

Statistics

PR - XI (B) (25)

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

Time: 20 Min

SECTION-A

Marks: 15

- 1) If Laspeyre's price index is 324 and Fisher's price index is 144, then Paashe's ideal price index is ____.
- ☐ 234 ☐ 180 ☐ 216 ☒ None of these
- 2) $\sum (y - \bar{y}) = \underline{\hspace{2cm}}$
- ☒ 0 ☐ 1 ☐ 2 ☐ 4
- 3) If $b_{x.y} > 1$, $b_{y.x}$ then is:
- ☒ less than 1 ☐ greater than 1
☐ equal to 1 ☐ equal to 0
- 4) There are ____ components of time series.
- ☐ 1 ☐ 2 ☐ 3 ☒ 4
- 5) A time series is affected by:
- ☐ economic factors ☐ non-economic factors
☒ both (a) and (b) ☐ neither (a) nor (b)
- 6) Fertility relates to:
- ☒ birth rate ☐ death rate ☐ marriage rate ☐ None
- 7) Extrapolation relates to the:
- ☐ Past ☐ Current ☐ Present ☒ Future
- 8) There are ____ feasible solutions in the feasible region.
- ☐ 2 ☐ 4 ☒ Infinite ☐ 6
- 9) A numerical value computed from sample data is called:
- ☐ Population ☐ Sample
☐ Parameter ☒ Statistic
- 10) When data is collected for the first time is called:
- ☒ Primary data ☐ Secondary data

- Nominal data ○ None of these
- 11) $\sum (x - \bar{x}) = \underline{\hspace{2cm}}$ ○ 0 ○ 1.5
- 1 ○ 2
- 12) A.M of 2,2,2,2 is: ○ 4 ○ 6
- 0 ● 2
- 13) Variance of 2,2,2,2 is: ○ 4 ○ None of these
- 0 ○ 2
- 14) If right tail of a distribution is longer than the left tail, then such a distribution is called:
- Positively skewed ○ Negatively skewed
- Symmetric ○ None of these
- 15) There are different kinds of index numbers.
- 2 ● 3 ○ 4 ○ 5

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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.

- i) Differentiate between Discrete variable and Continuous variable with help of example.
- ii) What is classification? What are its types?
- iii) Define median, mode and quartiles.
- iv) Find the geometric mean and harmonic mean of the data: 35,45,55,65,75 and 85.
- v) Define measurement of dispersion. What are its types.
- vi) Define skewness. What are its types. Explain.
- vii) Differentiate between price index numbers and Quantity index number.
- viii) Write down the properties of the least squares regression line.

- ix) Calculate correlation coefficient from the following data.

X	5	9	10	12	15
Y	9	7	11	14	17

- x) Computer 3-year centered moving average from the following data:

Years	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Prices	656	804	836	765	777	711	755	747	696	677

- xi) Describe the methods of collecting vital statistics.

SECTION-C

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

- QIII Calculate Q1, Q3, Q5 and P_{99} from the following data.

Marks	0-9	10-19	20-29	30-39	40-49	50-59
No. of students	2	5	7	18	15	3

- QVI Give the data

Student 1	10	14	19	25	30
Students 2	9	7	11	14	17

Who is more consistent student?

- QV Find the regression lines or equations for the data given below:

X: 3 5 6 9 10 12 15 20 22 28

Y: 10 12 15 18 20 22 27 30 32 34

- QVI Use Lagrange's method, calculate the value of $f(x)$ corresponding to $x=27$ from the following data:

X: 14 17 31 35
F(x): 68.7 64 44 39.1