



<b>B.COM. SEMESTER – 2</b>		
<b>3</b>	<b>MINOR 2</b>	<b>ADVANCE BUSINESS STATISTICS – 2</b>

Name of the Course: **Advance Business Statistics - 2**  
 Course credit: **04**  
 Teaching Hours: **60 (Hours)**  
 Total marks: **100**

**Objectives:**

To provide knowledge regarding practical application of statistical tools in business.

**Learning Outcomes:**

After completion of the course, learners will be able to:

1. To draw and interpret Venn diagrams of set relations and operations and use Venn diagrams to solve problems
2. Time series data is used in time series analysis (historical or real-time) and time series forecasting to detect and predict patterns
3. students will be able to Extend and formalize knowledge of the theory of probability
4. A probability distribution depicts the expected outcomes of possible values for a given data generating process.

PARTICULAR	NO. OF LECTURES
<b>UNIT NO. 1 SET THEORY AND PROBABILITY</b>	
<ul style="list-style-type: none"> <li>- Element of a set</li> <li>- Types of Sets</li> <li>- Venn Diagrams</li> <li>- Operations of Sets</li> <li>- Cartesian product of sets</li> <li>- Examples</li> <li>- Concept of probability</li> <li>- Mathematical and statistical definition of probability</li> <li>- Definition of different terms (Random Experiment, sample space, types of events, independent events etc.)</li> <li>- Addition Law and Multiplication Law for two events with proof</li> <li>- Examples</li> </ul>	<b>12</b>
<b>UNIT NO. 2 TIME SERIES ANALYSIS</b>	
<ul style="list-style-type: none"> <li>- Analysis of Time Series</li> <li>- Important and Limitations</li> <li>- Component of Time Series               <ol style="list-style-type: none"> <li>1. Trend</li> <li>2. Seasonal variations</li> <li>3. Regular and Irregular variation</li> </ol> </li> <li>- Method of Finding Trend</li> <li>- Simple Moving average method</li> <li>- Method of Least Square</li> <li>- Fitting the following equations               <ol style="list-style-type: none"> <li>1. <math>y = a + bx</math></li> <li>2. <math>y = a + bx + cx^2</math></li> </ol> </li> <li>- Seasonal variation by Simple moving average method</li> <li>- Seasonal Index</li> <li>- Examples</li> </ul>	<b>12</b>
<b>UNIT NO. 3 MATHEMATICAL EXPECTATION</b>	





<ul style="list-style-type: none"><li>- Definition and meaning</li><li>- Mean and variance</li><li>- Properties of Mean and Variance</li><li>- Examples</li></ul>	<b>12</b>	
<b>UNIT NO. 4 DISCRETE PROBABILITY DISTRIBUTION 1 (BINOMIAL DISTRIBUTION)</b>		
<ul style="list-style-type: none"><li>- Characteristics</li><li>- Constants</li><li>- Importance of Distribution</li><li>- Examples</li></ul>	<b>12</b>	
<b>UNIT NO. 5 DISCRETE PROBABILITY DISTRIBUTION 2 (POISSON DISTRIBUTION)</b>		
<ul style="list-style-type: none"><li>- Characteristics</li><li>- Constants</li><li>- Importance of Distribution</li><li>- Fitting</li><li>- Examples</li></ul>	<b>12</b>	
<b>Total Lectures/Hours</b>		<b>60</b>

**Suggested Readings:**

5. Advance Practical Statistics : S. P.Gupta
6. Fundamental of Statistics : V. K. Kapoor and S.C. Gupta
7. Fundamental of Mathematics and Statistics : V. K. Kapoor and S.C. Gupta
8. Fundamental of Statistics : D .N Elhance

**Note: Learners are advised to use latest edition of text/reference books**

