

Department of Management
School of Management & Business Studies
JAMIA HAMDARD

Even Semester Examination 2022
BBA II Semester

Subject Name: **Business Statistics**
Subject Code: **BBA-F-05**

MM: **75**
Time: **03 Hours**

Sec A

Attempt any six questions, each question carries 5 marks (6 X 5 = 30)

- Q1. Discuss measures of central tendency and its type in detail.
- Q2. Explain is normal probability distribution. Discuss its properties in short.
- Q3. What is hypothesis? Describe Type 1 and Type 2 Error in hypothesis testing.
- Q4. Define Operations Research. List down the Stages of Development of Operations Research.
- Q5. Explain coefficient of correlation, various types and degree.
- Q6. A factory is manufacturing two types of products P1 and P2. The profits per Kg of the two products are Rs.30 and Rs.40 respectively. These two products require processing in three types of machines. The following table shows the available machine hours per day and the time required on each machine to produce one Kg of P1 and P2. Formulate the problem in the form of linear programming model.
- Q7. Calculate Arithmetic Mean from the following series:

Wages (Rs)	0-10	10-20	20-30	30-40	40-50
No Workers	8	12	20	6	4

- Q8. Find out median in the following series:

Marks	30-35	25-30	20-25	15-20	10-15	05-10	0-5
Students	4	8	13	15	12	10	2

- Q9. Obtain the regression equation from the following information:

	X-series	Y-series
Mean	18	100
Standard Deviation	14	20

Coefficient of correlation between X and Y series = + 0.8

Sec B

Attempt any three questions, each question carries 15 marks (15 X 3 = 45)

- Q1. Calculate Karl-Pearson's Coefficient of Correlation from the following:

Roll Number	1	2	3	4	5	6	7	8	9	10
Marks in Statistics	84	51	91	60	68	62	86	58	53	47
Marks in Economics	78	36	98	25	75	82	90	62	65	39

Q2. Solve the linear programming problem by graphical method

Maximize: $30x_1 + 40x_2$

Subject to: $3x_1 + 2x_2 \leq 600$

$3x_1 + 5x_2 \leq 800$

$5x_1 + 6x_2 \leq 1100$

$x_1 \geq 0, x_2 \geq 0$

Q3. A bag contains 6 white and 8 black balls. A ball is drawn out of it and replace in the bag. Then a ball is drawn again. What is the probability that:

- Both the balls drawn were white
- Both were black
- The first ball was black and second white
- Both were of the same color
- Both were of different color

Q4. Given the following Values:

	Mean	S.D
Yield of wheat kg per unit area	10	8
Annual Rainfall inches	8	2

Estimates the yield when rainfall is 9 inches, Coefficient of correlation = 0.5

Q5. Prices of a particular commodity in five years in two cities are given below:

Price (City A):	20	22	19	23	16
Price (City B):	10	20	18	12	15

Find the city which has more stable prices from the above data.

Q6. Explain hypothesis testing procedure in details.

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