Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA– SEMESTER –V EXAMINATION –SUMMER-2019

Subject Code:3650010 **Date: 10-05-2019**

Subject Name: Big Data Tools (BDT)

Time:10.30 am to 1.00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make Suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks**

Q.1 **(a)** Answer in Brief: **07**

1. How many bytes does Volume of big data generally refer to?
2. Give 3C's Characteristics of big data.
3. Give any two characteristics of NOSQL databases.
4. Give full form of HDFS, YARN, JSON, HQL
5. What is the advantage of partitioning in Hive?
6. Give any two applications of Apache Spark.
7. In which form MongoDB document is stored?

(b) Attempt the following **07**

a. Discuss any four components of Hadoop Ecosystem.
b. Mention any three key differences between Pig and Hive.

Q.2 **(a)** Give sources of structured data, semi-structured data and unstructured data. **07**

(b) Write a short note on: Key aspects/characteristics of Hadoop **07**

OR

(b) Discuss HDFS concept in detail. **07**

Q.3 **(a)** What is MongoDB? How MongoDB differs from RDBMS? Explain. **07**

(b) Discuss Insert, Update and Delete operation in MongoDB giving examples. **07**

OR

Q.3 **(a)** Why there is a need of MongoDB? Discuss basic concept of Sharding and Replication in MongoDB. **07**

(b) Discuss the following concepts in MongoDB with example **07**

1. Count ,Limit & Sort
2. Array Concept

Q.4 **(a)** Discuss MAPPER and REDUCER concept for Hadoop cluster. **07**

(b) Write the corresponding HiveQL Statements to achieve the following tasks in HIVE: **07**

1. Display List of Databases
2. Create Database MYSTUDENTS
3. Describe Database MYSTUDENTS
4. Create a Managed Table EMPLOYEES
5. Create EXTERNAL table MYEMPLOYEES
6. Load Data into above table MYEMPLOYEES from file
7. Retrieve all records from MYEMPLOYEES table.

OR

Q.4 **(a)** Write a note on Map-Reduce concept in MongoDB. **07**

Q.4 **(b)** Explain the following OPERATORS in PIG with example: **07**

1. FILTER
2. FOREACH

Q.5	**(a)**	What is Pig? Give Execution modes of Pig. Discuss when to use and when not to use Pig.	**07**
	(b)	Discuss aggregation commands of MongoDB giving example.	**07**
		OR	
Q.5	**(a)**	Write a short note on: Partitioning and Bucketing in Hive.	**07**
	(b)	Discuss Spark architecture and explain briefly the concept of RDD creation, RDD transformation and RDD operation with example.	**07**

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