

D 11253

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Name.....

Reg. No.....

**FIFTH SEMESTER B.A./B.Sc./B.Com./B.B.A. DEGREE EXAMINATION  
NOVEMBER 2016**

(CUCBCSS-UG)

Open Course

STS 5D 01—ECONOMIC STATISTICS

Time : Two Hours

Maximum : 40 Marks

*Use of Calculator is permitted.*

**Section A**

*Answer all the five questions.*

*Each question carries 1 mark.*

1. The additive model of a time series is expressed as \_\_\_\_\_.
2. The variation in inflation rate of India over a period of last 20 years is \_\_\_\_\_ component of time series.
3. Laspeyre's price index uses the \_\_\_\_\_ quantities as weights.
4. The GM of Laspeyre's and Paasche's price index is \_\_\_\_\_.
5. Deflation of Index numbers helps to determine \_\_\_\_\_.

(5 × 1 = 5 marks)

**Section B**

*Answer all the five questions.*

*Each question carries 2 marks.*

6. What is *t* Unit test ?
7. Why does it become necessary to shift the base of Index numbers ?
8. What are the four different Phases in a business cycle ?
9. If the trend line with 2005 as Origin is  $y = 20.6 + 1.68x$ , then what is the equation of trend line with 2001 as origin ?
10. Write down the general equation of a Gompertz curve.

(5 × 2 = 10 marks)

Turn over

## Section C

Answer any **three** questions.  
Each question carries 5 marks.

11. Describe the moving average method of estimating trend to time series data.
12. Explain the link relative method of computing the indices of seasonal variation.
13. Distinguish between seasonal variation and cyclical variation in a time series.
14. Index numbers are economic barometers—Explain.
15. Identify some of the importance problems which may be faced in the construction of index numbers ?

(3 × 5 = 15 marks)

## Section D

Answer any **one** out of **three** questions.  
Each question carries 10 marks.

16. Explain the method of least squares for fitting a straight line trend. The following data relate to the production (in thousand quintals) of a sugar factory :

| Year       | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|------------|------|------|------|------|------|------|------|
| Production | 80   | 90   | 92   | 83   | 94   | 99   | 92   |

Fit a straight line trend by the method of least squares.

17. Define cost of living index number and explain its uses. Calculate cost of living index number for the year 2012 from the following data :

| Items | Price |      | Quantity |      |
|-------|-------|------|----------|------|
|       | 2010  | 2012 | 2010     | 2012 |
| Rice  | 30    | 35   | 10       | 18   |
| Wheat | 18    | 28   | 9        | 12   |
| Meat  | 10    | 20   | 7        | 10   |

- 18 (a) Explain the concepts of Time reversal test and factor reversal test. Examine whether Fishers price index satisfy time reversal test.
- (b) Following data shows number of students in a college :

| Year     | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 |
|----------|------|------|------|------|------|------|------|------|------|
| Students | 705  | 685  | 703  | 687  | 705  | 689  | 715  | 685  | 725  |

Calculate the 5-yearly moving averages.

(1 × 10 = 10 marks)