

Final Year Computer Engineering (2015 P Course)
OPEN Elective IV
410253 (D) Business Intelligence

Teaching Scheme: TH: 03 Hours/Week	Credit 03	Examination Scheme: In-Sem (Paper): 30 Marks End-Sem (Paper): 70 Marks
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Companion Course: 410255 -Laboratory Practice IV

Course Objectives:

- To understand the fundamentals of Business Intelligence
- To identify the appropriateness and need Analysis the data
- To learn the preprocessing, mining and post processing of the data
- To understand various methods, techniques and algorithms in Business Intelligence

Course Outcomes:

On completion of the course the student should be able to:

- Apply basic, intermediate and advanced techniques to analysis the data
- Analyze the output generated by the process of Business Intelligence
- Explore the hidden patterns in the data
- Optimize the mining process by choosing best Business Intelligence technique\

Course Contents		
UNIT I	Basics of Data Mining	8 Hours
Effective and timely decisions, Data, information and knowledge, Role of mathematical models, Business intelligence architectures: Cycle of a business intelligence analysis, enabling factors in business intelligence projects, Development of a business intelligence system, Ethics and business intelligence		
UNIT II	Knowledge Delivery	8 Hours
The business intelligence user types, Standard reports, Interactive Analysis and Ad Hoc Querying, Parameterized Reports and Self-Service Reporting, dimensional analysis. Visualization: Charts, Graphs, Widgets, Scorecards and Dashboards, Geographic Visualization		
UNIT III	Decision Making Concepts	8 Hours
Concepts of Decision Making, Techniques of Decision Support System (DSS), Types of Decision Support System (DSS), Development of Decision Support System (DSS), Applications of DSS, Role of Business Intelligence in DSS		
UNIT IV	Data Pre-processing	8 Hours
Discovery, Data preparation, Preprocessing requirements, data cleaning, data integration, data reduction, data transformation, Data discretization and concept hierarchy generation, Model Planning, Model building, Communicating Results & Findings, Operationalizing, Introduction to OLAP		
UNIT V	Classification & Unsupervised Learning	8 Hours
Classification: Classification Problem, Classification Models, Classification Trees, Bayesian Method; Association Rule: Structure of Association Rule, Apriori Algorithm, General Association; Clustering: Clustering Methods, Partition Methods, Hierarchical Methods		
UNIT VI	BI Applications	8 Hours
Data analytics, business analytics, ERP and Business Intelligence, BI Applications in CRM, BI Applications in Marketing, BI Applications in Logistics and Production, Role of BI in Finance, BI Applications in Banking, BI Applications in Telecommunications		

TEXT Books:

1. R. Sharda, D. Delen, & E. Turban, Business Intelligence and Analytics. Systems for Decision Support, 10th Edition. Pearson/Prentice Hall, 2015. ISBN-13: 978-0-13-305090-5, ISBN-10: 0-13-305090-4
2. Introduction to business Intelligence and data warehousing, IBM, PHI.

Reference Books:

1. Business Intelligence – Data Mining and Optimization for Decision Making – Carlo Vercellis – Wiley Publications.
2. Big Data & Analytics – Seema Acharya & Subhashini Chellappan – Wiley Publications
3. David Dietrich, Barry Hiller, “Data Science & Big Data Analytics”, EMC education services, Wiley publications, 2012 .
4. Data mining concepts and techniques, Jawai Han, Michelline Kamber, Jiran Pie, Morgan Kaufmann Publishers 3rd edition

PRACTICAL: 410255 -Laboratory Practice IV

1. Use Business intelligence and analytics tools to recommend the combination of share purchases and sales for maximizing the profit.
2. On Twitter Data performs computing using BIA tools electively.

Mini Project: Frame the suitable assignment to perform computing using BIA tools effectively.

Mini Project: Sentiment Analysis of Whatsapp data analytics tools