

Statistics

PR - XI (A-I-A) (26)

- ۱۔ ہر سوال کے سامنے چار دائرے دیئے گئے ہیں۔ صرف صحیح جواب والا دائرہ بھریں۔
۲۔ دائروں کو شیڈ (بھرنے) کے لیے نیلے یا کالے رنگ کا پن استعمال کریں۔
۳۔ جواب میں ایک سے زائد دائرے بھرنے سے جواب غلط تصور ہوگا۔

Time: 20 Min

SECTION-A

Marks: 15

- 1) The quantity computed from sample data is called:
☒ Statistics ☐ Parameter ☐ Statistic ☐ None
- 2) The class interval of 10-19, 20-29, 30-39, 40-49, 50-59 is:
☐ 9 ☒ 10 ☐ 14.5 ☐ 4.5
- 3) The distribution which has only one mode is called _____.
☐ Bimodal ☐ Trimod ☒ Unimodal ☐ Degree model
- 4) The A.M of the series 6,6,6,6,6 is:
☐ 36 ☒ 6 ☐ 18 ☐ 12
- 5) The S.D of the five values 8,8,8,8,8 is _____.
☐ 7 ☒ 0 ☐ 8 ☐ 10
- 6) _____ is the opposite of symmetry of a distribution.
☐ S.D ☐ Mean ☐ M.D ☒ Skewness
- 7) If Laspeyre's price index is 324 and Paasche's price index is 144 then Fisher's deal is:
☒ 234 ☐ 180 ☐ 216 ☐ 100
- 8) If $x=2$ and $\hat{y} = +7 + 2x$ then value of $\hat{y}$ is _____.
☐ 28 ☐ 10 ☒ 11 ☐ 0
- 9) The range of simple correlation co-efficient is _____.
☐ $-\infty$ to ∞ ☐ 0 to ∞ ☒ -1 to 1 ☐ 0 to 1
- 10) The time series consists of _____.
☐ Two components ☐ Three components
☒ Four components ☐ Seven components
- 11) To which components of the time series the term recession is attached?
☐ Trend ☐ Seasonal ☒ Cyclic ☐ Random variations
- 12) Vital statistics is mainly concerned with:
☒ Births ☐ Deaths ☐ Marriages ☐ All these
- 13) The child bearing age is _____.

- ☐ 20-24 years ☐ 20-29 years
☒ 15-49 years ☐ 13-48 years
- 4) The independent variables values in interpolation are termed as ____.
- ☐ Past ☒ Argument ☐ Future ☐ Entry
- 5) The solution set of $x < 4$ is ____.

- ☒ $-\infty < x < 4$ ☐ $4 < x < \infty$
☐ $0 < x < 4$ ☐ $-\infty \leq x \leq \infty$

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

SECTION-B

Q2: Answer any NINE parts. Each part carries FOUR marks.

- Define the terms parameter and statistics.
- Draw a histogram for the given data.

Size of shoes	6	7	8	9	10	11	12
No. of shoes	8	12	15	17	15	12	8

- If the A.M of two numbers is 16 and G.M is 14. Find H.M?
- A sample of $n=6$ value has mean $\bar{x} = 8$ what is the value of $\sum x$ for this sample.
- Calculate the first four moments about mean for data. 1.05, 1.07, 1.19, 1.45
- Differentiate between Skewness and Symmetry. Also define positive and negative Skewness.
- How's the interpret the index number?
- Define linear and non-linear regression analysis.
- Write down any four properties of correlation of Co-efficient.
- Construct the scatter diagram for the following.

X	6	4	1	1	3
Y	6	1	4	3	1

- Define time series analysis, and what are various components of a time series?
- Write down short notes on the following.

(a) Crude birth rate

(b) Crude death rate

SECTION-C

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

Q3: For the following frequency table calculate the coefficient of skewness.

X	6	10	14	18	22	26	30	36	38
F	6	10	18	30	15	12	10	6	2

Q4: Compute Laspeyre's, Paasche's and Fisher's price index number for the following data using 1970 as base value.

Commodity	Price (Rs. Per Mound)		Produce (Mound)	
Year	1970	1975	197	1975
Maize	12	14	110	125
Rice	40	42	180	195
Barely	10	11	75	70

Q5: Two referees in a flower beauty competition rank the 10 types of flowers as following.

Referee A:	1	6	5	10	3	2	4	9	7	8
Referee B:	6	4	9	8	1	2	3	10	5	7

Use the rank correlation co-efficient and find out what degree of agreement is there between the referees.

Q6: Calculate a seven day moving average from the following data.

Weeks	Sun day	Mon day	Tues day	Wedne sday	Thurs day	Frid ay	Satur day
1	24	55	29	48	52	55	61
2	27	52	32	43	53	56	65