Branch Name:	MANAGEMENT
Program Code:	MS201
Course Name:	Quantitative Techniques
Course Code:	2MS2010104T
Pre-requisite Course:	Commerce & Trade, Business. Forms of Business, Economics, Industry

Course Objectives:
The objective of this course is
1. To enable the students to conceptualize business problems in statistical terms.
2. To enhance their understanding and application of fact and evidence-based decision-making process.
3. To obtain suitable data for a given purpose, how best to extract the information and how to treat the available data.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	1	-	4	60	40	-	-	100

Subject Contents:

Sr No.	Topic	Total Hours	Weightage (%)
1	**Collection, Presentation of Data and Descriptive Statistics** Application of Statistics in Business, Grouping and Displaying Data Using Tables, Charts and Graphs, Types of Data Measurement Grouped and Ungrouped data, Measures of Central Tendency, Mean Median, Mode, Dispersion in Frequency Distributions, Range, Average Deviation, Mean Absolute Deviation, Standard Deviation, Variance, Coefficient of Variance, Measure of Shape Skewness and Kurtosis	12	25%
2	Basic Probability Theories, Bayes' Theorem, Expected Value in Decision Making, Probability Distribution: Binomial Distribution, Poisson Distribution, Normal Distribution, Sampling Distributions	12	25%
3	Nonparametric test, Sign test, Mann-Whitney test, Kruskal-Wallis test, Run test, Rank Correlation test, Time Series and Forecasting, Trend Analysis, Cyclical Variation, Seasonal variation, Irregular variation, Time Series Analysis in Forecasting	12	25%
4	Linear Programming Problem- Formulation and Graphical Solution, Duality, Assignment and Travelling Salesman Problem, Simulation, Markov Analysis	12	25%

Text Books:

Sr. No.	Books
1	Statistics for Management by Richard Levine and David Rubin, Pearson publication

Reference Books:

Sr. No.	Books

1	Business Statistics for Cotemporary Decision Making by Ken Black, Willey publication
2	Applied Statistics in Business Economics by David Doane, Tata McGraw hill
3	Business Statistics by J K Sharma, Pearson publication
4	Statistics for Management, T N Srivastava, Tata McGraw hill
5	Statistics for Business and Economics, David Anderson, Cengage learning India

List of Open Source Software/learning website:

- www.socialresearchmethods.net
- www.Indianjouranls.com
- www.Indiastat.com
- https://swayam.gov.in/

Journals/Magazines

- Statistical Methods & Applications, Springer
- Journal of American Statistical Association, American Statistical Association
- Journal of Marketing Research, American Marketing Association
- The Indian Journal of Statistics, Indian Statistical Institute

LAB/Practical

1. Students should use computer software like MS Excel statistical formulas for decision making.

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	Utilize statistical tools and techniques.	3 Applying
CLO2	Classify data visualization technique for the given data set.	2 Understanding
CLO3	Applying appropriate probability distribution technique for the given set of data.	3 Applying
CLO4	Choose sampling frame based on the context of decision-making.	5 Evaluate
CLO5	Analyze statistical data to support fact-based decision making.	4 Analyze
CLO6	Develop models to understand the relationship between variables	6 Creating

Mapping of CLOs with Pos & PSOs

Course	Program Outcomes(POs)								Program Specific Outcomes(PSOs)	
Learning Outcomes	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CLO1	M			M						
CLO2		M	H						L	
CLO3						M		M	L	
CLO4		M			L					H
CLO5					M	L		H		L
CLO6	H		H			L				H

H: High, M: Medium, L: Low