

[Time: Two hours thirty minutes]

[Marks: 75]

Please check whether you have got the right question paper.

N.B: 1 All question are compulsory and carry equal mark.

2) Use of simple calculator is allowed.

3) Figures to right indicate full marks to corresponding question.

Q.1 A) Choose the correct alternative following (Attempt Any Eight)

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1) A good measure of central tendency should be _____

- a) Based on all observation b) Capable of further algebraic development
c) Rigidly defined d) All of (a), (b) and (c)

2) Cumulative frequency curve are also known as _____

- a) Mode b) Histogram
c) Ogive d) None of those

3) In Statistics, a sample means _____

- a) A portion of the sample b) portion of the population
c) All the item under investigation d) None of the above

4) The correlation coefficient is used to determine _____

- a) A specific value of the y-variable given a specific value of x- variable
b) A specific value of the x-variable given a specific value of y- variable
c) The strength of the relationship between the x and y variables
d) None of those

5) Which one is the not Measures of dispersion _____

- a) The range b) 50th percentile
c) Inter-Quartile Range d) Variance

6) If Mean is 25 and Standard Deviation is 5, than C. V (Coefficient of Variation) is _____

- a) 100% b) 25%
c) 20% d) None of those

7) Mode of the series 0,0,0,2,2,3,3,4,10 is _____

- a) 0 b) 2
c) 3 d) No Mode

8) The model letter of the word " STATISTICS" is _____

- a) S b) T
c) Both S and I d) both S and T

9) The middle most observation dividing the entire distribution into two equal parts is known as _____

- a) Arithmetic mean b) Median
c) Mode d) None of those

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Q.3 A) Calculate second quartile (Q_2) and eighty sixth percentile (P_{86}) for the following data 10

Marks	0-20	20-40	40-60	60-80	80-100
Frequency	5	12	32	40	11

B) Calculate the range and coefficient of range for the following data

Year	2000	2001	2002	2003	2004
Rainfall in mm	50	30	80	230	90

OR

p) The following data are given for weights of boys and girls in a class. Find combined mean and standard deviation 8

- Average weight of boys = 60 kgs
- Average weight of girls = 45 Kgs
- Variance of weight of Boys = 9 Kgs
- Variance of weight of girls = 4 kgs
- No. of boys = 100
- No. of girls = 50

q) Calculate arithmetic mean and mode for the following data 7

Class interval	400-600	600-800	800-1000	1000-1200	1200-1400	1400-1600
Frequency	5	10	30	25	20	10

Q.4 A) Given the following regression lines 8

$$3x + 2y - 26 = 0 \quad \text{and} \quad 6x + y - 31 = 0$$

Find mean values and the coefficient of correlation between x and y .

B) Find coefficient of correlation from the following data 7

X	3	5	4	6	3	2
y	12	4	6	3	14	18

OR

P) Find the regression equation of salary on index in a company 10

Index	9	7	8	4	7	5	5	6
Salary	36	25	33	15	28	19	20	22

Find expected salary of on employer where Index is 3.

Q.P. Code : 04887

q) Find Karl Pearson's coefficient of correlation given for the following data.

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$$\Sigma x = 65 \quad \Sigma y = 30 \quad \Sigma x^2 = 3261$$

$$\Sigma y^2 = 1004 \quad \Sigma xy = 750 \quad n = 9$$

Q.5

A) Write limitation of Statistics

B) What are the requisites of good questionnaire

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OR

p) Write short notes (Attempt Any Three)

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1) Statistical Error

2) Distinguish between Primary and Secondary Data

3) Merits and Demerits of Mode

4) Pie-Diagram

5) Concept of Regression