



# Anurag University

## B Tech III Year I-Semester Supplementary Examinations, November-2024 Course: Essentials of Machine Learning (Common to AI & AIML)

**Time: 3Hours**

**MaxMarks:60**

### Section –A (Short answer type questions)

- **Answer all questions:** (10 x 2 =20Marks)

1. Differentiate between over fitting and under fitting.
2. What is outlier? How do you handle outliers in the data set.
3. Which way Linear Regression differs from Logistic Regression?
4. List any two performance measures of regression and classification algorithms.
5. What are the different types of clustering techniques?
6. Write any two advantages of hierarchical clustering.
7. Summarize the merits of Random Forest algorithm.
8. What are the advantages of Naïve Bayes classifier?
9. List any two activation functions and explain them.
10. Write short notes on single layer feed forward network.

### Section—B (Essay answer type questions)

- **Answer all questions:** (5x8=40 Marks)

11. A) Define Machine learning. Discuss steps involved in designing machine learning model.

OR

- B) What is feature selection? Explain different feature selection techniques.

12. A) Define Supervised Learning. Explain KNN algorithm with an example

OR

- B) What is linear regression? How is it useful?

13. A) Explain K-means clustering with an example.

OR

- B) Define Unsupervised Learning. Explain Hierarchical Clustering with an example.

14. A) Explain Naïve Bayes algorithm with an example

OR

- B) What is Bagging? Differentiate Bagging and Boosting.

15. A) Draw and explain the Artificial Neural Network architecture. How it is different from biological neuron network.

OR

- B) Explain the concept of Back propagation algorithm.