April 2025
B.A./B.Sc.
Sixth Semester
DISCIPLINE SPECIFIC ELECTIVE – 3
STATISTICS
Course Code: STD 6.11
(Demography)

Total Mark: 70 *Pass Mark: 28*
Time: 3 hours

Answer five questions, taking one from each unit.

UNIT–I

1. (a) State some ways to assess the quality of a demographic data. 4
   (b) Write a note each on the following: 2×2=4
   (i) Population composition
   (ii) Age adjustment data
   (c) Discuss how optimum population theory is superior to the Malthusian theory. 6

2. (a) Write a short note on completeness of vital registration data. 4
   (b) Define the following terms: 2×2=4
   (i) Femininity ratio
   (ii) Dependency ratio
   (c) Discuss the different stages of population development according to the demographic transition theory. 6

UNIT–II

3. (a) Describe the methods of obtaining vital statistics. 6
   (b) Distinguish between direct method of standardisation and indirect method of standardisation. 8

4. (a) Discuss some uses of vital statistics. 4
   (b) Explain why crude death rate (CDR) is not suitable for comparing the mortality of two places. 4
   (c) Define infant mortality rate (IMR). State the merits and demerits of infant mortality rate (IMR). 2+4=6

UNIT–III

5. (a) Define the force of mortality. 4
   (b) Prove that: 4

$$\mu_{x+\frac{1}{2}} = m_x$$

   (c) Describe the uses of life table. 6

6. (a) Define the central mortality rate. 4
   (b) Prove that: 4

$$e_x = \left(\sum_{n=1}^{\infty} l_{x+n} \right) \div l_x$$

   (c) Define stable population. State the assumptions of Lotka and Dublin's model for stable population. 2+4=6

UNIT–IV

7. (a) Define abridged life table. Discuss the different components of an abridged life table. 2+6=8
   (b) Differentiate between the following: 3×2=6
      (i) Fertility and fecundity
      (ii) Curtate expectation of life and complete expectation of life

8. (a) Describe any one method of construction of abridged life table. 6
   (b) Discuss the merits and demerits of crude birth rate (CBR). 2+2=4
   (c) Show that net reproduction rate (NRR) is necessarily less than gross reproduction rate (GRR). 4

UNIT–V

9. (a) Define migration. What are the components of migration? 2+2=4
   (b) Explain efficiency of streams. 4
   (c) Discuss the various factors that leads to migration. 6

10. (a) Discuss any two methods for estimation of migration. 2+2=4
   (b) Write a short note on differential migration. 4
   (c) Explain the different types of internal migration. 6
