

Roll Number
In Figures: _____
In Words: _____

1-431

PR XI (01) 19
STATISTICS
 Inter Part-I
 (Fresh / Reappear)

Superintendent
Signature / Stamp:

Fic. No. _____
 (For Board's Office use only)

STATISTICS
 Inter Part-I
 (Fresh / Reappear)

Fic. No. _____ (For Board's Office use only)

Time Allowed: 3 Hours

Marks: 85

Note: There are THREE sections in this paper i.e. Section A, B and C.

Attempt Section-A on the same paper and return it to the Superintendent within the given time.

No marks will be awarded for **Cutting, Erasing or Overwriting**. Marks of Identification will lead to UFM case, **Mobile Phone** etc are not allowed in the examination hall.

Time Allowed: 20 minutes

Marks: 18

Q-I Write the correct option i.e. A, B, C or D in the empty box provided opposite to each part.

i.	The subset of population is called.....	A. Population	B. Sample	C. Parameter	D. None of these	B
ii.	Statistics as subject is divided into..... main branches.	A. One	B. Two	C. Three	D. None of these	B
iii.	If the lower and upper limit of class are 10 and 40, then the id point of class is.....	A. 12.5	B. 15.0	C. 30.0	D. 25.0	D
iv.	Sum of all the value's divided by number of values is called.....	A. H.M	B. G.M	C. A.M	D. None of these	A
v.	$\sum(x-\bar{x})=.....$	A. 0	B. 1	C. 2	D. None of these	A
vi.	Extreme values have no effect on.....	A. Mean	B. Median	C. G.M	D. H.M	B
vii.	Largest value minus smallest value is called.....	A. S.D	B. Range	C. Variance	D. None of these	B
viii.	$\text{Var}(3x) = \text{Var}(x)$	A. 8	B. 3	C. 9	D. None of these	C
ix.is the opposite of symmetry of a distribution.	A. S.D	B. Mean	C. Skewness	D. None of these	C
x.	The value of Base year is equal to.....	A. 100	B. 10	C. 50	D. None of these	C
xi.	If Laspyer's = 324 and Paasche's = 144, then Fisher =.....	A. 234	B. 180	C. 216	D. None of these	A
xii.	$\sum(y-\hat{y})=.....$	A. 0	B. 1	C. 2	D. None of these	C
xiii.	The range of correlation coefficient is.....	A. 0 to 1	B. -1 to 0	C. -1 and +1	D. None of these	B
xiv.	If $b_{y,x} > 1$, then $b_{x,y}$ is.....	A. Less than 1	B. Greater than 1	C. Equal to 1	D. None of these	C
xv.	Time series consist ofcomponents.	A. 2	B. 3	C. 4	D. None of these	B
xvi.	Mortality relates to.....	A. Birth rate	B. Death rate	C. Marriage rate	D. None of these	B
xvii.	The child bearing age is.....	A. 20 - 24 years	B. 20 - 29 years	C. 15 - 49 years	D. 13 - 48 years	C
xviii.	Interpolation rates to the.....	A. Past	B. Future	C. Present	D. Current	

STATISTICS

Inter Part - I
(Fresh / Reappear)

Note: Time allowed for Section - B and Section - C is 2 Hours and 40 minutes.

Section - B

Marks: 40

Q-II Answer any TEN parts. Each part carries FOUR marks.

1. Differentiate between discrete and continuous data.
2. For the given set of scores, $X = 1, 0, 5, 2$. Find (a) $\sum x^2$ (b) $(\sum x)^2$ (c) $\sum(x-2)$ (d) $\sum(x-2)^2$
3. For a skewed distribution median = 36, mean = 40.5. What will be the value of mode?
4. Calculate A.M by change of origin and scale method. $X = 12, 8, 6, 10, 4$
5. Write down the properties of variance.
6. The first four moments about the value 4 are $-1.5, 17, -30$ and 108 . Find b_1 and b_2 and comments about the distribution.
7. Explain fixed base method and chain base method.
8. If $\sum X = 120, \sum Y = 230, \sum XY = 3075, \sum X^2 = 1566, n = 10$. Find regression line Y on X.
9. Write down the properties of correlation coefficient.
10. Define time series. What are its main components.
11. Write short note on the given: (a) Crude birth rate (b) Sex ratio
12. Define interpolation and Extrapolation.
13. Construct a difference table from the following data.

Age	20	30	40	50
Annual Income	62	72	91	120

Section - C

Marks: 27

Note: Attempt any THREE questions. All questions carry equal marks.

Q-III Compute A.M, G.M and H.M for the following data.

Classes	65 - 84	85 - 104	105 - 124	125 - 144	145 - 164	165 - 184
Frequencies	9	10	17	10	5	4

And verify that $A.M > G.M > H.M$

Q-IV Given the data:

X	48	40	32	34	30	50	26	50	22	43
Y	76	56	40	50	34	70	56	68	40	57

Compute coefficient of correlation.

Q-V Fit a second degree parabola to the following:

Years	1970	1971	1972	1973	1974	1975	1976	1977
Prices	100	87	96	102	139	210	289	307

Q-VI Use Newton's method of interpolation, estimate the expectation of life at age 22 from the following data by the method of Newton's interpolation.

Age	10	15	20	25	30	35
Expectation of life	35.4	32.2	29.1	26	23.1	20.4