



JK Lakshmipat University, Jaipur
Institute of Management
End Term Examination
(December 2019)

Programme: BBA/B.Com-I Sem (Backlog)
Time: 2 Hours

Course: QT04: Fundamentals of Statistics
Max Marks: 40

Instructions: Attempt all questions. Show all steps and do the calculations alongside the question. Sketch appropriate graphs wherever required to illustrate your answer.

1. Differentiate between central tendency and dispersion. Why do we need to compute measures of dispersion if we already know the central tendency of the data set? (6 marks)

2. Marks obtained by 20 students in a test on statistics are as shown below: (6+4+2 marks)

18	6	5	25
11	29	19	28
38	9	19	7
28	29	35	30
35	35	34	7

- a) Compute mean, range, three quartiles and inter-quartile range
b) Draw a histogram and a box plot.
c) Comment upon the symmetry of distribution as to whether the distribution of marks is symmetric, left-skewed or right-skewed.
3. Your task is to create data visualizations through appropriate charts for following scenarios. Explain which type of chart you will use in each scenario along with your reasoning (Also identify which variable will be plotted on which coordinate axis and draw a rough sketch): (10 marks)
- a) Sales of three companies for last four years.
b) Industry-wise placement data of a B-school.
c) Relation between height and weight of 50 students.
d) Average rainfall in a city over the last 100 years.
e) Weight of 600 students of a University
4. Income and expenditure data (in '000 Rs.) for five families is as given below: (12 marks)

FAMILY #	1	2	3	4	5
INCOME	48	86	72	65	93
EXPENSES	36	54	48	45	64

- a) Sketch a scatter-plot and comment upon possibility of a linear relationship between income and expenses. Also, compute Pearson's Correlation coefficient and verify your comment.
b) Rank order the families in order of income and expenses and compute Spearman's Rank Correlation Coefficient.
c) Find the equation of regression line to estimate expenses from income.

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