

2024
B.A./B.Sc.
Sixth Semester
 DISCIPLINE SPECIFIC ELECTIVE – 3
STATISTICS
Course Code: STD 6.11
 (Demography)

Total Mark: 70
Time: 3 hours

Pass Mark: 28

Answer five questions, taking one from each unit.

UNIT-I

1. (a) Define error in demographic data. Differentiate between sampling error and non-sampling error along with examples. 2+2+2=6
- (b) Write a short note on adjustment of age data. Explain in detail the method of Myer's index for adjustment of age data. 2+3=5
- (c) Explain about the demographic transition theory. 3
2. (a) Explain the following in detail: 4×2=8
 - (i) United Nation index
 - (ii) Whipple's index
- (b) Describe in detail the balancing equation used in demographic data. 4
- (c) Discuss about the Malthusian theory of population theory. 2

UNIT-II

3. (a) Briefly explain vital statistics. Write some of the important application of vital statistics. 2+4=6
- (b) Define the term specific death rate and age specific death rate. Write the merits and demerits of specific death rate. 4+4=8
4. (a) Write short notes on the following: 4+4=8
 - (i) Census method of collecting vital events
 - (ii) Sample survey method of collecting vital data

- (b) When is standardised death rates used? What is the main drawback of this method? 1+1=2
- (c) Which is the simplest measure of mortality? Write its advantages and disadvantages. 1+3=4

UNIT-III

5. (a) Define a cohort. Describe the various components of a life table. 2+6=8
- (b) In the usual notations, prove that: 2+2=4
- (i) $\frac{dL_x}{d_x} = -d_x$
- (ii) $\frac{dT_x}{d_x} = -l_x$
- (c) How is the expectation of life at birth determined from a life table? 2
6. (a) What is model life table? Explain the different kinds of life table. 2+6=8
- (b) Write the construction of life table and the uses of life table. 4
- (c) Prove that $q_x = \frac{2m_x}{2 + m_x}$. 2

UNIT-IV

7. (a) Describe the construction of abridged life table by Greville's method. 7
- (b) What do you mean by the fertility of population? Define:
- (i) General fertility rate 1½+1½+2+2=7
- (ii) Age-specific fertility rate
- (iii) Total fertility rate
8. (a) Define: 1½+1½=3
- (i) Crude rate of natural increase
- (ii) Pearle's vital index

- (b) Explain in brief the net reproductive rate and gross reproductive rate. 6
- (c) Describe the construction of abridged life table by King's method. 5

UNIT-V

9. (a) Explain in brief rural to urban migration. 6
- (b) Write short notes on: 2+2=4
- (i) Migration component
- (ii) Migration stream
- (c) Differentiate between out-migration and in-migration. 4
10. (a) Write a note on internal migration and international migration. 8
- (b) Describe the indirect measures of net internal migration. 6
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