

Roll No.

Total Pages : 3

MBA/M-16

11513

QUANTITATIVE TECHNIQUES AND
RESEARCH METHODOLOGY

Paper : MBAD-102

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt *five* questions in all. Question No. 1 is compulsory.
Select *one* question from each unit.

Compulsory Question

1. (a) Explain the meaning of 'Simulation', and state its usefulness.
- (b) Explain the difference between Transportation and Assignment problems.
- (c) State *two* important limitations of measures of central value.
- (d) Explain how Normal Distribution is useful for solving business problems.
- (e) Under what conditions Chi-square test is applicable ?
(5×4=20)

UNIT-I

2. Discuss the role and scope of Quantitative methods for scientific decisions highlighting the Decision Theory in Business management. (15)

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[P.T.O.]

3. Ram Electric Company produces two products P_1 and P_2 . Products are produced and sold on a weekly basis. The weekly production cannot exceed 25 for product P_1 and 35 for product P_2 because of limited available resources. The company has total of 60 workers. Product P_1 requires 2 man-weeks of labour, while P_2 requires one man-week of labour. Profit margin of P_1 is Rs. 60 and on P_2 is Rs. 40. Formulate it as a Linear programming problem and solve for maximum profit, graphically. (15)

UNIT-II

4. The data about the sales and advertisement expenditure of a firm is given below :

	Sales (in crores of Rs.)	Advertisement expenditure (in cores of Rs.)
Means	40	6
Standard deviations	10	1.5

Coefficient of correlation, $r = 0.9$.

- (i) Estimate the likely sales for a proposed advertisement expenditure of Rs. 10 crores.
(ii) What should be the advertisement expenditure if the firm proposes a sales target of 60 crores of rupees ? (15)

5. Distinguish between Primary and Secondary data. Give a brief account of the chief methods of collecting Primary data, and bring out their merits and demerits. (15)

UNIT-III

6. How would you define Business Research ? What are the major components of a good Research study ? Illustrate with an example. (15)
7. (a) 'Majority of the research designs are exploratory-cum-descriptive in nature in business research.' How ?
(b) What is Research hypothesis ? Do all researches require hypotheses formulation ? Explain. (7.5+7.5=15)

UNIT-IV

8. Discuss with the help of examples, *four* key levels of measurement. What mathematical operations/statistical techniques are permissible on the data from each type of scale ? (15)
9. What are the guidelines a researcher must follow for graphical and tabular representation of the research results ? (15)