

FIRST QUARTERLY TEST AUGUST 2026

CLASS : IIPUC

SUBJECT : STATISTICS (31)

Time : 1 Hr. 30 Mins.

Max. Marks : 40

Instructions :

- 1) Statistical tables and graph sheets will be provided on request.
- 2) Scientific calculators are allowed.
- 3) All working steps should be clearly shown.
- 4) Only the first written answers will be considered for Section-A.

SECTION-A

I Choose the correct answer from the choices given: 3x1=3

- 1) The measure used for comparison of fertility among the age groups in the same population is -
a) CBR b) GER c) ASFR d) TFR
- 2) The weights used in the construction of Paasche's price index number is
a) Base year price b) Current year price
c) Base year quantity d) Current year quantity
- 3) The regular, periodic and short term variation in time series is called
a) Secular trend b) Seasonal variation c) Cyclical variation d) Random variation

II Fill in the blanks by choosing the appropriate word given in the brackets: 2x1=2
[Retail, Fertility, Fecundity]

- 4) The capacity of a woman to bear children is called _____.
- 5) _____ price of the commodities used in the construction of cost of living index numbers.

III Match the following : 3x1=3

- | A | B |
|------------------------|---------------------|
| a) Vital events | i) Floods |
| b) Economically stable | ii) Births, deaths |
| c) Random variation | iii) Current period |
| | iv) Base period |

IV Answer the following questions : 3x1=3

- 7) Define Longevity.
- 8) State the relation between Laspeyre's, Paasche's and Dorbish-Bowley's index numbers.
- 9) What is a Histogram ?

SECTION-B

V Answer any TWO of the following questions : 2x2=4

- 10) State two characteristics of Index numbers.
- 11) Diagrammatically represent 'Business Cycle' with stages.
- 12) Mention two assumptions of Interpolation and Extrapolation.

SECTION-C

VI Answer any TWO of the following questions : 2x5=10

- 13) For the following data, compute Net Reproduction Rate and comment,

Age group (in Years)	Female Population	Female Births	Survival rate
15-19	8000	240	0.90
20-24	9000	450	0.88
25-29	10000	600	0.85
30-34	9000	360	0.84
35-39	8000	160	0.82
40-44	7000	70	0.80
45-49	6000	30	0.80

(P.T.O.)

- 14) Compute suitable price index number from the following data and comment on the result.

Items	Price in rupees		Quantity consumption
	2020	2022	
A	10	12	20
B	16	18	15
C	09	10	10
D	11	14	25

- 15) For the following data calculate the cost of living index number by using Family Budget Method.

Group	Weight	Price in rupees	
		Base Year	Current Year
Food	30	130	170
Clothing	12	50	60
Fuel	08	90	110
Entertainment	15	30	50
Education	10	40	70
Others	15	50	90

- 16) Compute five yearly moving averages for the following data and write your conclusion.

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
Value	10	15	18	21	25	30	33	40	50

VII Answer any ONE of the following questions :

1x5=5

- 17) Below are given the figures of production (in thousand tons) of a sugar factory. Fit a straight line trend by the method of least squares and estimate the production for the year 2008.

Year	2001	2002	2003	2004	2005	2006	2007
Production (000' tons)	80	90	92	83	94	99	92

- 18) Interpolate and Extrapolate the sales for the year 1982 and 1985 from the following data.

Year	1979	1980	1981	1982	1983	1984	1985
Sales	100	120	150	-	525	780	-

SECTION-D

VIII Answer any ONE of the following questions :

1x10=10

- 19) From the following data, compute standardized death rates for Village A and Village B. Which town is healthier?

Age Group (Years)	Village A		Village B		Standard Population
	Population	Deaths	Population	Deaths	
0-20	4000	36	3000	30	2000
20-40	12000	48	20000	100	3000
40-60	6000	60	4000	48	6000
60 & above	8000	152	3000	60	4000

- 20) For the following data test whether Fisher's index satisfies Time Reversal Test and Factor Reversal Test.

Items	Base Year		Current Year	
	Price (in Rs)	Quantity (Kg)	Price (in Rs)	Quantity (Kg)
A	05	25	06	30
B	10	05	15	04
C	03	40	04	50
D	06	30	08	35
