



## Rajarshi Shahu Mahavidyalaya, Latur

(Autonomous)

Department of Commerce

Course Type: GE/ OE- I

Course Title: Fundamentals of Statistics

Course Code: 101MAE1401

Credits: 04

Max. Marks: 100

Lectures: 60 Hrs.

### Learning Objectives:

- LO 1. To understand the basic concepts and principles of statistics.
- LO2. To learn different measures of central tendency (mean, median, mode) to describe and analyze data.
- LO3. To understand the Techniques of Measures of Dispersion i.e. Range, Standard Deviation and Quartile Deviation
- LO4. To learn how to calculate and interpret Karl Pearson's coefficient of correlation.

### Course Outcomes:

- CO1. Identify different types of data and variables and apply appropriate statistical techniques.
- CO2. Analyses statistical data using measures of central tendency
- CO3. Uses Techniques of dispersion for decision making
- CO4. Identify and analyze relationships between variables using correlation and regression analysis.
- CO5. Apply statistical techniques to real-world problems and make informed decisions based on data analysis.

Unit No.	Title of Unit & Contents	Hrs.
<b>I</b>	<b>Introduction to Statistics and Presentation of data</b>	<b>15</b>
	<ol style="list-style-type: none"><li>1. Introduction, Meaning, Importance and Limitations of Statistics.</li><li>2. Introduction of Sources of Primary and secondary Data Collection,</li><li>3. Methods of Primary and Secondary Data collection.</li><li>4. Meaning and Objectives of Classification</li><li>5. Types of Classification: Geographical, Chronological, Qualitative and Quantitative Classification.</li><li>6. Meaning and Importance of tabulation</li><li>7. Types of table: Simple and Complex table</li></ol>	
	<b>Unit Outcomes:</b> UO1. Identify different types of data and variables and apply	

	appropriate statistical techniques. UO2. Analyzes Statistical data by the use of tabulation and classification Techniques	
<b>II</b>	<b>Measures of Central Tendencies</b>	<b>16</b>
	<ol style="list-style-type: none"> <li>1. Meaning of Mean, Median and Mode</li> <li>2. Merits and demerits of Mean, Median and Mode.</li> <li>3. Calculation of Mean, Median and Mode for Ungrouped and Grouped Frequency Distribution.</li> </ol>	
	<b>Unit Outcomes:</b> UO1. Analyze data using descriptive statistics, such as measures of central tendency UO2. Identify and calculate the mean, median, and mode for a given dataset.	
<b>III</b>	<b>Measures of Dispersion</b>	<b>15</b>
	<ol style="list-style-type: none"> <li>1. Meaning, Merits and Demerits of Measures of Dispersion.</li> <li>2. Types of measures of Dispersion</li> <li>3. Problems on Range and Quartile Deviation</li> <li>4. Standard Deviation and its Co-efficient, Co-efficient of variation and Variance.</li> </ol>	
	<b>Unit Outcomes:</b> UO1. Understand the use of Measures of dispersion UO2. Uses Techniques of dispersion for decision making	
<b>IV</b>	<b>Correlation Analysis</b>	<b>14</b>
	<ol style="list-style-type: none"> <li>1. Correlation Analysis: Meaning and Definition of Correlation.</li> <li>2. Types of correlation-Positive, Correlation, Negative Correlation, Zero Correlation.</li> <li>3. Problems on Karl-Pearson's, Co-efficient of Correlation, Probable error.</li> </ol>	
	<b>Unit Outcomes:</b> UO1. Identify and differentiate between positive correlation, negative correlation, and zero correlation. UO2. Apply Karl Pearson's coefficient of correlation to measure direction of a linear relationship between two variables.	

### Learning Resources:

1. Statistical Methods, S.P. Gupta, Sultan Chand & Sons, New Delhi, 2015.
2. Statistical Methods, C.B. Gupta Vikas Publication House, New Delhi, 2012.
3. Fundamentals of Statistics, S.C. Gupta Himalaya Publishing House, Mumbai, 2010.
4. Business Mathematics and Statistics, Sanjay N Aswale, ChinmayaPrakashan Aurangabad, 2009.
5. Business Statistics, P R Winn, Newyork A Collier Macmillan Publishing, 2001.

6. Business Mathematics & Statistics, N G Khandgave, Prashant Prakashan, Udgir, 2009.
7. Business Mathematics and Statistics, P T Bhosle, ChinmayaPrakashan, Aurangabad, 2015.
8. Business Mathematics and Statistics, R.K. Ghosh, New Central Book Agency, Culcutta 2012.
9. <https://www.ascdegreecollege.ac.in/wp-content/uploads/2020/12/Business-Statistics-by-Gupta.pdf>
10. [https://www.dcpehvpm.org/E-Content/Stat/FUNDAMENTAL%20OF%20MATHEMATICAL %20 STATISTICS-S%20C%20GUPTA%20&%20V%20K%20KAPOOR.pdf](https://www.dcpehvpm.org/E-Content/Stat/FUNDAMENTAL%20OF%20MATHEMATICAL%20STATISTICS-S%20C%20GUPTA%20&%20V%20K%20KAPOOR.pdf)  
[https://icmai.in/upload/Students/Syllabus-2012/Study\\_Material\\_New/Foundation-Paper4-Revised.pdf](https://icmai.in/upload/Students/Syllabus-2012/Study_Material_New/Foundation-Paper4-Revised.pdf)