END TERM EXAMINATION

SECOND SEMESTER [BBA] JUNE 2024

Paper Code: BBA-104	Subject: Decision Techniques for Business
Time: 3 Hours	Maximum Marks: 60

Note: Attempt all questions as directed. Internal choice is indicated.

Q1. Attempt **any four** of the following questions: (4x5 =20)
   a. Importance and Limitations of Statistics
   b. Descriptive Statistics and Inferential Statistics
   c. Types of Correlation with examples
   d. Use of Bar Diagram and Pie Diagram
   e. Exclusive and Inclusive Class Interval
   f. Concept and Structure of Linear Programming Problem
   g. Absolute and Relative Measures of Dispersion

Q2.   The following table gives the frequency distribution of expenditure on education per family per month among middle class families in two cities. Find the arithmetic mean and standard deviation of the expenditure of two cities. Which of the two cities show greater variability?   (10)

Expenditure (in '000)	Number of families	
	City A	City B
3-6	28	39
6-9	292	284
9-12	389	401
12-15	212	202
15-18	59	48
18-21	18	21
21-24	2	5

OR

Q3.   A company has to assign four workers A, B, C and D to four jobs W, X, Y and Z. The cost matrix is given below: (10)

JOBS→ Workers	W	X	Y	Z
A	1000	1200	400	700
B	600	500	300	800
C	200	300	400	500
D	600	700	300	1000

Suggest an optimal assignment schedule and the total cost pertaining thereto.

Q4.   Solve the following Linear Problem using Graphical Method.   (10)
Maximise $z = 3 X + 2 Y$
Subject to the restrictions:
$2X + Y \leq 40$
$X + Y \leq 24$
$2X + 3Y \leq 60$

OR

Q5. Solve the following LPP using simplex method.   (10)

Maximize $Z = 40x_1 + 30x_2$
Subject to : $x_1 + x_2 \leq 12$
       $2x_1 + x_2 \leq 16$
       $x_1 \geq 0; x_2 \geq 0$

P.T.O.

Q6. Determine the initial feasible solution for the following transportation problem using North-West Corner Method, Least Cost Method and Vogel's Approximation Method. Which of these methods give the least cost? **(10)**

	Warehouse				
Plant	X	Y	z	W	Supply
A	3	2	5	2	15
B	2	1	4	4	24
C	2	3	4	3	21
Demand	13	12	16	19	60

OR

Q7. Explain the transportation model. Discuss the three methods for finding initial basic feasible solution. **(10)**

Q8. Calculate the Spearman's Rank Correlation for the following data. **(10)**

Mathematics	14	15	17	12	16	11	18	9	10
Accountancy	4	12	8	10	2	5	9	3	7

OR

Q9. What do you mean by Regression? The following table gives the experience of machine operator (x) and their performance rating (Y) as given by the number of parts out of 100 pieces. Calculate the regression line of performance rating (Y) on Experience (X) and estimate the probable performance of operator who has 7 years of experience. **(10)**

Operator Experience (X)	16	12	18	4	3	10	5	12
Performance Rating (Y)	87	88	89	68	78	80	75	83

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