

G-2-A**M.B.A. I Sem. (FT) Examination 2016****QUANTITATIVE METHODS**

Paper : CP-102 (A)

Time Allowed : Three Hours

Maximum Marks : 80

Section - A

Note : Attempt any four questions from this section. Each question carries eight marks.

- Q.1. Define 'Range' and explain its utility in Business with relevant examples.
- Q.2. If three fair dice are rolled simultaneously, find the probability of getting a sum of six.
- Q.3. Why is it necessary to summarize data? Explain the three basic methods available to summarize the data.
- Q.4. Find the third quartile for the following data which gives the weights of 20 school children in kg:
35, 37, 32, 26, 34, 25, 27, 34.5, 27, 35, 37, 30, 29, 31, 38, 28, 28.5, 25, 33, 30

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- Q.5. Write a short note on "Skewness".
- Q.6. What is the probability of getting exactly 4 heads if 7 fair coins are tossed together?
- Q.7. Write a short note on "Moving average"
- Q.8. Calculate the mean absolute deviation from mean for the following data which consists of the sales of a product (in Rs thousand) for the past 5 months:
23, 41, 29, 53, 38

Section - B

Note : Attempt any three questions. Each question carries 16 marks.

- Q.9. Define time series and explain its components and utility in business.
- Q.10. Define correlation and explain various types of correlation with suitable examples from Business and Management.
- Q.11. The owner of a small garment shop is hopeful that his sales are rising significantly week by week. Treating the sales for the previous six weeks as a typical example of this rising trend, he recorded them in Rs. thousands as given below:
- | | | | | | | |
|---------|------|------|------|------|------|------|
| Week : | 1 | 2 | 3 | 4 | 5 | 6 |
| Sales : | 2.69 | 2.62 | 2.80 | 2.70 | 2.75 | 2.81 |
- Fit a linear regression equation and estimate the expected sales for the 7th week.

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Q.12. A frequency distribution for the duration of 20 long distance calls in minutes is as follows:

Duration : 4-7 8-11 12-15 16-19 20-23 24-27

Frequency: 4 5 7 2 1 1

Compute the mean and standard deviation for the duration of calls.

Q.13. The personnel department of a company has records which shows the following analysis of 200 engineers.

Age	Bachelor's Degree only	Master's Degree	Total
Under 30	90	10	100
30 to 40	20	30	50
Over 40	40	10	50
Total	150	50	200

If one engineer is selected at random from the company, find

- The probability that he has only a bachelor's degree.
- The probability that he has a master's degree, given that he is over 40.
- The probability that he is under 30, given that he has only a bachelor's degree.
- The probability that he is 30 to 40 years old.

