**CSE 437 Business Intelligence (BI) and its Application (Elective-III)**

**(3 1 0 4)**

1. INTRODUCTION TO BUSINESS INTELLIGENCE

Types of digital data; Introduction to OLTP, OLAP Data Mining, BI Definitions & Concepts, Business Applications of BI, BI Framework, Role of Data Warehousing in BI, BI Infrastructure Components – BI Process, BI Technology, BI Roles & Responsibilities (6 hrs)

1. BASICS OF DATA INTEGRATION (EXTRACTION TRANSFORMATION LOADING)

Concepts of data integration need and advantages of using data integration, introduction to common data integration approaches, Introduction to data quality, data profiling concepts and applications (14 hrs)

1. DATA FLOW AND TRANSFORMATIONS

Introduction to SSIS Architecture, Introduction to ETL using SSIS; Integration Services objects; Data flow components – Sources, Transformations and Destinations; Working with transformations, containers, tasks, precedence constraints and event handlers. (6 hrs)

1. INTRODUCTION TO MULTI-DIMENSIONAL DATA MODELING

Introduction to data and dimension modeling, multidimensional data model, ER Modeling vs. multi dimensional modeling, concepts of dimensions, facts, cubes, attribute, hierarchies, star and snowflake schema, introduction to business metrics and KPIs, creating cubes using SSAS (8 hrs)

1. BASICS OF ENTERPRISE REPORTING

Introduction to enterprise reporting, concepts of dashboards, balanced scorecards, introduction to SSRS Architecture, enterprise reporting using SSRS (14 hrs)

**Text Books:**

1. David Loshin, Business Intelligence, Morgan Kaufmann Publishers, 2003
2. Mike Biere, Business Intelligence for the Enterprise, 2nd edition, IBM Press, 2003.
3. Stephen Few, Information Dashboard Design, O'Reilly Media, 2006
4. Jiawei Han Micheline Kamber and Jian Pei, Data Mining Concepts and Techniques, Morgan Kaufmann, 2012

**References:**

1. Larissa Terpeluk Moss, Shaku Atre, Business Intelligence Roadmap, Addison-Wesley Longman Publishing Co., 2003.
2. Cindi Howson, Successful Business Intelligence: Secrets to making Killer BI Applications, Tata McGraw Hill, 2007
3. Brain Larson, Delivering Business Intelligence with Microsoft SQL server 2008, McGraw Hill Companies, 2009
4. Lynn Langit, Foundations of SQL Server 2005 Business Intelligence, Apress, 2007
5. William H. Inmon, Building the Data Warehouse, Wiley India Ed., Reprint 2010