



**Karmaveer Bhaurao Patil University, Satara**  
(A State Public University Est. u/s 3(6) of MPUA 2016)  
**Faculty of Commerce and Management**

Dhananjayrao Gadgil College of Commerce, Satara

**Board of Studies in Statistics & Mathematics**

**Programme:** B.Com(Business Administration)

**Semester - V**

**Type :** Minor

**Marks:** 50

**Credits :** 2

**From:** A. Y. 2025-26

**Name of the Course: Applied Statistics**

**Course Objectives: Students should be able to:**

1. Compute and interpret simple and weighted index number in real life examples.
2. Understand the components of time series and their utility in analyzing trends, seasonal variations, and forecasting.

**Course Outcomes: Students will be able to**

1. Compute various types of index numbers from the provided data.
2. Understand of the meaning and need of time series analysis, including the components such as secular trend, seasonal variation, cyclical variation, and irregular variation..

Module	Title and Contents	Hrs
<b>Module -1:</b>	<p><b>Module -1: Index Numbers :</b></p> <p><b>1.1</b> Need, Meaning and uses of index numbers, Problems involved in construction of index numbers.</p> <p><b>1.2</b> Notations used in Index Number, Types of Index Number : Price, Quantity and Value index numbers.</p> <p><b>1.3</b> Unweighted (Simple) index numbers by (i) Simple Aggregate Method (ii) Simple Average of Relative Method using Arithmetic mean.</p> <p><b>1.4</b> Weighted index numbers by (i) Laspeyre's, Paasche's and Fisher's. Construction of Cost of living index number Uses &amp; limitations of index number.</p> <p><b>1.5</b> Numerical Examples.</p>	15
<b>Module -2:</b>	<p><b>Module -2: Time Series</b></p> <p><b>2.1</b> Definition and uses of Time series, Components of time series.</p> <p><b>2.2</b> Time Series plot and its interpretation,</p> <p><b>2.3</b> Additive and Multiplicative models.</p> <p><b>2.4</b> Methods of determination of trend by (i) Method of semi averages (ii) Method of Moving Averages (iii) Method of progressive averages (iv) Method of Least Squares (only for straight line) (v) Method of measuring Seasonal variations.</p> <p><b>2.5</b> Numerical Examples.</p>	15

**Reference Books:-**

1. B. M. Agrawal, Essentials of Business Statistics, Ane Books Pvt. Ltd.2010
2. B. M. Agrawal, Business Mathematics and Business Statistics, Ane Books Pvt. Ltd.2009
3. R.S.N. Pillai and Bagavathi, Practical Statistics, S. Chand Publications.1987
4. S.P.Gupta, Statistical Methods, Sultan Chand & Sons 2021
5. C.B.Gupta, Introduction to Statistics, Vikas Publishing House Pvt.Ltd.2004

- 6. H.C.Saxena and J.N.Kapur, Mathematical Statistics. S. Chand Publications 2010
- 7. Gupta S. C. & Kapoor V.K. Applied Statistics, Sultan Chand & Sons, New Delhi. 2018

**Note: Use of nonprogrammable calculator is allowed.**

**Evaluation Pattern:**

**Total Marks: 50**

**Internal Continuous Evaluation: 20 marks**

- Home Assignment- 10marks
- Unit test –10marks

**End Semester Examination: 30 marks**

**Each question for 10 Marks**

- Question -1 MCQ 5 Out of 6 of 2 marks each
- Question -2 Long answer question with example  
or
- Question -2 Long answer question with example
- Question -3 Long answer question with example  
or
- Question -3 Long answer question with example