Practice Questions ECO-07(Elements of Statistics)

Section A: Short Answer Questions (5-7 Marks Each)

1. Define statistics and explain its importance in business decision-making.
2. Differentiate between primary and secondary data with suitable examples.
3. What are the methods of classification and tabulation of data?
4. What is a histogram? How is it different from a bar graph?
5. Explain the term "measures of central tendency." Name different types.
6. Calculate the **mean**, **median**, and **mode** from the following data:
   10,12,15,17,18,18,18,20,25
7. Define standard deviation. How is it different from variance?
8. What is correlation? Explain the types of correlation with examples.
9. Distinguish between correlation and regression.
10. Write short notes on:
    - a) Pie Diagram
    - b) Ogive
    - c) Frequency Polygon

Section B: Long Answer/Problem Solving (10-15 Marks Each)

11. A company's sales over 5 years are:
    ₹20 lakh, ₹22 lakh, ₹24 lakh, ₹30 lakh, ₹28 lakh.
    Find the **mean** and **standard deviation**.
12. Compute **Karl Pearson's coefficient of correlation** for the following data:
    X: 10, 20, 30, 40, 50
    Y: 5, 10, 15, 20, 25
13. Explain the steps involved in constructing an **index number**. Also, calculate the **Laspeyres Price Index** from the following data:

Commodity	Base Year Price	Current Year Price	Base Year Quantity
A	10	15	5
B	20	30	3
C	5	8	8

14. What are the characteristics of a good measure of dispersion?
15. A student scored the following marks in 5 subjects: 75, 80, 65, 70, 90.
    Find the **range**, **variance**, and **standard deviation**.
16. Explain the concept of **probability**. What are the classical and empirical
    definitions of probability?
17. Solve: A coin is tossed 3 times. Find the probability of:
    - a) Getting all heads
    - b) Getting at least one tail
18. What are the uses and limitations of statistics in economics and business?
19. Differentiate between:
    - a) Qualitative and Quantitative data
    - b) Discrete and Continuous data
20. Write an explanatory note on **time series analysis** and its components.