

(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 (MON)-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	73	50	64	80	75	40	55	64
Y	62	75	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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