Note:- 1) All questions are compulsory   2) All questions carry equal marks
       3) Figures to the right indicate maximum marks.

Q1) (A) MULTIPLE CHIOCE QUESTION (ANY 8)   8 M

1. The median of the given series of observations 46, 33, 34, 38, 40, 52, 56, 58 is ....
a) 40   b) 52   c) 43   d) 56

2. The sum of N observations is 630 and their mean is 42, then the value of N is.......
a) 25   b) 20   c) 15   d) 15

3. The first quartile for 21, 30, 18, 24, 26, 20, 21 is..........
a)20   b)20.5   c)21   d) 30

4. The third quartile for 105, 120, 118, 127, 104, 109 and 115 is.......
a) 12.5   b) 127   c)118   d) 120

5. If the changes in variable are in opposite directions which means the increase in one of them is reflected by decrease in the other and vice vers this correlation is known as?
A) Positive   B) Negative C) LinearD) Simple

6. Rank correlation formula is given by _____.
a) Dr. Karmani   b) A.P.J Kalam   c) Spearsman   d) henry feyol

7. _____ means regression of x on y.
a) pxy   b) wxy   c) bxy   d) axy

8. if bxy and byx are negative then r must be in _____.
a) Missing   c) zero   c) negative   d) positive

9. In a dice there are _____ number of probability.
a) 2   b) 4   c) 6   d)8

10. _____ is payable of policy holder.
a) bonus   b) stock   c) claim   d) premium

Q1) (B) STATE WHETHER THE FOLLOWING STATEMENTS ARE TRUE OF FALSE. (ANY 7) 7M

1. Mode is not useful in real life.

2. Range means L-S.

3. Median divides the data in 2 parts.

4. R can be more than 1.

5. Regression mean dependency of one variable on other.

6. Probability means understanding.

7. Insurance is must in now a days.

8. Monthly policy carries extra charges.

9. Median has no demerits.

10. Course of action means project offered for business.

Q2) SOLVE THE FOLLOWING   8+7=15

A) Find the mode of the following data.

C.I.	0-20	20-40	40-60	60-80	80-100
F	5	6	8	7	4

B) Find the median of the following data.

C.I.	0-50	50-100	100-150	150-200	200-250
F	15	16	18	17	14

OR

Q2) SOLVE THE FOLLOWING   8+7=15
C) Find the range and co-efficient of range of 5, 15,20,25,30.
D) Find the standard deviation of following data.

C.I.	0-10	10-20	20-30	30-40	40-50
F	12	13	16	15	14

Q3) SOLVE THE FOLLOWING   8+7=15
A) Find the Karl pearsons coefficient of correlation.

X	8	10	12	9	5	4
Y	1	13	15	10	6	5

B) Find spearsmens Rank correlation from the following data.

X	101	108	105	107	109
Y	117	98	102	115	108

OR

Q3) SOLVE THE FOLLOWING   8+7=15
C) x bar = 10, y bar = 8, σx = 4, σy = 7, r =0.4, estimate the value of x whenn y is 20. Estimate the value of y when x is 25.
D) FROM THE FOLLOWING DATA CALCULATE REGRESSION EQUATION OF X ON Y AND REGRESSION EQUATION OF Y ON X. ALSO FIND THE VALUE OF X WHEN Y IS 10 AND FIND THE VALUE OF Y WHEN X IS 15.

X	5	6	8	7	4
Y	2	3	5	6	6

Q4) SOLVE THE FOLLOWING   8+7=15
A) If two dices are cast at a time. Find the probability of getting (i) sum of both is 10 (ii) first no. Is greater than second.
B) Find the best course of action using EMV.

Payoff table

STATE OF NATURE	COURSE OF ACTION (IN LACS)				PROBABILITY
	A1	A2	A3	A4	
S1	150	160	170	140	0.4
S2	160	175	175	160	0.3
S3	170	180	180	180	0.2
S4	185	165	140	190	0.1

OR

Q4) SOLVE THE FOLLOWING   8+7=15
C) Find the current age of Mr. Santosh as on today's date, if his date of birth is on 05-05-1981.
D) Find the annual premium of Mr. Vichare for an insurance policy of Rs.1000000. If the insurance company is charge Rs. 41 per thousand. Mr. Vichare is a rider for which he has to pay Rs. 3 extra premium.

Q5) WRITE SHORT NOTES ON ANY 3   15 Marks
1. Merits of median
2. Scattered diagram
3. State of nature and course of action
4. Insurance and its types
5. Regression formulas

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