COURSE TITLE	**BUSINESS STATISTICS**
COURSE CODE	**04MB0148**
COURSE CREDITS	**3**

Course Outcomes: After completion of this course, student will be able to:

1 Demonstrate proficiency in statistical and graphical techniques for summarizing and analyzing business-related data sets

2 Apply appropriate probability distributions to model uncertainty and support decision-making in business scenarios

3 Use estimation methods to determine population parameters and construct confidence intervals in business contexts

4 Perform hypothesis testing using appropriate statistical tools to validate assumptions and support data-driven conclusions

5 Interpret statistical findings and communicate insights effectively to solve real-world business problems

Pre-requisite of course: Basic knowledge of mathematics and analytical reasoning skills.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	0	50	30	20	0	0

Contents : Unit	Topics	Contact Hours
1	**An overview of Business Statistics** Meaning and definitions of statistics, nature of a statical study, Importance of statistics in business, limitations of statistics. Basic Concept of data, types of data. Data measurement scale, Overview of variables, Population, Sample. Measures of Central Tendency – arithmetic mean, geometric mean, median, mode. Comparison of the mean, median and mode.	9
2	**Measures of Dispersion** Range, interquartile range, deciles and percentiles, standard deviation, coefficient of variance, Measures of Distribution – concept of Skewness, various measures of skewness, concept of kurtosis, measures of kurtosis.	9
3	**Probability & Distribution** Probability – Introduction, Probability theory, basic terminology of probability, three types of probability, Conditional Probability (Baye's Theorem), Random Variables, Discrete and Continuous Distributions (Binomial, Poisson and Normal)	9

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Contents : Unit	Topics	Contact Hours
4	**Theory of Estimation** Introduction, types of estimates, criteria of a good estimator, method of maximum likelihood. Standard error, margin of error, confidence error, confidence interval, characteristics of estimators, consistency unbiasedness, sufficiency and efficiency, most sufficient estimators. Point Estimation and Interval Estimation.	9
5	**Statistical Inference** Hypothesis Testing, Parametric Test – Z, F, t test, ANOVA, Pearson correlation, Regression analysis. Non-Parametric Test – Chi square test (goodness of fit, independence of attributes), Spearman correlation analysis.	9
Total Hours		**45**

Textbook :

1 Business Statistics, J. K. Sharma, Vikash publishing, 2023

References:

1 Basic Statistics for Business and Economics, Basic Statistics for Business and Economics, Douglas A. Lind, William G. Marchal, Samuel A. Wathen, Tata McGraw Hill, 2020

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation

Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking / Creative
10.00	10.00	20.00	30.00	20.00	10.00

Instructional Method:

1 Lectures, problem-solving sessions, case analysis, and use of statistical software tools.

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