

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MCA INTEGRATED– SEMESTER VIII- EXAMINATION –SUMMER-2024**

**Subject Code: 2688601**

**Date: 02/05/2024**

**Subject Name: Big Data Analytics**

**Time: 10:30 AM TO 01:00 PM**

**Total Marks: 70**

**Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

- Q.1 (a) What is Big data? Explain Four V's of Big Data in brief. 07**  
**(b) Explain architecture of HDFS. 07**
- Q.2 (a) Explain Schema Design and Advanced Indexing in detail. 07**  
**(b) What is map reducing method? Explain data serialization in detail. 07**
- OR**
- (b) Difference Between**  
**1. NoSQL vs. SQL Vs. NewSQL 04**  
**2. Hadoop Vs. RDBMS 03**
- Q.3 (a) Discuss Apache Pig. 07**  
**(b) What is Apache Hadoop? Explain Hadoop Eco-System. 07**
- OR**
- Q.3 (a) What is ZooKeeper? Explain how it helps in monitoring a cluster. 07**  
**(b) What is NoSQL? Explain advantages and disadvantages of NoSQL. 07**
- Q.4 (a) Explain Working of Hive. 07**  
**(b) What is HiveQL? Explain various statements in HiveQL with example. 07**
- OR**
- Q.4 (a) What is HBase? Explain how data is stored in HBase using appropriate example. 07**  
**(b) What is Spark? Explain RDD in details 07**
- Q.5 (a) What is MongoDB? Explain how MongoDB achieves horizontal scaling 07**  
**(b) Explain HBase architecture in detail 07**
- OR**
- Q.5 (a) Explain CRUD operations in MongoDB with example of each operation 07**  
**(b) Explain use of aggregate function in MongoDB with suitable example. 07**

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