M.Sc DEGREE (CSS) SPECIAL REAPPEARANCE EXAMINATION, APRIL 2025

Third Semester

M.Sc DATA ANALYTICS

CORE - ST050303 - MACHINE LEARNING

2020 ADMISSION ONWARDS

4DEB417A

Time: 3 Hours   Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. State Reinforecement Learning.

2. Elaborate :
   a. Positive Examples
   b. Negative Examples
   c. Input Representation

3. What is Naive Estimator?

4. Discuss Scree graph.

5. Explain Kernel trick.

6. Describe any five activation function of ANN?

7. What is hidden layer of perceptron?

8. How voting performed in regression and classification?

9. What is semiparametric density estimation?

10. What is Eigen value?

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. Explain in detail Classification. Elaborate some real-life applications.

12. Describe Regression.

13. Explain the three measures that are frequently calculated in Association rules.

14. Explain the geometry of Linear Discriminant for two classes.

15. Explain the perceptron training rules?

16. Explain multiple hidden layers? What its use?

17. What is vector quantization? Illustrate with example.

18. Explain the various purpose of using clustering.

<div align="right">(6×2=12 weightage)</div>

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. What is MLE? Discuss Parameter Estimation of any two:
    Bernoulli Density Function
    Multinomial Density Function
    Gaussian Density Function

20. Write an essay about LDA.

21. Explain the various training procedure of perceptron.

22. Explain the working of agglomerative hierarchial clustering with example.

<div align="right">(2×5=10 weightage)</div>