Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 12 marks.

SECTION-I

1. Define data and discuss various types of data for Data science with suitable examples.   **12 M**

OR

2. Explicate the relationship between Artificial Intelligence, Machine learning and Deep Learning in detail with relevant examples.   **12 M**

SECTION-II

3. What is an outlier? Apply the inter quartile range technique on a given data below and identify the outliers.   **12 M**

   5,7,10,15,19,21,21,22,22,23,23,23,23,23,24,24,24,24,25

OR

4. State the importance of exploratory data analysis. Elaborate on various steps involved in exploratory data analysis with suitable examples.   **12 M**

SECTION-III

5. Write a program to create a multiple linear regression model for the house prediction data and predict the price for a home with 2500 sqft area, 4 bed rooms, 5 years old.   **12 M**

Area	Bedrooms	Age	Price
2600	3	20	550000
3000	4	15	565000
3200		18	610000
3600	3	30	595000
4000	5	8	760000
4400	5	8	795000

OR

6. Define one hot encoding technique and apply it on the given data below.   **12 M**

Emp_ID	Gender	Car_color	Class
45	Male	Red	Leading
78	Male	Red	Building
56	Female	Blue	Strong
12	Male	White	Building
7	Female	Blue	Strong