BIG DATA ANALYTICS – LAB

Course Code: KG21CD605

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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 NOSQL.

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.

List of Experiments:

1. Implement a simple map-reduce job that builds an inverted index on

the set of input documents (Hadoop).

2. Process big data in H Base.

3. Store and retrieve data in Pig.

4. Perform Social media analysis using Cassandra.

5. Buyer event analytics using Cassandra on suitable product sales data.

6. Using Power Pivot (Excel) Perform the following on any data set:

   a) Big Data Analytics

   b) Big Data Charting

7. Use R – Project to carryout statistical analysis of big data.

8. Use R – Project for data visualization of social media data.

TEXT BOOKS:

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

2. Michael Minelli, Michehe Chambers, Ambiga Dhiraj, "Big Data, Big Analytics: Emerging Business Intelligence and Analytic Trends for Today's Business", 1st Edition, Wiely CIO Series, 2013.

3. Tom White, "Hadoop: The Definitive Guide", 3rd Edition, O" Reilly Media, 2012.

4. Arvind Sathi, "Big Data Analytics: Disruptive Technologies for Changing the Game", 1st Edition, IBM Corporation, 2012.

REFERENCE BOOKS:

1. Jay Liebowitz, Auerbach Publications, "Big Data and Business Analytics", CRC press, 2013.