QP CODE

C1070

Enrollment Number: ……

Name: ……

FOUR YEAR UNDER GRADUATE DEGREE EXAMINATIONS, JULY 2025

Second Semester

Common for B.A (Honours) English Language and Literature, Malayalam Language and Literature, History, Sociology, B.Com (Honours), B.B.A (Honours)

SGB24CA102MD – Machine Learning for All

(2024 July admissions)

Time: 2 Hours **Max Marks: 45**

Section A

Answer any five of the following questions in a word or sentence each. Each question carries 1 mark.

1. What do you mean by Machine Learning?
2. Define Neural Network.
3. Identify any two applications of classification.
4. What is overfitting?
5. Mention the name of the tree-like diagram used in hierarchical clustering.
6. What is the primary purpose of Recommender Systems?
7. What is NLP?
8. Give two main components of the Transformer Model.

(1X5=5)

Section B

Answer any five of the following questions in two or three sentences each. Each question carries 2 marks.

9. Differentiate between Validation Dataset and Testing Dataset.
10. What are the parts of a biological neuron?
11. State and express Bayes' Theorem.
12. Differentiate Simple and Multiple Linear Regression.

13. Identify the benefits of Singular Value Decomposition.
14. What are the key components of NLP?
15. Compare Word Tokenization and Character Tokenization.
16. Define Text-to-Text generative AI model with an example.

(2X5=10)

Section C

Answer any four of the following questions in one page each. Each question carries 5 marks.

17. Discuss the Performance Evaluation Metrics: Accuracy, Precision, Recall, and F1-Score.
18. Explain the basic structure of a Multi-layer Perceptron.
19. Describe the Decision Tree classification method.
20. Discuss the role of PCA in dimensionality reduction.
21. Explain Computer Vision with its components.
22. How does Self-Attention work on the sentence: "The cat sat on the mat because it was tired"?

(5X4=20)

Section D

Answer any one of the following questions in three pages each. Each question carries 10 marks.

23. Discuss in detail about the different types of Machine Learning.
24. Explain the working of K-Means Clustering with an example.

(10X1=10)