**Elective I: Big Data Analytics and Business Intelligence syllabus**

**Unit I**: Introduction to Big Data Analytics: Big Data Overview, State of the

Practice in Analytics, Data Analytics Lifecycle, data analytics problems.

Understanding features of R language, Understanding different Hadoop modes,

Understanding Hadoop features, The HDFS and MapReduce architecture.

**Unit II**: Understanding the basics of MapReduce, The Hadoop MapReduce, The

Hadoop MapReduce fundamentals, writing a Hadoop MapReduce example,

learning the different ways to write MapReduce in R. Integrating R and Hadoop –

the RHIPE architecture and RHadoop.

**Unit III**: Learning Data Analytics with R and Hadoop – The data analytics

project cycle, the data analytics problems (web page categorization, stock

market change), supervised and unsupervised machine-learning algorithms.

**Unit IV**: Introduction to Business Intelligence : evolution of BI, BI value chain,

introduction to business analytics, 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

**Unit V**: Basics of Data Integration: Concepts of data integration need and

advantages of using data integration, introduction to common data integration

approaches, data integration technologies, Introduction to data quality, data

profiling concepts and applications, the multidimensional data model, star and

snowflake schema.

**Unit VI**: BI Project Lifecycle: Typical BI Project Lifecycle, Requirements

Gathering and Analysis - Functional and Non-Functional Requirements, Testing in

a BI Project, BI Project Deployment , Post Production Support.

**Text Books:**

1. Big Data Analytics with R and Hadoop, Vignesh Prajapati, PACKT

Publishing, 2013.

2. Fundamentals of Business Analytics, R N Prasad and S Acharya, Wiley

India, 2011

3. Big Data Analytics: From Strategic Planning to Enterprise Integration with

Tools, Techniques, NoSQL, and Graph; David Loshin, Morgan Kaufmann,

2013.

**Reference Books:**

1. Business Intelligence - A Managerial Approach, 2nd Edition, Efraim

Turban, Ramesh Sharda, Dursun Delen and David King, Prentice Hall,

2010.

2. Business Intelligence for Dummies, Swain Scheps, Wiley Publishing, 2007.