**Unit 1**

1. **Explain the four V’s of Big Data.**
2. **Explain the various sources of Big Data.**
3. **Explain the various types of analytics in Big Data**
4. **Explain the classification of Big Data**
5. **Explain the applications of Big Data.**
6. **Explain the various elements of Big Data Stack with a neat diagram**
7. **Explain the analytics flow of big data with a neat diagram**

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**Unit 2**

**1. Compare NOSQL databases with SQL databases**

**2. What is NOSQL? Explain briefly any two NoSQL databases**

**3. What is Hadoop? Explain the components of Hadoop echo system.**

**4. Explain HDFS and its components.**

**5 Explain the HDFS architecture with a neat diagram**

**6. List and explain the features of hadoop**

7. Explain the layers of hadoop ecosystem with a neat diagram

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**Unit 3**

**1. Explain the features of Cassandra database. What are the advantages of Cassandra DB?**

**2. Explain CQL data types**

**3. Explain types of collections in Cassandra database.**

**4. What are CRUD operations in Cassandra databases? Explain with suitable examples**

**5. Explain import and export commands with suitable examples in Cassandra**

**6. What is TTL in Cassandra? Explain with suitable examples.**

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**Unit 4**

**1. Compare and contrast MongoDB with traditional RDBMS.**

**2. Explain the following terms with respect to MongoDB.**

**(a) Sharding (b) replication (c) CRUD operations**

**3. Create a collection by name 'Book' having columns (isbn, title, author, price) and insert 5 records.**

**Write query to search a book title and display the record.**

**4. What is map-reduce architecture? Explain with an example.**

**5. With suitable collections, convert the following SQL queries to equivalent mongodb queries:**

**(a) select studName, course, grade from student where course = 'mca';**

**(b) select studName, course, grade from student where grade <> 'F'**

**6. With suitable collections, convert the following SQL queries to equivalent mongodb queries:**

**(a) select studName, course, grade from student where course = 'MCA'**

**(b) update student set grade = 'A' where id = 4**

**Unit 5**

**1. What is Hive? Explain the features of Hive.**

**2. Explain RC file format used in Hive.**

**3. Explain the following in Hive.**

**(a) SERDE (b) UDF**

**4. Explain Hive aggregate operation with an example.**

**5. What is Pig? Explain the features Pig.**

**6. Explain the following Pig commands with suitable examples.**

**(a) load (b) filter (c) group (d) dump (e) store**