BIG DATA ANALYTICS

Course Code: KG21CD603

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B. Tech. III Year II - Semester

Prerequisites: A course on "Database Management Systems".

Course Objectives: The objectives of this course for the student are to:

1. Gain knowledge of Big data Analytics, principles and techniques.
2. Understand the frontiers of Big Data Technologies and Analytics.
3. Learn HADOOP framework and Map Reducing.
4. Understand HADOOP Architecture and Configuration.
5. Gain the knowledge of Data Analytics with R Machine Learning.

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

CO1: **Explain** the foundations, definitions, and challenges of Big Data and various Analytical tools.

CO2: **Apply** Big data technologies on parallel data source.

CO3: **Analyze** the programs using HADOOP, Map reduce and NO SQL.

CO4: **Justify** the importance of Big Data in Social Media and Mining applications.

CO5: **Analyze** Data Analytics for supervised and Unsupervised Learning using R Machine Learning.

UNIT-I

Introduction to Big Data: Big Data and its Importance – Four V's of Big Data Drivers for Big Data – Introduction to Big Data Analytics – Big Data Analytics applications.

UNIT-II

Big Data Technologies: Hadoop's Parallel World – Data discovery – Open source technology for Big Data Analytics – cloud and Big Data – Predictive Analytics – Mobile Business Intelligence and Big Data

UNIT-III

Introduction Hadoop: Big Data – Apache Hadoop & Hadoop Eco System – Moving Data in and out of Hadoop – Understanding inputs and outputs of Map Reduce – Data Serialization.

UNIT-IV

Hadoop Architecture: Hadoop: RDBMS Vs Hadoop, Hadoop Overview, Hadoop distributors, HDFS, HDFS Daemons, Anatomy of File Write and Read., Name Node, Secondary Name Node, and Data Node, HDFS Architecture, Hadoop Configuration, Map Reduce Framework, Role of H Base in Big Data processing, HIVE, PIG.

UNIT-V

Data Analytics with R Machine Learning: Introduction, Supervised Learning, Unsupervised Learning, Collaborative Filtering, Social Media Analytics, Mobile Analytics, Big Data Analytics with Big R.

TEXT BOOKS:

1. Seema Acharya, Subhasini Chellappan, "Big Data Analytics", Wiley, 2015.