



M 20997

Reg. No. :

Name :

IV Semester M.A./M.Sc./M.Com. Degree (Reg./Sup./Imp.)
Examination, March 2012
STATISTICS
Paper – 4.3 – Elective III – Demography

Time : 3 Hours

Max. Marks : 70

Instruction : Answer any five questions. Choosing one from each Unit.

UNIT – I

1. a) Distinguish between Census-vital registration system and sample registration system. Discuss their merits and demerits. (7+7=14)
b) Define Demography. Explain the components of population change.
2. a) What are the major sources of demographic data ? Discuss their limitations.
b) Explain :
 - i) migration
 - ii) emigration and
 - iii) urbanization. Describe their contributions to population change. (7+7=14)

UNIT – II

3. a) What do you mean by Lexis diagrams ? Explain the method construction and its uses.
b) Distinguish between :
 - i) mortality and
 - ii) morbidity. What are the various measures of mortality and morbidity ? (7+7=14)
4. a) Define life table. Explain various columns of a life table. Describe its uses.
b) Explain birth interval analysis. (8+6=14)

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UNIT – III

5. a) Explain Lotka's stable population theory.
b) Discuss different methods of population projection and estimation. (7+7=14)
6. a) Explain the momentum of population growth.
b) Describe exponential and logistic population growth models. (7+7=14)

UNIT – IV

7. a) Derive Kolmogorov's backward differential equation for a birth and death process.
b) Explain stable population models. (8+6=14)
8. a) Distinguish between UN and Coale and Demeny mode life tables.
b) Define Makeham's model for mortality. Explain a method for fitting the curve. (7+7=14)

UNIT – V

9. a) Explain Dandekar probability model for fertility. How do you estimate parameters of the model?
b) Explain Sheps and Menken mathematical model of conception and births. (7+7=14)
10. a) How do you validate mathematical models of fertility?
b) Define Srinivasan's model to the study of inter-live birth intervals. Explain the method of estimation of parameters of the model. (6+8=14)