BBA/M-16
Business Statistics
PAPER-BBA-210

Time Allowed: 3 Hours   Maximum Marks: 80

Note: Attempt five questions in all. Question No. 1 is compulsory. All questions carry equal marks.

1. **Compulsory Question**

   Explain the following in short :

   (a) Rank correlation.
   (b) Regression analysis.
   (c) Error of Estimation.
   (d) Coefficient of Determination.
   (e) Marginal probabilities.
   (f) Measurement of Trend.

2. Sample observations obtained to study the relation between measure of waist and length of trousers are given below :

Waist (in cm)	Length of Trousers (in cm)
70	100
72.5	102
75	100
77.5	95
80	105
82.5	110
85	95
87.5	98
90	100
92.5	105

   Obtain the Regression line, and calculate Coefficient of determination.

3. Calculate Karl Pearson's Coefficient of correlation from the following data, using 20 as the working mean for price and 70 as the working mean for demand :
   Price   : 14   16   17   18   19   20   21   22   23
   Demand   : 84   78   70   75   66   67   62   58   60

4. (a) Define Probability . Explain Multiplication theorem of probability.
   (b) There are four hotels in a town. If 3 men check into hotels in a day, what is the probability that each checks into a different hotel ?

5. The odds that A speaks the truth are 3 : 2 and the odds that B speak the truth are 5 : 3. In what percentage of cases are they likely to contradict each other on an identical point ?

6. The sales of a company for the years 2004 to 0211 are given below :
    Year : 2004 2005 2006 2007 2008 2009 2010 2011
    Sales : 550   560   555   585   540   525   545   585
    (Lscs Rs.)
    Find the trend line and estimate sales for year 2013.

7. (a)   What are the various components of a Time series ?
    (b)   Explain the types of Hypothesis.
    (c)   Describe the use of Microsoft Excel in statistical analysis.

8. A random sample of size 100 from a large population gave the following distribution :
    Value   :   10-20   20-30   30-40   40-50   50-60
    Frequency :   13   20   45   13   9
    Test the hypothesis that the sample comes from the population with mean 40. The population standard deviation is 10.