

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Artificial Intelligence & Data Science, VII-Semester

Departmental Elective-702 (B) Business Intelligence

Prerequisites: Basic probability, statistics, and Data Mining

Objective: This course covers fundamental concepts of Business Intelligence tools, techniques, components and its future. As well as a bit more formal understanding of data visualization data analysis tools and techniques concepts and techniques.

Course Outcomes:

After the completion of this course, the students will be able to:

1. Describe the basic components and fundamentals of BI.
2. Link data mining with business intelligence.
3. Understand the modeling aspects behind Business Intelligence.
4. Explain the data analysis and knowledge delivery stages.
5. Apply business intelligence methods to various situations and able to visualize the result.

Syllabus

Unit I : Introduction to Business Intelligence

Business Intelligence (BI), Scope of BI solutions and their fitting into existing infrastructure, BI Components, Future of Business Intelligence, Functional areas and description of BI tools, Data mining & warehouse, OLAP, Drawing insights from data: DIKW pyramid Business Analytics project methodology - detailed description of each phase.

Unit II: Business Intelligence Implementation:

Key Drivers, Key Performance Indicators and Performance Metrics, BI Architecture/Framework, Best Practices, Business Decision Making, Styles of BI-vent-Driven alerts – A cyclic process of Intelligence Creation, Ethics of Business Intelligence.

Unit III: Decision Support System

Representation of decision-making system, evolution of information system, definition and development of decision support system, Decision Taxonomy Principles of Decision Management Systems.

Unit IV: Analysis & Visualization

Definition and applications of data mining, data mining process, analysis methodologies, Typical pre-processing operations: combining values into one, handling incomplete or incorrect data, handling missing values, recoding values, sub setting, sorting, transforming scale, determining percentiles, data manipulation, removing noise, removing inconsistencies, transformations, standardizing, normalizing, min-max normalization, z-score. standardization,

rules of standardizing data. Role of visualization in analytics, different techniques for visualizing data.

UnitV: Business Intelligence Applications

Marketing models: Relational marketing, Salesforce management, Business case studies, supplychain optimization, optimization models for logistics planning, revenue management system.

Text Books:

1. Rajiv Sabherwal “Business Intelligence” Wiley Publications, 2012
2. Efraim Turban, Ramesh Sharda, Dursun Delen, “Decision Support and Business Intelligence Systems”, 9th Edition, Pearson 2013
3. S.K. Shinde and Uddagiri Chandrashekhar ,Data Mining and Business Intelligence (Includes Practicals), Dreamtech Press (1 January 2015)

Reference Books:

1. Business Intelligence and Data Mining – by Anil K Maheshwari, publisher Business Expert Press- 2014.
2. Philo Janus, Stacia Misner, Building Integrated Business Intelligence Solutions with SQL, Server, 2008 R2 & Office 2010, TMH, 2011.
3. Business Intelligence Data Mining and Optimization for decision-making [Author: Carlo-Verellis][Publication: (Wiley) 2009].