

Second Semester FYUGP Degree (Reg/Sup/Imp) Examination
April 2026

KU2DSCSTA133 - TIME SERIES AND INDEX NUMBERS
2024 Admission onwards

Time : 2 hours

Maximum Marks : 70

Section A

Answer any 6 questions. Each carry 3 marks.

1. Give any three uses of index number.
2. Describe the importance of index number.
3. Explain freehanded curve methods.
4. Write the normal equations for fitting the straight line $y = a + bx$.
5. Briefly explain method of least squares?
6. List out the Uses of time series analysis.
7. Define time series with example.
8. Distinguish between cyclical variations and random variations.

Section B

Answer any 4 questions. Each carry 6 marks.

9. Apply the method of semi average for determining the trend.

Year	2001	2002	2003	2004	2005	2006	2007
Sales	12	15	20	18	25	24	28

10. What-are the merits and demerits of freehand curve method.
11. Explain how to fit a linear trend using the least squares method.
12. Explain time series and analysis of time series.
13. Explain secular trend. Also explain the methods for measuring it.
14. Explain seasonal variations and cyclical variations.

Section C

Answer any 2 questions. Each carry 14 marks.

15. Examine whether Fisher's index number and Laspeyres index number satisfy the time reversal test and the factor reversal test.

Commodity	Base year		Current year	
	Price	Quantity	Price	Quantity
A	12	10	15	12
B	15	7	20	5
C	24	5	20	9
D	5	16	5	14

16. Examine whether 1) Laspeyres's formula 2) Paasche's formula 3) Fisher's formula satisfy time reversal test from the data given below.

Items	2002		2006	
	Price	Quantity	Price	Quantity
A	8	6	12	8
B	12	7	15	9
C	20	9	25	7

17. Discuss and explain the problems involved in the construction of index numbers.

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