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**

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.

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