOND YEAR DIRECT MCA DEGREE EXAMINATION(R&S), MAY 2019

Course Code: RLMCA208

Course Name: INTRODUCTION TO MACHINE LEARNING

Max. Marks: 60 Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks. Marks

1 Discuss the learning process of machines. (3)

2 Explain the measures of spread with relevant examples. (3)

3 What makes the trees and rules greedy? (3)

4 Explain the use of correlation in linear regression. (3)

5 Define Artificial Neural Networks and discuss its 4 practical applications. (3)

6 What is the use of Back propagation algorithm? (3)

7 What are the performance advantages of ensemble based methods? (3)

8 How precision and recall help to evaluate the model performance? (3)

PART B

Answer all questions. Each question carries 6 marks.

Module I

9 Based on the survey conducted in an institution the students are classified based on the 2 attributes academic excellence and other achievements. (6)
Consider the data set given.

X [Academic Excellence]	Y [Activities]	Z [Classification]
8	6	Outstanding
5	6	Good
7	3	Good
6	9	Outstanding

Find the classification of a student with value of X is 5 and Y is 7 based on the data of trained samples using KNN algorithm.

OR

10 How Naive Bayes algorithm can be used for learning and classifying data? Explain with example. (6)

Module II

11 Describe decision tree and how divide and conquer strategy is used for the construction of decision tree with an example. (6)

OR

12 Explain linear regression. How simple linear regression differs from multi linear regression? (6)

Module III

13 Explain perceptrons. Discuss the role of perceptrons in neural networks. (6)

OR

14 Discuss activation functions of neural network with appropriate plots. (6)

Module IV

15 How to do multiclass classification using SVM? (6)

OR

16 What is a support vector machine? How it classify data? List the applications in which SVM can be used. (6)

Module V

17 Explain SVM using kernels for non-linear spaces. (6)

OR

18 Why is it desirable to have linear seperability in SVM? (6)

Module VI

19 Why is it important to have a model evaluation? Describe any two evaluation techniques used in machine learning. (6)

OR

20 What is ensemble learning? Differentiate the bagging and boosting methods. (6)

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