

## LESSON PLAN

Program: B.Com(BPM)

Subject Name: Business Statistics & Research techniques

Subject code: C3 15AR204

Semester: II

Lecture hours: 60

Faculty in-charge: Mr. Vinay Pradeep and Ms. Sneha Rai

Course Coordinator: Mr. Vinay Pradeep

Course Outcome No.	Course Outcomes	T level Indicator
CO1	Describe the relevance and role of statistics in business research.	T2
CO2	Select the appropriate tool of measures of central tendency and dispersion in accordance with type of the case for Analysis.	T5
CO3	Identify from a probability scenario events that are simple, complementary, mutually exclusive, and independent	T1
CO4	Select the appropriate test of hypothesis in accordance with type of the case for Analysis.	T5
CO5	Select the appropriate tools for Analysis in accordance with type of the case.	T5

Module No. & Topics Covered	Course Outcome No.	No. of Lecture Hours	Pre-Class Activity	Instructional techniques	Assessment	T level
	CO6		Decide what graphs are appropriate for displaying quantitative and categorical variables.		T6	
Module - 1 : Introduction: Importance of Statistics, Scope, Limitations, Definition of Research, purpose, scope and types of research, objectives of research, Steps in research (brief), Classification of data, Formation of statistical series, Tabulation	CO1	5	Youtube video (NPTEL)	<ul style="list-style-type: none"> <li>Online Videos</li> <li>Lecture with the help of power Point presentation</li> <li>Discussion</li> </ul>	Evaluation through MCQs	T2
Module-2: Measure of central tendency and	CO2	13	Youtube video	<ul style="list-style-type: none"> <li>Lecture</li> <li>Case Study</li> </ul>	Evaluation through tests	T5

dispersion: Mean, Median, Mode, Geometrics Mean, Quartiles. Range, Quartile deviation, Mean deviation from Mean, Median & Mode. Standard deviation and coefficient of variation.				<ul style="list-style-type: none"> <li>• Discuss ion</li> <li>• Problem solving</li> </ul>	and	
Module-3: Probability: Classical or mathematical definition of probability, Random Experiment, Equally likely outcomes, Sample space. – Mutually exclusive events – Complement of an event, dependent event, independent event, conditional probability (simple problems). Importance of probability in research.	CO3	12		<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss ion</li> <li>• Problem solving</li> </ul>	Evaluation through tests	T1
Module-4: Hypothesis testing: Formation of Null and alternative Hypothesis. Level of significance, Type I and Type II errors, Hypothesis testing – T-test, Z-test Test for single mean and difference between two means only. Chi-Square test.	CO4	15		<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Case Study</li> <li>• Discuss ion</li> <li>• Problem solving</li> </ul>	Evaluation through tests and	T5
Module-5: Statistical tools for	CO5	10		<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discuss</li> </ul>	Evaluation through tests	T5

Research Analysis: Time series and its application, , correlation- scatter diagram, Karl Person & Spearman's coefficient of correlation, coefficient of determination and coefficient of non determination, Regression analysis				ion • Case study • Problem solving	and	
Module-6: Diagrammatic and graphical representation of data: Diagrams: Utilities, Limitations, construction of one dimensional, two dimensional and three dimensional diagrams. Graphs: Utilities, limitations, constitution, Frequency distribution, Histogram, Frequency polygon, Frequency Curve and Ogives.	CO6	5		• Lecture • Discussion • Problem	Evaluation through MCQs, group activity and tests	T6

#### Continuous Internal Assessment

- Class test 1 (before midsem exam):First week of January
- Assignment
- Class test 2 (before end sem exam):Last week of February.

#### Book for Reference:

- C. B. Gupta: *Statistics, Himalaya Publications.*
- Chikkodi & B. G. Satya Prasad: *Business Statistics, Himalaya Publications.*
- Dr. Asthana: *Elements of Statistics, Chaitanya.*
- Dr. B. N. Gupta: *Statistics, Sahitya Bhavan, Agra.*
- Dr. Sancheti & Kapoor: *Statistics Theory, Methods and Application.*
- Ellahance: *Statistical Methods.*
- S. P. Gupta: *Statistical Methods, Sultan Chand, Delhi.*

Approved by: