

Time allowed: 3 Hours

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Section.

x-x-x

1. (a) (i) Define crude birth rate. Is it a probability rate?
 (ii) What is the use of life table?
 (iii) What do you understand by seasonal variations. ? Give one example also.
 (iv) Write down the normal equations for fitting quadratic trend in Time series ?
 (v) What is the use of chain –based indices? What are chain relatives.
 (vi) Comment upon the choice of base period in the construction of price index number.

(1½ each)

- (b) (i) Define the terms : cohort, stationary population.
 (ii) What are the sources of Vital data in a society.
 (iii) Explain the meaning of the term deflation in the context of Index numbers.
 (iv) State the law of demand and supply.

(1 each)

Section ----1

2. What is the difference between measurement of fertility and measurement of population growth? Discuss G.R. R (gross Reproduction rate) and N.R.R (net reproduction rate) as measures of population growth. (13)
3. (a) Describe the structure of a complete life table. Explain how the different columns of a life table may be computed on the basis of observed age-specific mortality rates.
- (b) The following data were reported for the State of California in 1992.

	Number
Population	6,060,943
Live births	87,202
Deaths	53,804
Total under one year	569

Compute the following rates: i) Crude Birth Rate
 ii) Crude Death Rate iii) Infant Mortality Rate

(8,5)

4. (a) What do you understand by secular trend in Time Series? Give one example. How to estimate trend by the method of curve fitting ?
- (b) For the data given below calculate the trend by the method of moving average of 4 points.

Year	1981	1982	1983	1984	1985	1986
Production of Crop(quintals)	464	515	518	467	502	540
Year	1987	1988	1989	1990	1991	1992
Production of Crop(quintals)	557	571	586	612	636	693

What are the drawbacks of moving average method for measuring trend ?

(8,5)

5. Give in details Ratio to Link Relative method for measuring Seasonal indices in Time series. Discuss its merits and de-merits.