

Duration: - 2 1/2 Hours

613291123

- Note:-
1. All Questions are Compulsory.
 2. Figure to the right indicates full marks.
 3. Use of Simple Calculator is allowed.

[Q:1] (A) SELECT A PROPER ANSWER FROM GIVEN MULTIPLE CHOICE QUESTION. (ANY 8) 8M

- 1) Find the mode of 5,6,7,5,6,7,8,6,9. $Z = \underline{\hspace{2cm}}$. (5,6,7) (CO1,R)
- 2) Quartile divides the data into _____ parts. (3,4,5) (CO1,R)
- 3) Rank Correlation is given by _____. (Chanakya, Marshal, Spearsmen) (CO1,R)
- 4) If $b_{xy} = 0.4$, $b_{yx} = 0.5$, then $r = \underline{\hspace{2cm}}$. (0.55, 0.66, 0.44) (CO2,R)
- 5) _____ method of time series is calculated on a quarterly basis. (Moving avg, Seasonal, Least square)(CO1,R)
- 6) _____ is given the formula of index number as $\frac{\sum P_1 Q_0}{\sum P_0 Q_0}$. (Fisher, Lespeyer, Paaches)(CO1,R)
- 7) The maximum outcome of an experiment is called _____. (Sample space, Event, Probability)(CO1,R)
- 8) In _____ criteria we take the minimum value of outcomes. (EMV,EOL,Minimum) (CO2,R)
- 9) If Q_3 is 50, Q_1 is 30, then CQD will be _____. (0.25, 0.4, 0.6) (CO1,R)
- 10) If the correlation between X and Y is 0.95 it is considered as _____. (Strong, Weak, Normal)(CO2,R)

[Q:1] (B) STATE WHETHER THE FOLLOWING STATEMENTS ARE TRUE OR FALSE. (ANY 7) 7 M

- 1) Mode means maximum frequency. (CO1,R)
- 2) Quartile Divides the data in 4 parts. (CO1,R)
- 3) Difference between the Highest and Lowest observation is called Range. (CO1,R)
- 4) B_{xy} and B_{yx} both are positive only. (CO1,R)
- 5) 4 yearly moving methods are calculated taking an average of 5 years. (CO1,R)
- 6) Base year is the latest year given in the data. (CO1,R)
- 7) In Probability, 3 coins has 8 outcomes. (CO1,R)
- 8) Course of action are the project we have to select for business. (CO2,R)
- 9) Combine means are not useful in day to day life. (CO1,R)
- 10) Fisher has given a rank correlation formula. (CO2,R)

[Q:2] SOLVE THE FOLLOWING (8+7 = 15)

A) Find the Median from the following data. (CO1,A)

C.I	0-10	10-20	20-30	30-40	40-50
F	5	6	8	7	4

B) Find the Mode for the following data. (CO2,A)

C.I.	0-50	50-100	100-150	150-200	200-250
F	6	7	8	5	4

OR

C) Find the Combined mean if $X_1 = 70$, $X_2 = 80$, $X_3 = 50$, $N_1 = 50$, $N_2 = 30$, $N_3 = 20$. (CO 1,A)

D) Find the Standard Deviation from the following data. (CO2 ,A)

C.I	0-20	20-40	40-60	60-80	80-100
F	2	3	6	5	4

(1)

[Q:3] SOLVE THE FOLLOWING

(8+7 = 15)

A) Find the Karl Pearson's coefficient of correlation. (CO1 ,A)

X	5	6	8	7	4
Y	3	4	6	5	4

B) Find the two regression equations and find the value of x if y=10, and find the value of y when x is 15. (CO1 ,A)

X	4	6	8	10	12
Y	6	5	7	8	9

OR

C) Find Five yearly moving averages for the following data. (CO 2,A)

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023
Sale	23	25	27	3032	35	36	39	42	44

D) Find laspeyres , Paaches and fishers index numbers. (CO1 ,A)

Commodity	P0	P1	Q0	Q1
A	34	40	10	9
B	38	50	8	7
C	42	50	6	5
D	48	60	5	4

[Q:4] SOLVE THE FOLLOWING

(8+7 = 15)

A) If Two dice are thrown at a time, find the probability of getting. (i) the sum of both is 9 (ii) both are equal (CO1,A)

B) A Card is drawn from the pack of cards. Find the probability of getting. (i) A Face card (iii) A Spade. (CO1,A)

OR

C) Find the Best Course of Action using E.M.V. Criteria. (CO1,A)

State of Nature	Course of Action				Probability
	A1	A2	A3	A4	
S1	30	80	60	80	0.4
S2	50	70	70	20	0.3
S3	70	60	70	50	0.2
S4	80	40	50	30	0.1

D) Find the Best Course of Action Using (i) Maximax criteria (ii) Minimin Criteria (CO2,A)

State of Nature	Course of Action			
	A1	A2	A3	A4
S1	90	80	40	30
S2	80	90	60	50
S3	60	50	80	90
S4	40	60	50	100

[Q:5] SHORT NOTES (ANY 3)

(5+5+5 = 15)

- 1) Types of Averages (CO1,2 ,R)
- 2) What is Index Numbers (CO1,2 ,R)
- 3) Scatter Diagram (CO1,2 ,R)
- 4) What is pay-off table (CO1,2 ,R)
- 5) Define Probability & write steps to solve questions (CO1,2 ,R)

XXXXXXXXXXXXXXXXXX