

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2024****Subject Code:2171607****Date:24-05-2024****Subject Name:Big Data Analytics****Time:02:30 PM TO 05:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) What is Big Data? What are its challenges?	03
	(b) Differentiate: Big Data processing Vs. Traditional Distributed Data processing.	04
	(c) What is Hadoop? Explain Hadoop Architecture and its components with diagram.	07
Q.2	(a) What is HDFS? Explain features of HDFS in short.	03
	(b) Explain Map Reduce phases (1) Map (2) Shuffle and Sort (3) Reduce.	04
	(c) Explain HDFS Architecture and its commands in detail.	07
OR		
	(c) Write and explain Map Reduce program code for counting occurrences of words in the input text file.	07
Q.3	(a) Compare NoSQL with traditional relational database.	03
	(b) Explain structured, unstructured, and semi-structured data.	04
	(c) Explain Hive architecture with diagram.	07
OR		
Q.3	(a) What is NewSQL? List down its basic characteristics.	03
	(b) Explain NoSQL database categories in short.	04
	(c) Explain Hive architecture with diagram.	07
Q.4	(a) What is HiveQL DDL?	03
	(b) Explain features of Hive.	04
	(c) Explain the concepts of regions in HBase and storing Big Data with HBase.	07
OR		
Q.4	(a) What is HBase? What are its advantages?	03
	(b) Differentiate: HDFS Vs. HBase	04
	(c) Explain following CRUD operations in MongoDB (1) Database creation (2) Dropping database (3) Create and Display of collection (4) Insertion of a document in collection (5) Finding document from a collection (6) Updating a document and (7) Deleting a document	07
Q.5	(a) What is Apache Spark?	03
	(b) What is Zookeeper? What are its advantages?	04
	(c) What is RDD in Spark? Explain RDD in detail.	07

OR

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| Q.5 | (a) What is Apache Pig ? | 03 |
| | (b) Differentiate: Apache Pig Vs. MapReduce | 04 |
| | (c) Explain MLlib. | 07 |
