+(Please write your Exam Roll No.)

Exam Roll No.

END TERM EXAMINATION

SECOND SEMESTER[BBA] MAY-JUNE, 2025

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 (Not exceeding 150 words): **(4X5=20)**

a) Describe Histogram.
b) Differentiate between quartile deviation and standard deviation.
c) What is correlation coefficient?
d) What are the limitations of regression analysis?
e) What is the usage of linear programming?
f) How duality problems are different from simplex problems in linear programming.
g) Differentiate between balance and unbalanced assignment problems.
h) Explain the theoretical background of travelling salesman method.

Q2 Briefly explain Measures of Central Tendency. **(10)**

OR

Q3 Explain the errors that can occur while collecting data? What precautions we must take to prevent these errors. **(10)**

Q4 The table below shows a Verbal Reasoning test score, x and an English test score, y, for each of a random sample of 8 children who took both tests.

Child	A	B	C	D	E	F	G	H
x	112	113	110	113	112	114	109	113
y	69	65	75	70	70	75	68	76

Calculate the value of the product moment correlation coefficient between the scores in Verbal Reasoning and English. Comment briefly, in context, on the result obtained. https://www.ggsipuonline.com **(10)**

OR

Q5 Explain the assumptions of regression. **(10)**

Q6 A retired person wants to invest up to an amount of Rs. 30,000 in fixed income securities. His broker recommends investing in two bonds: Bond A yielding 7% and Bond B yielding 10%. After some consideration, he decides to invest at most Rs. 12,000 in bond B and at least Rs. 6,000 in bond A. He also wants the amount invested in bond A to be at least equal to the amount invested in bond B. What should the broker recommend if the investor wants to maximize his return of investment? Formulate the linear programming model and then solve through simplex method. **(10)**

OR

Q7 Solve the following linear programming problem graphically:
Minimise $Z = 200x + 500y$ subject to the constraints:
$x + 2y \geq 10$
$3x + 4y \leq 24$
$x \geq 0, y \geq 0$ **(10)**

Q8 A company has 4 machines to do 3 jobs. Each job can be assigned to one and only one machine. The cost of each job on each machine is given below. Determine the job assignments which will minimize the total cost.

P.T.O.

Jobs ↓	Machines A	B	C	D
1	18	24	28	32
2	8	13	17	18
3	10	15	19	22

(10)

OR

Q9 Solve the following travelling salesman problem so as to minimize the cost per cycle.

From \ **To**	A	B	C	D	E
A	---	3	6	2	3
B	3	----	5	2	3
C	6	5	----	6	4
D	2	2	6	----	6
E	3	3	4	6	----

(10)

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