

QUANTITATIVE TECHNIQUES
MBA(I-SEMESTER) (2096)

Time : 3 Hour
Marks :75

- 1) section -A is compulsory(2 marks each)**
2) attempt any 9 questions from section -B(5 marks each)

Section –A

- 1.(a) Discuss role of mathematics in Business decisions .
 (b) Discuss compliment of a set.
 (c) Find the sum of $3+6+9+12\dots\dots$ to 20terms.
 (d) What is princilpe of mathematical induction.
 (e) Discuss inverse of matrix.
 (f) Discuss the advantages of graphic representation of statistical data.
 (g) Discuss merits and demerits of mean, median, and mode.
 (h) Differentiate between correlation and regression .
 (i) Discuss the properties of correlation coefficient.
 (j) Discuss the usefulness of regression in dealing with business problems.
 (k) Explain cyclical variations in time series analysis.
 (l) What do you mean by cost of living index.
 (m) What is Baye's Theorem.
 (n) Comment on the following:
 For a set of 10 obsetvations mean=5, and standard deviation=2 and coefficient of Variation = 60%
 (o) Write a note on theory of estimation.

section-B

2. Solve the following equations using matrices:

$$\begin{aligned} 2x-3y &= 3 \\ 4x-y &= 11 \end{aligned}$$

3. Calculate mean and median of the following

1,5,10,2,4,19,3, 14,15,25 '

4. Find the sum of all natural numbers between 200 and 400 which are divisible by 7

5. Calculate Standard deviation and variance from the following data:

Age : 20-25 25-30 30-35 35-40 40-45 45-50

No. of : 170 110 80 45 40 35

persons

6. Calculate Karl Pearson's coefficient of corelation from the following data:

x y
 1 8
 2 11
 14 18
 15 28
 8 7

7. Obtain the equations of the two lines of regression for the data given below:

x Y
3 2
5 3
6 4
8 6
9 5
11 8
5 3

8. What is a time series. What are its main components. Give illustration for each of them

9. Calculate trend values using three yearly moving average for the following data:

Year:

X :

1950 500
1951 540
1952 550
1953 530
1954 520
1955 560
1956 600
1957 640
1958 620
1959 610
1960 640

10) what is index number. Explain the various problems involved in the construction of index number.

11) Six persons toss a coin turn by turn. The game is won by the player who first throws head. Find the probability of success, of the fourth player.

12) state the distinctive features of the normal probability distribution.

13) Explain testing of hypothesis. How is it useful in business.