

(Approved By AICTE)

POST GRADUATE DIPLOMA IN MANAGEMENT

Course Structure – PGDM T 1

Business Statistics and Analytics – BSA 102

1.Course Overview:

This class will teach you how to leverage statistics to make informed business management decisions. This course will provide a foundation of business statistics and build your experience using statistical analysis tools. Understanding the core concepts found in statistics will provide you with an incredibly powerful business tool that will support you throughout your entire career At the core, this course will teach you how to develop insights and make decisions from data sets. It will provide a foundation for an understanding of statistics and help you gain confidence leveraging statistics to create strong business cases and make intelligent business decisions. This course examines the use of descriptive statistics, probability, confidence intervals, hypothesis testing, analysis of variance, regression and correlation analysis, t-tests, and applications of technology for statistical analysis, including the interpretation of the relevance of statistical findings for business problem solving and decision making. The programme will equip you with knowledge of management theories and the opportunity to apply and integrate that knowledge in the planning and delivery of live projects. You will develop business knowledge and management skills that are important in any industry. It is helpful for those wishing to attain a good management position in a company or to start their own business. It is also good for students who wish to go on to study at higher levels to attain a degree.

2.Programme Outcomes (PGDM)

PO 1: Domain Knowledge.

(Domain specific overview and knowledge)

PO 2: Critical Thinking and Problem Solving Skills.

(Apply knowledge of management theories and practices to solve business problems)

PO 3: Communication Skills. (Written, Verbal, Non-Verbal Communication and Presentation Skills)

PO 4: Team Skills.

(Leadership and Team Skills by working effectively in Teams)

PO 5: International Perspective.

(Issues related to global significance)

PO 6: Sustainability Perspective.

(Impact of Business Practices on Business Environment and Society)

3. Course Learning Outcomes

CLO 1: (Outcome of Module I Understand and critically discuss the issues surrounding sampling and significance

CLO 2: (Outcome of Module II) Solve a range of problems using the techniques covered

CLO 3: (Outcome of Module III) Describe and discuss the key terminology, concepts tools and techniques used in business statistical analysis

CLO 4: (**Outcome of Module IV**) To exhibit the students' ability to use statistical, graphical and algebraic techniques wherever relevant

CLO 5: (Outcome of Module V) To make the students capable of interpretating and evaluating numerical and quantitative issues in business.

4. Assessment Tasks: (Common for all Subjects)

Assessment Item	Description	Weightage
Final Term Exams	Comprehensive exams covering all the material taught during the trimester. These exams test students' understanding and retention of key concepts.	40%
Group Project	Collaborative projects where students work in groups to complete	10%

Assessment Item	Description	Weightage	
	an industrial project, live project, or other academic project. These projects emphasize practical application of theoretical knowledge.		
Individual Assignments	Subjective and practical assignments that assess students' grasp of the subject matter. These assignments can include essays, reports, practical tasks, and problem-solving exercises.		
Case Study	Students will apply theoretical knowledge to practical situations, providing solutions and recommendations. This develops critical thinking and decision-making skills.		
Quiz	Short quizzes that test students' knowledge on specific topics. These quizzes can be subjective or based on current events in the business world.		
Class or College Participation	Active participation in seminars, case discussions, group discussions (GDs), academic events, and non-academic events. This encourages engagement and collaborative learning.		
Presentations	Students prepare and deliver presentations on assigned topics. These presentations assess students' ability to communicate their ideas effectively, demonstrate their understanding of the topic, and engage with the audience. Students are evaluated on content quality, presentation skills, and their ability to answer questions.		
Attendance	tendance Regular attendance in classes. This component underscores the importance of consistent participation in lectures and other academic activities. Attendance is monitored and students are expected to meet a minimum attendance requirement to ensure they are actively engaged in the learning process.		

Module	Topics	Topics
Module I	Introduction to Course and Descriptive Statistics	Introduction to statistics – Definition, Importance and Types of Data (T), Spreadsheet tutorial (P), Applications of Statistics (T), Data preparation techniques(P), Sources of data (T), Practical exercises on sourcing and preparing data ((P), Introduction of Central Tendency (mean, median, mode) – (T), Central Tendency and Dispersion exercises (P) Measure of Dispersion (range, variance, standard deviation) – Overview (T), Dispersion (range, variance, standard deviation) – Overview (T), Dispersion (range, variance, standard deviation) (P), Skewness: Concept and types(T), Calculating and interpreting skewness(P), Kurtosis: Concept and significance (T), Calculating and interpreting kurtosis (P) Inferential Statistics – Sampling & Sampling Distributions, Types of Sampling, Central limit theorem & its implication, Sampling

Module	Topics	Topics
		distributions of Sample mean and Proportions (T), Measure of Sample mean (P)
Module II	Probability	Basic probability concepts: Definition, types of probability (Classical, Empirical Subjective), events, outcomes and Rules – Addition and Multiplication (T), Solving probability problems using real-life scenarios(P), Conditional probability and Bayes' theorem (T), Solving Conditional probability and Bayes' theorem (P)
Module III	Correlation and regression analysis	Correlation: Concept, types, and significance(T), Calculating and interpreting correlation coefficients(P), Regression: Introduction to regression analysis (T), Performing simple and multiple regression analysis (P)
Module IV	Visualization Techniques	Types of Charts and Graphs: Bar Chart, Pie Charts Histograms Box Plots (T), Use of Graphical Techniques to summarize data (T), Creating and interpreting effective data visualisation (P)
Module V	Theoretical and Practical Applications of Analytics	Thereotical and Practical Applications of Analytics – Overview (T), Data Analytics using Advanced Excel: Pivot tables, advanced functions, data visualization tools(T), Data analysis using advanced Excel tools (P), Basics of R: Introduction to R programming (P)

Reference books:

- 1. Business statistics, J.K. Sharma
- 2. Business statistics, P.C. Tulsianand B. Jhunjhunwala
- 3. Applied Statistics in Business and Economics, David P.Doane
- 4. Business statistics and analytics, Er. Pravesh kumar singh and dileep singh
- Business statistics and analytics for decision making, Dr. Mahesh chopde, prof Manoj bharatram pandey
- 6. Business statistics, G.C Beri

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