

Course: OE
Fundamentals of Statistics

Semester: II	Credits: 2	Subject Code: OE1-22307	Lectures: 30
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Course Outcomes:

At the end of this course, the learner will be able to:

- CO1-Recall, identify, assess and execute oneself effectively in a broad range of analytic, scientific, government, financial, health, technical and other positions.
- CO2-Remember, determine, relate and evaluate the connections between theory and applications.
- CO3-Comprehend, analyze, apply, experiment and evaluate statistical reasoning, formulate a problem in statistical terms.
- CO4-Relate, describe, examine and apply the concept of average and estimation which would help them in business forecasting.

Unit 1: Introduction, Measures of Central Tendency and Dispersion

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- Definition of Statistics, Scope of Statistics in various other subjects. Concept of raw data, attributes, variables, population, sample, statistical error (residual), Methods of Sampling- Probabilistic and Non-Probabilistic.
- Frequency Distribution, Concept of Central Tendency. Criteria for Good Measures of Central Tendency. Arithmetic Mean- Concept, Simple and Weighted Mean for Grouped and Ungrouped Data, Important Properties of Arithmetic Mean, Merits and Demerits.
- Median – Concept, Calculation from Simple Series, Simple Frequency Distribution, Grouped Frequency Distribution, Advantages and Disadvantages.
- Mode – Concept, Calculation from a Simple Series, Simple Frequency Distribution, Grouped Frequency Distribution. Advantages and Disadvantages.
- Concept of Dispersion – Meaning and Necessity of Measures of Dispersion, Absolute and Relative Measure of Dispersion. Standard Deviation – Concept of Standard Deviation and Variance, Important Properties, Calculation from Simple Series, Simple Frequency Distribution and Grouped Frequency Distribution.
- Numerical Problems
- Assignment: Internal

Unit 2: Time Series & Index Numbers

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- Definitions and utility of Time Series Analysis, Components of Time Series, Trend, Seasonal Variation and cyclic variation, irregular or erratic variations.
- Measurement of Trend: Moving average Method,
- Definition of Index Number. Characteristics and Uses of Index Numbers.



Board of Studies	Department	Name	Signature
Chairperson (HoD)	Mathematics and Statistics	Dr. Deepa Krishnamurthy	<i>Deepa</i> 13/4/24


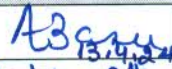
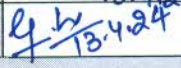
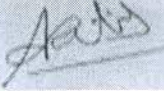
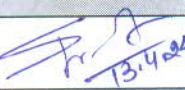
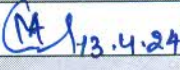

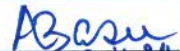
- Types of Index Numbers- Price Index, Quantity Index and Value Index – Laspeyres' Index, Paasche's Index, Fisher's Ideal Index, Cost of Living Index Numbers. Problems in the construction of Index Numbers.
- Numerical Problems

Recommended Text Books:

- Dixit P. G., Rayarikar A.V., *Business Statistics*, Nirali Prakashan, Pune, 2013
- Dixit P. G., *Business Statistics*, Nirali Prakashan, Pune, 2019
- Saha Suranjan, *Basic Business Mathematics and Statistics*, New Central, Calcutta, 1994
- Agarwal B L, *Basic Statistics*, Wiley Publication, 1988

Reference Books:

- Gupta S.P., *Statistical Methods*, Sultan Chand, 2005
- Levin Richard I and Rubin David S, *Statistics for Management*, Prentice Hall of India, 1997
- Gupta S.P, and Gupta *Business Statistics*, Sultan Chand, 2008
- Chitale Ranjeet, *Statistical and Quantitative Methods*, Nirali Prakashan, 2009
- Saha S and Mukherji S., *Quantitative Methods* (Mathematical, statistical & Economic Techniques), Central's ICWA,
- Black Ken, *Applied Business Statistics: Making Better Business Decisions*, Wiley India, New Delhi, 2012
- Beri G C, *Business Statistics*, Tata McGrawHill, New Delhi, 2010
- Bakshi Sandeep Kumar, *Business Statistics*, A. K. Publication, 2010

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