



**2021/TDC/CBCS/ODD/
STSDSE-502T/120**

**TDC (CBCS) Odd Semester Exam., 2021
held in March, 2022**

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 any *fifteen* of the following as directed :

1×15=15

1. Vital statistics is a part of _____.

(Fill in the blank)

2. The national register of citizens in India was
opened in the year _____.

(Fill in the blank)

22J/913

(Turn Over)



(2)

3. "Vital statistics is generally expressed in terms of percentage."

(Write True or False)

4. If P_1 and P_2 are the population of two successive censuses, then the mid-period population is equal to _____.

(Fill in the blank)

5. Is crude death rate a probability rate?

6. Fertile period of women can be better ascertained by _____ rate.

(Fill in the blank)

7. The sum of ASFR multiplied by n in the age interval x to $(x+n)$ provides the estimate of _____.

(Fill in the blank)

8. The ratio of birth to death in a year is called _____.

(Fill in the blank)

9. GRR cannot be _____ NRR.

(Fill in the blank)

10. Range of vital index is from 0 to _____.

(Fill in the blank)

(Continued)



(3)

11. If $NRR < 1$, then what does it mean?
12. What is sex ratio?
13. Define crude birthrate.
14. What is the relation between m_x and q_x ?
15. What is stationary population?
16. An abridged life table usually consists of age at a distance of _____ years.
(Fill in the blank)
17. What is total fertility rate?
18. Name two sources of demographic data.
19. Define infant mortality rate.
20. What is a cohort of a life table?



(4)

SECTION—B

Answer any *five* of the following questions : $2 \times 5 = 10$

21. What is population composition?
22. How does sex ratio influence population growth?
23. Write two disadvantages of crude death rate.
24. Give two purposes of the sample registration system.
25. What is the difference between rate and ratios?
26. In a population, out of 2275 males, 23 died in a year and out of 1319 females, 17 died. Calculate the crude death rate.
27. Define nq_x in the context of life table.
28. Name two methods of constructing abridged life table.



29. Give two uses of life table.
30. Given total live births = 977, number of female live births = 474, TFR = 1070. Compute GRR.

SECTION—C

Answer any *five* of the following questions : 5×5=25

31. Complete the life table given below :

x	l_x	d_x	q_x	L_x	T_x	e_x°
90	717	—	—	—	1625	—
91	—	—	—	—	1015	2.2
92	—	—	—	271	596	—

32. Prove that

$$e_x = \frac{\sum_{n=1}^{\infty} l_{x+n}}{l_x}$$

33. Write a brief note on the errors concerning registration data.

34. What is population composition? Why is it necessary to study the same?



35. Explain the concept of specific death rates with its merits and demerits.
36. Explain, if infant mortality rate can be considered as a probability rate.
37. Define force of mortality. Deduce the relation between m_x and μ_x .
38. Explain total fertility rate with its merits and demerits.
39. Define GRR and NRR and show that GRR is the upper limit of NRR.
40. The following statistics are available about standard population and a local population :

<i>Age group</i>	<i>Std. Popl.</i>	<i>Popl.(A) Death</i>	<i>Local Popl.</i>	<i>Popl. (B) Death</i>
20-30	300	45	250	50
30-40	350	42	300	36
40-50	400	32	350	27
50 & above	450	27	400	16

- (a) Compute the crude death of both A and B taken together.



(7)

- (b) Compute the standardized death rate of the local population, i.e., B with A as the standard population.

★ ★ ★