

Code: 17BA1T6

**I MBA - I Semester-Regular/Supplementary Examinations
December 2018**

QUANTITATIVE ANALYSIS FOR BUSINESS DECISION

Duration: 3 hours

Max. Marks: 60

SECTION-A

1. Answer the following: 5 x 2 = 10 M

- a) What do you mean by measures of central tendency?
- b) Describe the importance of normal distribution.
- c) What are the features of a hypothesis?
- d) Discuss briefly about formulation of LPP.
- e) What are the characteristics and assumptions of assignment model?

SECTION – B

Answer the following: 5 x 8 = 40 M

2. a) The mean age of combined group of men and women is 30 years. If the mean age of the group of men is 32 and that of the group of women is 27, find out the percentage of men and women in the group.

(OR)

- b) Explain the various positional values in the median.
3. a) How to measure area under the normal curve and normal distribution? Explain.

(OR)

b) Incomes of a group of 10,000 persons were found to be normally distributed with mean Rs. 520 and standard deviation of Rs.60. Find:

i) The number of persons having income between Rs.400 and Rs. 550 and

ii) The lowest income of the richest Rs. 500

Given

$$P(0 < Z < 0.5) = 0.1915$$

$$P(0 < Z < 1.645) = 0.45 \text{ and}$$

$$P(0 < Z < 2) = 0.4773$$

4. a) Paradise Restaurant in the city has been averaging sales of 300 lunch packets per day. Due to construction of new building complexes in the nearby areas, Paradise restaurant expects to increase the sales. During the first 16 days after the occupation of these buildings, the daily sales were, 304, 367, 385, 386, 262, 329, 302, 292, 350, 320, 298, 258, 364, 294, 276 and 333 packets.

On the basis of this information, will you conclude that paradise restaurant sales have increased? Assume 5% level of significance.

(OR)

b) A sample of 64 students have a Mean Weight of 70 Kgs. Can this be regarded as a sample from a population with Mean Weight of 56Kgs. and Standard Deviation of 25Kgs.

5. a) What are the essentials of linear programming model? Explain.

(OR)

b) Maximize $Z = 800x_1 + 600x_2 + 300x_3$

Subject to the constraints

$$10x_1 + 4x_2 + 5x_3 \leq 2000$$

$$2x_1 + 5x_2 + 4x_3 \leq 1009$$

$$x_1 \geq 0, x_2 \geq 0, x_3 \geq 0$$

Solve it by simplex method.

6. a) What are the steps involved in the Hungarian method? Explain.

(OR)

b) Find the initial feasible solution by the Least cost method.

Plants	Warehouse			
	W1	W2	W3	Supply
P1	50	60	55	150
P2	45	55	60	250
P3	50	60	65	350
P4	50	60	55	250
Demand	200	350	250	1000

SECTION-C

7. Case Study

1 x 10 = 10 M

The assignment cost of assigning anyone operator to any one machine is given in the following table. Find the optimal assignment.

	Operators				
		I	II	III	IV
Machine	A	12	13	14	15
	B	14	15	16	17
	C	17	18	19	18
	D	13	15	18	14