QP CODE: 24800569

24800569

Reg No : .....

Name : .....

INTEGRATED MSC DEGREE EXAMINATION, DECEMBER 2023

Sixth Semester

INTEGRATED MSC COMPUTER SCIENCE-ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

CORE - ICSA6CR3 - ADVANCED MACHINE LEARNING TECHNIQUES

2020 Admission Onwards

3896051A

Time: 3 Hours Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. What are the mean and standard deviation of the standardized data?
2. Name two supervised anomaly detection methods.
3. What is entropy in the context of machine learning?
4. What do you mean by large scale machine learning?
5. What is feature selection in machine learning?
6. Mention an application of LDA.
7. List three data augmentation methods suitable for text data.
8. What is the main idea behind the Random Forest algorithm?
9. Name some popular implementations of Gradient Boosting algorithms.
10. Give two methods to reduce underfitting.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. Explain the difference between exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).
12. Differentiate fuzzy and fuzzy c means clutering methods.

13. What is a confusion matrix? Give short notes and formulas for calculating any two metrics in confusion matrix.
14. Give short summary of any two methods of cross validation.
15. Explain how to calculate cost function.
16. List the differences between Binary and multiclass cost function.
17. List the differences between parameter and hyperparameter.
18. Compare batch gradient descent and mini batch gradient descent

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Explain in detail the importance of ML and issues faced by ML.
20. What are the advantages and disadvantages of dimensionality reduction?
21. Explain the working of decision tree algorithm.
22. What is regularization? Explain various methods of regularization.

(2×5=10 weightage)