

NOTE: ALL QUESTIONS ARE COMPULSORY.

Q.1.A) Choose the correct alternative for the following (Attempt Any 8)

(08)

- 1) Cumulative frequency curve is also known as _____
a) Mode b) Histogram c) Ogive d) None of these
- 2) In statistics, a sample means _____
a) A portion of sample b) Portion of the population c) All the item under investigation
d) None of these
- 3) Which one is not measures of dispersion _____
A) The range b) 50th percentile c) Inter-quartile d) Variance
- 4) If mean is 25 and standard derivation is 5 then C.V (Coefficient of Variation) is _____
a) 100% b) 25% c) 20% d) None of these
- 5) The mode of the series 0,0,0,2,2,3,3,4,1,0 is _____
a) 0 b) 2 c) 3 d) No mode
- 6) An objective function is maximized when it is a _____ function.
a) Passive b) Profit c) Cost d) None of These
- 7) If the value of coefficient of variation is more, the consistency of the data is _____
a) More b) Less c) Same d) None of these
- 8) Statistics is a numerical quantity which is calculated from _____
a) Population b) Sample c) data d) Observations
- 9) Suitable average for arranging the shoe size for children is _____
a) Mean b) Geometric mean c) Median d) Mode
- 10) which of the following is not measures of central tendency _____
a) Median b) Quartile c) Mode d) None of thee.

Q.1.B) State whether following statements are True or False(Any 7)

(07)

- 1) Quartile deviation is semi-interquartile range.
- 2) Median can be located graphically with the help of Histogram.
- 3) Statistical method make the data easy to understand.
- 4) The small parts of the population are called units.
- 5) In the class interval 30-50, 30 is the upper limit.
- 6) A process of collecting information is survey.
- 7) Statistics is not useful for forecasting.
- 8) In regression equation of y on x $y = 2x + 9$ the regression coefficient b_{yx} is 9.
- 9) Quartile deviation measures middle 50% of the observations.
- 10) Measures of dispersion gives an ides about the variability in the data.

Q.2.A) For the following frequency distribution find:

(08)

- 1) Class Boundaries
- 2) Cumulative frequencies
- 3) Class marks

Class interval	0-9	10-19	20-29	30-39	40-49	50-59	60-69
Frequency	2	5	10	8	4	5	3

Q.2.B) Calculate mean and mode from the following data.

(07)

Marks	0-20	20-40	40-60	60-80	80-100
Frequency	6	14	30	40	10

OR

Q.2.C) Draw a multiple bar diagram for the following.

(08)

Year	Birth rate per 1000 population	
	Rural	Urban
2002	30	25
2003	28	23
2004	26	22
2005	25	21

Q.2.D) Draw a Histogram for the following data.

(07)

Class Interval	20-40	40-60	60-80	80-100	100-120
Frequency	3	7	14	8	10

Q.3.A) Find lower and upper quartiles for the following data.

(08)

Weight (kgs)	45-50	50-55	55-60	60-65	65-70	70-75
No of students	16	17	20	21	14	12

Q.3.B) Calculate the standard deviation for the following data.

(07)

Class intervals	0-20	20-40	40-60	60-80
Frequency	1	3	4	2

OR

Q.3.C) Find P_{45} and D_7 for the following data.

(08)

Class interval	20-25	25-30	30-35	35-40	40-45	45-50
frequency	10	20	20	15	15	20

3.D) Find the mean deviation from the median for the following data. (07)

X	5	6	7	8	9	10
f	9	13	18	8	3	1

Q.4.A) Calculate the correlation coefficient between the variables x & y for each of the Following. (08)

X	-3	-2	-1	0	1	2
y	-2	-1	0	1	2	3

Q.4.B) For the bivariate data with mean and variance as. (07)

	x	y
Mean	6	4
variance	0.5	2.5

And $\text{cov}(x, y) = 1$

Find 1) b_{yx} , b_{xy} and r

2) The equations of the lines of regression. (08)

OR

Q.4.C) Find the spearman's coefficient for the following.

Marks 1	30	80	70	60	50	90
Marks 2	70	61	87	45	40	57

Q.4.D) The equations of the line of regression are. (07)

$$10x + 3y - 15 = 0 \text{ and}$$

$$6x + 5y - 8 = 0$$

Identify the regression series.

Q.5.A) Explain the concept of correlation with help of scatter diagrams. (08)

Q.5.B) Write the importance of Statistics. (07)

OR

Q.5.C) Write short notes (Attempt any 3) (15)

- 1) Pie diagram
- 2) Merits and demerits of mean
- 3) Type of population in statistical study
- 4) Primary data
- 5) Types of one dimensional bar diagram.