

P-699

Total Pages : 4

Roll No.

MS-104

Quantitative Techniques in Management

Master of Business Administration (MBA)

1st Semester Examination, 2023 (June)

Time : 2 Hours]

[Max. Marks : 70

Note : This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. Candidates should limit their answer to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

SECTION–A

(Long Answer Type Questions)

Note : Section 'A' contains Five (05) long answer type questions of Nineteen (19) marks each. Learners are required to answer any Two (02) questions only.

(2×19=38)

1. Discuss the various methods of collection of Primary Data.

2. Which method of solving transportation problems gives a more optimal solution? How will you know when you have achieved the least cost allocation of products between origins and destinations? Explain with examples.
3. ABC limited produces four products P_1 , P_2 , P_3 , and P_4 . Each one of these products has to be processed on three machines X, Y, Z. The capacity of the machines and the time required to manufacture one of each type of products are shown in the table below :

Product	Processing time for production		
	Machine X	Machine Y	Machine Z
P_1	2	4	3
P_2	3	2	2
P_3	4	1	2
P_4	3	1	1
Capacity (hours)	800	600	420

The profit contribution/unit of products P_1 , P_2 , P_3 and P_4 are Rs. 8, 6, 4, 2 respectively. You are required to formulate the above as a LPP and determine the optimal product mix by using simplex method.

4. Define a queue. Give a brief description of the types of queue discipline commonly faced. Briefly explain the important characteristic of queueing system.

5. A husband and wife appear in an interview for two vacancies in the same post. The probability of husband's selection is $\frac{1}{7}$ and that of wife's selection is $\frac{1}{5}$. What is the probability that
- Both of them will be selected.
 - Only one of them will be selected.
 - None of them will be selected.

SECTION-B

(Short Answer Type Questions)

Note : Section 'B' contains Eight (08) short answer type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only. (4×8=32)

- Distinguish between Skewness and Dispersion.
- The coefficient of rank correlation between debenture prices and share prices is found to be 0.143. If the sum of the squares of the differences in ranks is given to be 48, find the value of N.
- What are the characteristics of good average?
- What is Time Series Analysis. Discuss the significance of Time Series Analysis.

5. Normal distribution is symmetric with a single peak. Does this mean that all symmetric distributions are normal? Explain.
 6. Show that assignment model is a special case of transportation model.
 7. The mean of 200 observation was 50. Later on, it was found that two observations were misread as 92 and 8 instead of 192 and 88. Find the correct mean.
 8. Differentiate between correlation and regression.
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