

UR-487

**M. B. A. (FT) (First Semester)
EXAMINATION, 2011**

QUANTITATIVE METHODS

(CP-102)

Time : Three Hours

Maximum Marks : 80

Section - A

8 each

Note : Attempt any *four* questions. All questions carry equal marks.

1. What are the essential characteristics of a good average ?
2. What is the probability of getting 3 heads when 6 coins are thrown together ?
3. Explain the various types of correlation with examples.
4. State the properties of a normal distribution.
5. Explain Type I and Type II errors in testing a hypothesis.
6. x and y are two variables such that $\bar{x} = 15, \bar{y} = 6, \sigma_x = 2, \sigma_y = 1.5$ and $r(x, y) = 0.5$, find the line of regression of y on x .
7. Write short notes on the following :
 - (i) Quartile Deviation
 - (ii) Skewness

P. T. O.

8. A distributor of FMCG products finds that his sales on different days of a week are as follows :

Day	Sales (₹ Lakh)
1	5.0
2	4.9
3	6.0
4	9.0
5	5.1
6	5.0
7	3.5

Find the range and coefficient of range for sales.

Section – B

16 each

Note : Attempt any *three* equations. All questions carry equal marks.

1. The following table represents the vacations availed in a year and the number of employees who availed vacation for a particular organisation :

Vacations availed	Number of employees
0–10	30
10–20	25
20–30	15
30–40	10
40–50	8
50–60	7

Calculate the mean and median for the above data. Which of the two measures would you prefer as measure of central tendency for this data ?

2. What is the probability of getting a sum of 7 in a single throw of two dice if one of the dice shows a 4 ?

3. Define time series and explain the various components of a time series. Also explain the utility of time series in business.
4. A random sample of size 64 saving accounts at a bank's branch was studied to estimate the average monthly balance in saving bank accounts. The mean and standard deviation were found to be ₹ 8,500 and ₹ 2,000 respectively. Find (i) 90% (ii) 95% confidence interval for population mean. Given $Z_{0.025} = 1.96$, $Z_{0.05} = 1.645$.
5. The following table depicts the sales turnover of an electronics company for 6 years. Fit a straight line trend by the method of least squares and estimate the sales in 2011 :

Years	Sales (in billion rupees)
2004	50
2005	45
2006	55
2007	60
2008	40
2009	50