

2019

B.Sc. (Hons.)

4th Semester Examination

STATISTICS

Paper—GE4T

Full Marks : 40

Time : 2 Hours

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers  
in their own words as far as practicable.*

1. Answer any *five* questions : 5×2=10
- (a) What is seasonal fluctuations' in a time series?
  - (b) Define Infant mortality rate.
  - (c) What is consumer price index number ?
  - (d) What do you mean by product control ?
  - (e) Give two merits and two demerits of moving average method over curve fitting method for determining trend.

[ Turn Over ]

- (f) "The price index no. of 2011-12 with 2001-02 as base year is 1.64"—Explain this statement.
- (g) Define Gini's co-efficient.
- (h) Define  $q_x$  column of a life table.

2. Answer any *four* questions : 4×5=20

- (a) Discuss ratio to trend method for obtaining seasonal index from a monthly time series data.
- (b) Write a short note on 'Net reproduction rate'.
- (c) Obtain the control charts for no. of defectives.
- (d) "Fisher's index no. is an ideal index no"—Discuss.
- (e) Write down the normal equations for fitting a  $p^{\text{th}}$  degree polynomial to a time series data.
- (f) Discuss about the causes of variation in quality of a manufacturing process.

3. Answer any *one* question : 1×10=10

(a) Discuss the control charts for mean and range for both the case of standards given and not given.

(b) Describe the different columns of a life table.

Show that,  $L_x = (l_x + l_{x+1})/2$ .

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