FACULTY OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

EINTVAC03 - BIG DATA TECHNOLOGIES

COURSE OBJECTIVES

- To introduce about the basic concepts in big data
- To learn types of big data and its models
- To understand the need for big data analytics
- To learn about the challenges in big data analytics
- To learn the basics of Hadoop and Map Reduce

Unit I

Introduction – What is big data? – Types of big data - Characteristics of Big Data – Applications of big data – Building blocks of big data – Big data models and management.

Unit II

Need for Big Data Analytics - Big Data Analytics Architecture - Intelligent data analysis in big data - Real time big data analytics – Distributed and parallel computing for big data.

Unit III

Data warehousing and big data pipeline - Data governance and security in big data – Data Science : Getting Value out of big data.

Unit IV

Big Data Challenges - Advantages and disadvantages of big data - Big Data Essentials: Hadoop, MapReduce

Unit V

Hadoop solves the Big Data problems - Hadoop Ecosystem - Hadoop Architecture - HDFS Anatomy of File Read and Write - How MapReduce works.

TEXT BOOKS

1. Chris Eaton, Dirk deroos et al. , “Understanding Big data ”, McGraw Hill, 2012.
2. Viktor Mayer-Schonbergerand and Kenneth Cukier , Big Data: A Revolution That Will Transform How We Live, Work and Think, Khanna Publishing 2017.

REFERENCES:

1. Boris lublinsky, Kevin t. Smith, Alexey Yakubovich, “Professional Hadoop Solutions”, Wiley, 2015.
2. David Hand, Heiki Mannila, Padhria Smyth, “Principles of Data Mining”, PHI 2013.
3. Tony Ojeda, Sean Patrick Murphy, Benjamin Bengfort, Abhijit Dasgupta, “Practical Data Science Cookbook”, Packt Publishing Ltd., 2014.

COURSE OUTCOMES

At the end of this course, the students will be able to

- Understand fundamental techniques and tools required for data analytics
- Identify the challenges of Data Science in getting value out of big data
- Understand the advantages and disadvantages of big data
- Understand Hadoop Eco System
- Identify Map Reduce Jobs