

**2023/TDC(CBCS)/ODD/SEM/
STSDSE-502T/120**

TDC (CBCS) Odd Semester Exam., 2023

STATISTICS

(5th Semester)

Course No. : STSDSE-502T

(Demography and Vital Statistics)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

SECTION—A

Answer *fifteen* of the following as directed,
selecting any *three* from each Unit : $1 \times 15 = 15$

UNIT—I

1. Coverage error is a type of _____ error.
(Fill in the blank)
2. How is population composition measured?

3. A ____ dependency ratio means that there are sufficient people working, who can support the dependent population.

(Fill in the blank)

4. What is meant by content error in demographic data?

UNIT—II

5. Define Infant Mortality Rate (IMR).
6. Define sex ratio in relation to demography.
7. What do you mean by the word vital event?
8. Name two measures of mortality.

UNIT—III

9. Define life table.
10. What do you mean by stable population?
11. Define central mortality rate.
12. What is curtate expectation of life?

UNIT—IV

13. What do you mean by the fertility of a population?

14. Define specific fertility rate.

15. The sum of age-specific fertility rates multiplied by n in the age interval $(x, x+n)$ provides the estimate of ____.

(Fill in the blank)

16. Child-bearing age of women in India is ____.

(Fill in the blank)

UNIT—V

17. What are the different measures of population growth?

18. Explain Pearl's vital index.

19. Population growth is measured in terms of ____.

(Fill in the blank)

20. Gross reproduction rate (GRR) cannot be ____ net reproduction rate (NRR).

(Fill in the blank)

(4)

SECTION—B

Answer *five* questions, selecting *one* from each
Unit : $2 \times 5 = 10$

UNIT—I

21. Explain with example, dependency ratio in demography.
22. How are errors detected in vital statistics registration?

UNIT—II

23. Explain the merits and demerits of Crude Death Rate (CDR).
24. State the weaknesses of registration of vital statistics in India.

UNIT—III

25. What is expectation of life?
26. With usual notations show that

$$q_x = \frac{2m_x}{2 + m_x}$$

(5)

UNIT—IV

27. Write the merits of general fertility rate.
28. What do you understand by abridged life table?

UNIT—V

29. Write the merits and demerits of crude rate of natural increase.
30. Discuss the limitations of GRR.

SECTION—C

Answer *five* questions, selecting *one* from each
Unit : $5 \times 5 = 25$

UNIT—I

31. Explain how population balancing equation is used to calculate population growth between two time periods:
32. Write the causes and consequences of errors in demographic data.

(6)

UNIT—II

33. What are the different methods of collection of vital statistics? Briefly explain sampling registration system for collecting vital statistics. 1+4=5
34. Explain briefly the direct and indirect methods of finding standardized death rate. 2+3=5

UNIT—III

35. Describe briefly the various uses of life table. How many columns are there in life table? 4+1=5
36. With usual notations prove that—
- (i) $e_x = \frac{\sum_{n=1}^{\infty} l_{x+n}}{l_x}$;
- (ii) $p_x = \frac{e_x}{1+e_{x+1}}$ 2½+2½=5

UNIT—IV

37. Describe total fertility rate with its merits and demerits.
38. What is crude birthrate? Why is it called as crude? Discuss its relative merits and demerits..

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(Continued)

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UNIT—V

39. Explain NRR. Discuss its merits and demerits.
40. Define GRR and show that GRR is the upper limit of NRR. What happens when $GRR = 1$, $GRR < 1$ and $GRR > 1$? 1+3+1=5

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