

**B. Sc. (Honours) Semester-II Examination 2017**

**Statistics (Allied)**

**Course: BSA-21 (Old & New)**

**Time : Three Hours**

**Full Marks : 40**

Questions are of value as indicated in the margin

Answer **any four** questions

1. Write short notes on the following : 2.5×4=10
    - (a) Comparative mortality index, (b) Infant mortality rate,
    - (c) Indirect Standardisation method (d) GRR
  2. (a) Briefly describe the columns of a life table and its uses. 6
    - (b) In usual notation prove that (i)  ${}_nq_x = \frac{d_{x+n-1}}{l_x}$  (ii)  $P_x = \frac{e_x}{1+e_{x+1}}$  4
  3. (a) Describe the components of a time series. 5
    - (b) Suppose we want to fit a polynomial curve of degree 3 (in the form  $T_t = a_0 + a_1t^3$ ) to measure the trend of a time-series data. What are the estimates of  $a_0$  and  $a_1$ ? 5
  4. (a) What are the objectives of time series analysis? 2
    - (b) Write down any two methods for the measurement of seasonal variation 8
  5. (a) What do you mean by consumer Price index number? How is it constructed? 6
    - (b) Discuss the method of chain indices. 4
  6. What are the basic problems involved in the construction of index numbers? Discuss. 10
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