Business Intelligence & Analytics					
Course code	PCC-DS-312G				
Category	Professional Elective Course				
Course title	Business Intelligence & Analytics				
Scheme and Credits	L	T	P	Credits	
	3	0	0	3	
Class work	25 Marks				
Exam	75 Marks				
Total	100 Marks				
Duration of Exam	03 Hours				

Note: Examiner will set nine questions in total. Question one will be compulsory. Question one will have 6 parts of 2.5 marks each from all units and remaining eight questions of 15 marks each to be set by taking two questions from each unit. The students have to attempt five questions in total, first being compulsory and selecting one from each unit.

Objectives of the course:

1. Introduce the Business intelligence concepts ,techniques and models
2. Understand the modeling process behind business analytics
3. To analyze different data analysis tools and techniques

Unit-I

Introduction: Introduction to Business Intelligence – Designing Business Intelligence Application- Requirements Gathering, Establishing the Technical Architecture, Designing a Business Intelligence Solution , Designing Dimensional Models , Designing the Physical Databases ;

Predictive Analytics: Data Mining Concepts- Definitions, Characteristics, and Benefits - How Data Mining Works - Data Mining Versus Statistics Data Mining Process - Data Mining Methods - Data Mining and Privacy Issues - Regression – Classification –Association Rules – clustering -Techniques for Predictive Modeling – ANN- SVM

Unit-II

Text Analytics, Text Mining, And Sentiment Analysis: Text Analytics, Text Mining, and Sentiment Analysis - Natural Language Processing - Text Mining Process- tools - Sentiment Analysis -Overview, Process, Applications - Speech Analytics – Rule based, Multi, Layer, Hybrid Sentimental analysis – Machine Learning in Sentimental analysis

Web Analytics and Web Mining : Web Mining Overview - Web Content and Web Structure Mining - Search Engines - Search Engine Optimization - Web Analytics Technologies, metrics - Web Analytics Maturity Model and Web Analytics Tools

Unit-III

Prescriptive Analytics: Decision Support Systems Modeling - Mathematical Models for Decision Support - Certainty, Uncertainty, and Risk- Decision Modeling with Spreadsheets - Mathematical Programming Optimization, - Decision Analysis with Decision Tables and Decision Trees - Problem-Solving Search Methods - Problem-Solving Search Methods

Unit-IV

Knowledge Management and Big Data Analytics : Knowledge Management –Concepts, Definitions , Approaches, tools and techniques - Big Data and Analytics- Fundamentals of Big Data Analytics – Technologies - Data Scientist - Big Data and Data Warehousing - Automated Decision Systems and Expert Systems - Business Analytics: Emerging Trends and Future Impacts, Recent Trends

Reference Books:

1. Efraim Turban, Ramesh Sharda, Dursun Delen, "Business Intelligence and Analytics", 10th Edition, Pearson , 2015.
2. S. Christian Albright, Wayne L. Winston, Business Analytics: Data Analysis & Decision Making, 6th Edition, CENGAGE INDIA , 2017
3. Dinabandhu Bag, Business Analytics, Routledge, 1st edition, 2016
4. Rick Sherman, Business Intelligence Guidebook: From Data Integration to Analytics, Morgan Kaufmann, 1st edition 2014

Course Outcomes:

After successfully completing the course the student should be able to

1. Understand the fundamental of Business Intelligence and to design a customized solution.
2. Familiarize on the concepts, techniques and reporting methods of descriptive analytics and predictive analytics
3. Explore the methods used to analyze speech and text and implement optimized search engines
4. Design and implement Decision Support systems
5. Familiarize on the processes needed to develop, report, and analyze business data.