

(Please write your Exam Roll No.)

Exam Roll No.

END TERM EXAMINATION

SECOND SEMESTER [BBA] MAY- JUNE 2017

Paper Code: BBA-106

BBA (TTM)-106

BBA (B&I)-106

BBA (MOM)-106

Subject: Quantitative Techniques and
Operations Research in
Management

Time: 3 Hours

Maximum Marks: 75

Note: Attempt any five questions.

Q1 The means of two samples of series of 50 and 100 respectively are 54.4 and 50.3 and standard deviations are 8 and 7. Obtain the mean and standard deviation of the sample of size 150 obtained by combining the two samples. (15)

Q2 (a) Find the quartile deviation and its coefficient from the following data: (8)

Weight in lbs	70-80	80-90	90-100	100-110	110-120	120-130	130-140	140-150
No. of persons	12	18	35	42	50	45	20	8

(b) What is Lorenz curve? How is it constructed? Illustrate. (7)

Q3 Obtain the Spearman's Rank correlation coefficient for the following data:

X	68	64	75	50	64	80	75	40	55	64
Y	62	58	68	45	81	60	68	48	50	70

Interpret the result. (15)

Q4 (a) Define Karl Pearson's Coefficient of Correlation. What are the assumptions for Correlation Analysis? (10)

(b) The co-efficient of correlation between X and Y is 0.6. Their covariance is 4.8. If the variance of X is 9, then determine the standard deviation of Y. (5)

Q5 A company makes two kinds of fertilizers, called Hi-phosphate and Lo-phosphate. Three basic raw materials are used in manufacturing these fertilizers in this manner:

Raw Material	Tons of raw material required to manufacture one ton		Maximum amount of raw material available per month
	Hi-Phosphate	Lo-Phosphate	
1	2	1	1500
2	1	1	1200
3	1	0	500
Selling price per ton	\$15	\$10	

Formulate this as a linear programming problem and find the optimal values of the fertilizers manufactured by the company using simplex method. Write the dual of the problem, also. (15)

[P.T.O.]

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