PVP 17

Code: **17BA1T6**

I MBA-I Semester-Regular/SupplementaryExaminations
July 2021

QUANTITATIVE ANALYSIS FOR BUSINESS DECISION

Duration: 3hours Max. Marks: 60

SECTION-A

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

a) The export of agricultural products in million dollars from a country during eight quarter in a year was 29.7, 16.6, 2.3, 14.1, 36.6, 18.7, 3.5, 21.3. Find the median value of the export of agricultural products.

b)A stockiest has 20 items in a lot. Out of which 12 are non-defective. If a customer selects 3 items from the lot, what is the probability that all the three items are non-defective?

c)Define Type I error.

d)Write the steps involved in the formation of LP problem.

e) How can you identify that a two-person zero-sum game?

SECTION – B

Answer the following: 5 x 8 = 40 M

2. a)The following data gives the number of employees and the total wages paid in the three departments of a manufacturing unit.

Department	Number of employees	Total wages (Rs.)
A	432	1,08,864
B	517	1,62,855
C	51	25,704

If a bonus amounting to Rs. 63 is given to each employee, what is the average percentage increase per employee for each department and for the total?

OR

b)Discuss the concepts of skewness and kurtosis with neat diagrams.

3. a)A sales tax officer has reported that the average sales of the 500 businesses that he has to deal with during a year amount toRs. 36,000 with a standard deviation of Rs. 10,000. Assuming that the sales in these businesses are normally distributed, find

i) The number of businesses the sales of which are over Rs.40,000.

ii) The percentage of businesses, the sales of which are likely to range between Rs. 30,000 and Rs. 40,000

iii) The probability that the sale of a business selected at random will be over Rs. 30,000.

OR

b)If the chance that the vessel arrives safely at a port is 9/10, find the chance that out of 5vessels expected, at least 4 will arrive safely.

4. a)The means of two random samples of size 9 and 7 are 196.42 and 198.82 respectively. The sum of the squares of the deviations from the mean are 26.94 and 18.73 respectively. Can the samples be considered to have been drawn from the same normal population?

OR

b)Explain one-tailed and two-tailed tests with suitable diagrams.

5. a)One unit of product A contributes Rs. 7 and requires3 units of raw material and 2 hours of labour. One unit of product B contributesRs. 5 and requires two units of raw material and one hour of labour. Availability of raw material at present is 48 units and that of labour as 40 hours. Formulate it as linear programming problem.

OR

b) Solve the following LPP graphically:

Maximize $Z = 28x_1 + 30x_2$

subject to $6x_1 + 3x_2 \leq 18,\ 3x_1 + x_2 \leq 8,\ 4x_1 + 5x_2 \leq 30$

and $x_1,\ x_2 \geq 0.$

6. a)How to find an initial basic feasible solution by North – West corner method? Explain.

OR

b) Explain the following with suitable examples each.

(i) Pure strategy (ii) Saddle point

(iii) Dominance rule (iv) Fair game.

SECTION-C

7. Case Study **1x10=10 M**

A and B play a game in which each has three coins a Rs. 1, Rs. 2 and Rs. 5. Each selects a coin without the knowledge of the other's choice. If the sum of the coins is an odd amount then player A wins B's coins; if the sum is even amount then player B wins A's coins. Discuss this situation and determine the best strategies for each player and also find the value the game.