SARVAJANIK UNIVERSITY
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SARVAJANIK UNIVERSITY
Sarvajanik College of Engineering and Technology
Master of Technology

Year: M. Tech. II (Semester – III)

Subject Name: Business Analytics **Subject Code:** MTIT15301
Type of course: Open Elective
Prerequisite (if any): --

List of Courses where this course will be prerequisite: --

Rationale: In today's digital world, all business organizations generate large volumes of data. This in turn, has generated the need for professionals who can process, interpret and analyze this data for informed decision making. This helps businesses improve their operational efficiency, gain insight into consumer behavior and improve generate greater revenue.

Teaching and Examination Scheme:

Teaching Scheme				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	
3	0	0	3	60	25	15	0	0	100

CA1: Continuous Assessment (assignments/projects/open book tests/closed book tests CA2: Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems TEE: Term End Examination TEP: Term End Practical Exam (Performance and viva on practical skills learned in course) CA3: Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course

Content:

Sr. No.	Content	Total Hrs
1	Business analytics: Overview of Business analytics, Scope of Business analytics, Business Analytics Process, Relationship of Business Analytics Process and organisation, competitive advantages of Business Analytics. Statistical Tools: Statistical Notation, Descriptive Statistical methods, Review of probability distribution and data modelling, sampling and estimation methods overview.	9
2	Trendiness and Regression Analysis: Modelling Relationships and Trends in Data, simple Linear Regression.	8

	Important Resources, Business Analytics Personnel, Data and models for Business analytics, problem solving, Visualizing and Exploring Data, Business Analytics Technology.	
3	Organization Structures of Business analytics, Team management, Management Issues, Designing Information Policy, Outsourcing, Ensuring Data Quality, Measuring contribution of Business analytics, Managing Changes. Descriptive Analytics, predictive analytics, predicative Modeling, Predictive analytics analysis, Data Mining, Data Mining Methodologies, Prescriptive analytics and its step in the business analytics Process, Prescriptive Modelling, nonlinear Optimization.	9
4	Forecasting Techniques: Qualitative and Judgmental Forecasting, Statistical Forecasting Models, Forecasting Models for Stationary Time Series, Forecasting Models for Time Series with a Linear Trend, Forecasting Time Series with Seasonality, Regression Forecasting with Casual Variables, Selecting Appropriate Forecasting Models. Monte Carlo Simulation and Risk Analysis: Monte Carle Simulation Using Analytic Solver Platform, New-Product Development Model, Newsvendor Model, Overbooking Model, Cash Budget Model.	10
5	Decision Analysis: Formulating Decision Problems, Decision Strategies, Decision Trees, The Value of Information, Utility and Decision Making.	8
6	Recent Trends in: Embedded and collaborative business intelligence, Visual data recovery, Data Storytelling and Data journalism.	4

Reference Books:

Sr.No	Title of book /article	Author(s)	Publisher and details like ISBN	Year of publication	Publication Edition
1	Business analytics Principles, Concepts, and Applications	Marc J. Schniederjans, Dara G. Schniederjans, Christopher M. Starkey	Pearson FT Press	2014	

2	Business Analytics	James Evans	Pearson Education	2012	

Course Outcomes:

Sr.No.	CO statement	Marks % weightage
CO-1	Students will demonstrate knowledge of data analytics.	40
CO-2	Students will demonstrate the ability to think critically in making decisions based on data and deep analytics.	30
CO-3	Students will demonstrate the ability to use technical skills in predicative and prescriptive modeling to support business decision-making.	15
CO-4	Students will demonstrate the ability to translate data into clear, actionable insights.	15