DS603PC: BIG DATA ANALYTICS

B.Tech. III Year II Sem.   **L T P C**
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Course Objectives
- Provide the knowledge of principles and techniques for Big data Analytics and give an exposure of the frontiers of Big data Analytics

Courses Outcomes
- Understand the importance of big data analytics and its types
- Perform analytics on big data
- Proficiency in big data storage and processing in Hadoop
- Data analytics through MongoDB
- Data analytics through R

UNIT - I
Types of Digital data: Classification of Digital Data,
Introduction to Big Data: Evolution of Big Data, definition of big data, Traditional Business Intelligence vs BigData, Coexistence of Big Data and Data Warehouse.
Big Data Analytics: introduction to Big Data Analytics, What Big Data Analytics Isn't, Sudden Hype Around Big Data Analytics, Classification of Analytics, Greatest Challenges that Prevent Business from Capitalizing Big Data, Top Challenges Facing Big Data, Big Data Analytics Importance, Data Science, Terminologies used in Big Data Environments.

UNIT - II
Hadoop: Features of Hadoop, Key advantages of hadoop, versions of hadoop, overview of hadoop ecosystem, Hadoop distributions. Need of hadoop, RDBMS vs Hadoop, Distribution computing challenges, History of hadoop, Hadoop overview,HDFS

UNIT - III
Processing data with hadoop, introduction to mapreduce programming, mapper, reducer, combiner, partitioner
NoSQL: Types of NoSQL Databases, advantages of NoSQL, Use of NoSQL in industry, SQL vs NoSQL, newSQL, comparison of Nosql, sql and newsql

UNIT - IV
MongoDB, necessity of mongodb, terms used in mongodb and RDBMS, datatypes in mongoDB, mongodb query language

UNIT - V
Introduction to R programming, operators, control statements and functions, interfacing with R, vectors, matrices, lists, data frames, factors and tables, accessing input and output, graphs in R, R apply family

TEXT BOOKS:
1. Big Data Analytics, Seema Acharya, Subhashini Chellappan, Wiley 2015.
2. R programming for beginners, sandhya arora, latesh malik, university press.

REFERENCE BOOKS:
1. chandramouli subramanian, Asha A Geroge, C R Rene Robin, big data analytics, University press.
2. Big Data, Big Analytics: Emerging Business Intelligence and Analytic Trends for Today's Business, Michael Minelli, Michehe Chambers, 1st Edition, Ambiga Dhiraj, Wiley CIO Series, 2013.
3. Hadoop: The Definitive Guide, Tom White, 3rd Edition, O'Reilly Media, 2012.
4. Big Data Analytics: Disruptive Technologies for Changing the Game, Arvind Sathi, 1st Edition, IBM Corporation, 2012.