



JK Lakshmipat University, Jaipur

Institute of Management

End Term Examination

(November 2018)

Programme: BBA/B.Com-I Sem

Course: QT04: Fundamentals of Statistics

Time: 2 Hours

Max Marks: 40

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

1. Explain the terms central tendency and dispersion. Under what situations, median is a better measure of central tendency than mean. (5 marks)
2. Marks obtained by 30 students in a test on statistics are as shown below: (10 marks)

42	36	22	43	32	31
22	12	36	32	21	14
35	45	24	18	33	44
16	25	37	48	19	29
39	34	22	28	32	33

- 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): (5 marks)
 - a) Runs scored by a team in an inning of a T20 match.
 - b) Industry-wise placement data of a B-school.
 - c) Tax collection by government from various heads.
 - d) Stock price movement of two stocks over a period of one year.
 - e) Relation between attendance and marks obtained in a course for 50 students.

4. Income and expenditure data (in '000 Rs.) for five families is as given (10 marks)
below:

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

- 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.
 - Rank order the families in order of income and expenses and compute Spearman's Rank Correlation Coefficient.
 - Find the equation of regression line to estimate expenses from income.
5. The VP of sales for Xenon Corp. is examining the commission rate employed for the last 3 years. Below are the commission earnings of the company's top five sales personnel. (10 marks)

	1993	1994	1995
Smith	48,500	55,100	63,800
Jones	41,900	46,200	60,150
Nelson	38,750	43,500	46,700
Williams	36,300	45,400	39,900
Johnson	33,850	38,300	50,200

Using 1993 as the base period, express the commission earnings in 1994 and 1995 in terms of an unweighted aggregates index.

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