1st TERMINAL TEST: CLASS II PUC

SUBJECT: STATISTICS (31)

[Total No. of questions: 22]

Time: 1Hrs. 30Mins. **Max. Marks: 50**

Note: 1. Statistical table and graph sheets will be supplied on request.
2. Scientific calculators may be used.
3. All working steps should be clearly shown.

Section – A

I. Answer any five of the following questions. **5 × 1 = 5**

1. Generally what is the child bearing age (germination period) of women?
2. Define life table.
3. If the general price level goes up by 80% between 2000 and 2012, what is the index number for 2012 with base 2000?
4. State the condition required to satisfy circular test.
5. Define consumer price index number.
6. What is Historigram?

Section – B

II. Answer any five of the following questions. **5 × 2 = 10**

7. In a given year, the CBR for a population 1,80,000 is 30. Find the number of births.
8. In a life table, if l_1= 95,400 and T_1= 61,05,600 years then, find expectation of life in the first year.
9. Define an index number.
10. Given, $\Sigma q_1 p_0 = 3920$ and $\Sigma q_0 p_0 = 4000$. Calculate a suitable index number.
11. Find consumer price index number from the following data.

Group	A	B	C	D
Group Index	100	120	130	110
Weight	2	3	1	4

12. Mention four components of time series.

Section – C

III. Answer any four of the following questions. **4 × 5 = 20**

13. From the following data, find CBR and GFR.

Age [in years]	Male Population	Female Population	Number of live births
0 - 14	46000	43000	-
15 - 24	34000	35000	6846
25 - 39	39000	38000	3893
40 - 49	30000	28000	674
50 - 79	27000	26000	-
80 & above	3000	4000	-

14. Calculate the STDRs for both localities and comment which is healthy.

Age [in years]	Death rates		Standard Population
	Locality A	Locality B	
Below 10	12	10	2,000
10 – 20	9	9	2,500
20 – 40	9	8	2,200
40 – 60	14	13	1,800
60 & above	25	31	1,500

15. Write down three uses and two limitations of index numbers.
16. Calculate suitable index number from the following data. Comment on the result.

Item	Current year price	Quantity	
		Base year	Current year
A	30	8	10
B	45	10	15
C	100	7	10
D	22	20	25

17. The group indices and the corresponding weights for the working class in an industrial town for the years 2010 and 2015 with base 2005 are given below. Calculate consumer price index numbers and compare them.

Group	Group weights	Group Index with base 2005	
		2010	2015
Food	60	370	380
Clothing	8	420	500
Fuel	10	470	340
House Rent	12	110	120
Misc.	10	280	282

18. Draw a trend line by the semi averages method.

Year	2005	2006	2007	2008	2009	2010
Sales ('000)	110	105	115	110	120	130

OR

(For visually challenged students only)

Explain the semi averages method of measuring trend.

Section – D

IV. Answer any one of the following questions. 1 × 10 = 10

19. For the following data, compute the GRR, NRR and hence comment on the results.

Age group [in years]	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49
Female population	3,000	2,500	2,200	2,000	1,800	1,500	1,200
Female births	60	100	132	80	54	30	12
Survival ratio	0.9	0.9	0.8	0.8	0.8	0.7	0.7

20. For the following data show that Fisher's index number satisfies both time reversal and factor reversal tests.

Item	2004		2006	
	Price (Rs.)	Quantity	Price (Rs.)	Quantity
A	8	15	9	15
B	7	12	8	13
C	10	10	10	10
D	12	14	15	16

Section – E

V. Answer any two of the following questions. **2 × 5 = 10**

21. Find crude death rate and age specific death rates for the following data.

Age [in years]	Population	Deaths
Below 20	6,000	90
20 – 40	8,000	40
40 – 60	7,000	70
60 & above	4,000	100

22. Find the weighted G.M price index number from the following data.

Item	Weight	p_0	p_1
A	25	120	222
B	10	40	80
C	15	100	300
D	10	100	200
E	50	300	500

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