Roll No. .... Total Pages : 3

OCMDE/M-20 **2023**

DEMOGRAPHY

Paper–ST-201-P-I

Time Allowed : 3 Hours] [Maximum Marks : 75

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. Question No. **1** is compulsory. All questions carry equal marks.

Compulsory Question

1. (a) Explain the concept of measurement of population at a given time 't'.

   (b) What are the assumptions of the construction of a complete life table?

   (c) Define and explain the formula of general fertility rate.

   (d) Define migration and explain measurement of internal migration.

   (e) Explain the concept 'estimate' and explain the difference between Inter-censal and Post-censal estimates. 3×5

2023/K/630 **P. T. O.**

UNIT–I

2. Explain the concept of mortality. Also explain the merits and demerits of the following measures of mortality :

   (i) crude death rate, (ii) specific death rates and (iii) standardised death rates. 15

3. (a) Define the term 'Cohort' as used in the study of life tables. Also explain various types of cohorts along with their examples.

   (b) Discuss the assumptions in the construction of a life table. Also establish the relationship $m_x = \dfrac{2q_x}{2-q_x}$, where symbols have usual meanings.

   8+7

UNIT–II

4. Explain the concept of abridged life tables. Also explain in detail the King's method of constructing abridged life tables. 15

5. Explain the concept of fertility and fecundity. Explain in detail the 'age specific fertility rate' and 'total fertility rate' along with their respective merits and demerits. 15

UNIT–III

6. (a) Define 'stationary' and 'stable' populations. Explain the difference between them. Show that the birth rate and age distributions are independent of time.

    (b)   Also obtain the fundamental equations of stable population theory.   10+5

7.   Explain the concept of 'migration' of a population. Discuss the merits and demerits of 'crude migration rate' and 'age-specific migration rate' along with their respective uses.   15

UNIT–IV

8.   (a)   Explain the need of 'projection of population'.

    (b)   Explain 'projected values' with the help of suitable examples.

    (c)   Explain the concept of 'population composition'.

    (d)   Explain the concept of 'forecaste' in demography.   3+4+4+4

9.   (a)   What do you understand by 'survival rates' of a population?

    (b)   Explain in detail the :

        (i) Ledermann's

        (ii) Brass's models life tables.   3+6+6