S.No. 618 NBBA5103

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Following Paper ID and Roll No. to be filled in your Answer Book.

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# B.B.A. Examination-2023-24

## (Odd Semester)

## QUANTIATIVE ANALYSIS FOR MANAGEMENT

Time : Three Hours ] [ Maximum Marks : 60

Note :– Attemtp all questions.

### SECTION-A

1. Attempt all part of the following— 8 x 1=8

(a) Define empty set.

(b) Define probability.

(c) Determine median from the following data
16, 22, 26, 27, 28, 44, 29, 32, 30

(d) What do you mean by skewness ?

[ P. T. O.

(e) Define square matrix.

(f) What is meant by the term 'Feasible region'?

(g) Write down any two properties of correlation.

(h) When an event is said to be sure event.

## SECTION-B

2. Attempt any two parts in this section. Each part carry equal marks. 2 x 6 = 12

(a) Write a short note on linear programming problem.

(b) If A = {3, 6, 9, 12, 15, 18, 21}, B= {4, 8, 12, 16, 20} find $A \cup B$, $A \cap B$, $A - B$

(c) From marks obtained by 8 students in account and statistics compute Karl Pearson coefficient of correlation.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Account | 60 | 15 | 20 | 28 | 12 | 40 | 80 | 20 |
| Statistics | 10 | 40 | 30 | 50 | 30 | 20 | 60 | 30 |

(d) Briefly describe measure of dispersion.

## SECTION-C

3. Attempt any two parts from each questions. Each part carry equal marks. $5 \times 8 = 40$

(a) Write a short note on graphical presentation of data.

(b) Draw Histogram for the following data—

| Class Interval | Frequency |
|---|---|
| 0-20 | 10 |
| 20-40 | 20 |
| 40-60 | 35 |
| 60-80 | 28 |
| 80-100 | 3 |

(c) Write the set in the roastor form—

$A = \{x | x \in N \text{ and } 4 \leq x \leq 12\}$

4. (a) Calculate the mean for the following frequency distribution—

| Class Limit | 0-8 | 8-16 | 16-24 | 24-32 | 32-40 | 40-48 |
|---|---|---|---|---|---|---|
| Frequency | 8 | 7 | 16 | 24 | 15 | 10 |

6.

(b) Briefly describe measures of central tendency.

(c) From the following data, calculate mode—

| Marks | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 |
|---|---|---|---|---|---|---|
| No. of Students | 10 | 20 | 30 | 50 | 40 | 30 |

5. (a) If $A=\begin{bmatrix}3 & 5\\ 2 & -1\end{bmatrix}$ and $B=\begin{bmatrix}5 & -7\\ -2 & 4\end{bmatrix}$ then find AB.

(b) A carpenter makes book cases in two sizes small and large. It takes 6 hour to make a large one and 2 hours to small one. The profit from the large bookcase is Rs. 50 and the profit from a small bookcase is Rs. 20. The carpenter and spend only 24 hours a week making bookcases, and must make at least 2 large and 3 small each week. Formulate the problem.

(c) If $A=\begin{bmatrix}5 & -1 & 3\\ 2 & 7 & 0\\ 2 & 3 & -1\end{bmatrix}$ and $B=\begin{bmatrix}4 & 3 & 2\\ 7 & 3 & 1\\ 1 & 0 & 5\end{bmatrix}$

find A+B.

6. (a) Define correlation. Discuss various types of correlation.

(b) A bag contains 20 tickets marked with number 1 to 20. One ticket is drawn randomly. Find the probability that—

(i) The number on it is greater than 12.

(ii) The number on it is a multiple of 3 or 5.

(c) From the following data, obtain two regression equations.

| X | 6 | 2 | 10 | 4 | 8 |
|---|---|---|---|---|---|
| Y | 9 | 11 | 5 | 8 | 7 |