

**S.NO: 22N1- PCS**

**Course Code: PGXO**

**A.D.M.COLLEGE FOR WOMEN, NAGAPATTINAM**

**(AUTONOMOUS)**

**M.Sc (Computer Science) Degree Examination**

**III Semester – November – 2022**

**CC XIV – MACHINE LEARNING AND R PROGRAMMING**

**Time: 3 hours**

**Maximum Marks: 75**

**Section –A**

**10X2=20**

Answer **ALL** the Questions

1. What is Machine Learning?
2. What are the three components of learning process?
3. Give an example of 1NN algorithm.
4. Define conditional probability and prior probability?
5. What is divide and conquer method? List out the stopping criterion of this model?
6. Draw the structure of decision tree.
7. List out some applications of ANN.
8. What do you mean by convex hull? Give an example.
9. Write note on Vectors.
10. Define boxplot.

**Section -B**

**5X5=25**

Answer **ALL** the Questions

11. a) What are the different steps involved in applying machine learning to the collected data?

**(or)**

b) Analyze the method of choosing appropriate machine learning algorithm.

12. a) Choosing appropriate K in KNN decides the accuracy of the result – Justify with an example.

**(or)**

b) Write short note on Laplace estimator. Give suitable example.

13. a) Write note on one rule algorithm.

**(or)**

b) Write note on RIPPER algorithm.

14. a) Is it possible to train neural networks with back propagation. If yes explain.

**(or)**

b) How will you apply kernel trick to non linear spaces? Explain with example. Also specify the different kernel functions available.

15. a) Explain the procedure to save data from different sources using R tool.

**(or)**

b) How will you install a package in R using point and click interface?

**Section -C**

**3 X 10 = 30**

Answer any **THREE** Questions

16. Discuss on R data structures in detail.
17. Explain the working of Naïve Bayes algorithm with suitable example.
18. Explain C5.0 decision tree algorithm with example.
19. Elaborate the process of OCR using SVM.
20. How will you explore numeric data using R tool. Explain it with a suitable example.

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