Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (NEW) EXAMINATION – WINTER 2021

Subject Code:3170722 Date:23/12/2021

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. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	**(a)**	Explain types of Big Data	**03**
	(b)	Describe Traditional vs. Big Data business approach.	**04**
	(c)	What is Big Data? Explain Challenges of Conventional System.	**07**
Q.2	**(a)**	Explain basic Components of Analyzing the Data with Hadoop.	**03**
	(b)	What is Map Reduce and explain How Map Reduce Works?	**04**
	(c)	Brief Anatomy of a Map Reduce Job run and Failures.	**07**
		OR	
	(c)	Describe Map Reduce Types and Formats.	**07**
Q.3	**(a)**	Explain NoSQL data architecture.	**03**
	(b)	Elaborate Key-value stores, Graph stores, Column family stores & Document stores.	**04**
	(c)	Describe analyzing big data with a shared-nothing architecture.	**07**
		OR	
Q.3	**(a)**	Difference between master-slave versus peer-to-peer distribution models.	**03**
	(b)	What is a big data NoSQL? Explain in details.	**04**
	(c)	Which Four ways that NoSQL systems handle big data problems.	**07**
Q.4	**(a)**	What is Stream Computing and Sampling Data in a Stream.	**03**
	(b)	Write the application of RTAP.	**04**
	(c)	Explain Stream Data Model and Architecture.	**07**
		OR	
Q.4	**(a)**	How Graph Analytics used in Big Data.	**03**
	(b)	Write a short note on Decaying Window.	**04**
	(c)	Explain with example: How to perform Real Time Sentiment Analysis of any product.	**07**
Q.5	**(a)**	What is the use of Pig and Hive in Big Data?	**03**
	(b)	Describe data processing operators in Pig.	**04**
	(c)	Describe HBase and ZooKeeper in details.	**07**
		OR	
Q.5	**(a)**	Explain HIVE services.	**03**
	(b)	Write application of writing Spark.	**04**
	(c)	Describe any application that you know related to enhance particular business using big data and explain how it is important as a business prospective.	**07**

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Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (NEW) EXAMINATION – SUMMER 2022

Subject Code:3170722 Date:18/06/2022

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.**

Q.1	**(a)**	What is Big data Analytics? List applications of it.	**03**
	(b)	Explain 4 V's of Big data.	**04**
	(c)	What is Hadoop? Briefly explain the core components of it.	**07**
Q.2	**(a)**	How is Big data and Hadoop related?	**03**
	(b)	How HDFS is different from traditional NFS?	**04**
	(c)	Draw and Explain HDFS architecture. How can you restart NameNode and all the daemons in Hadoop?	**07**
		OR	
	(c)	What is MapReduce? Explain working of various phases of MapReduce with appropriate example and diagram.	**07**
Q.3	**(a)**	What do you mean by job scheduling in Hadoop? List different schedulers in Hadoop.	**03**
	(b)	What are WAL, MemStore, Hfile and Hlog in HBase?	**04**
	(c)	Explain the architecture of HBase.	**07**
		OR	
Q.3	**(a)**	What is Zookeeper?	**03**
	(b)	Differentiate between HIVE and HBASE.	**04**
	(c)	What is NoSQL database? List the differences between NoSQL and relational databases. Explain in brief various types of NoSQL databases in practice.	**07**
Q.4	**(a)**	What is Pig?	**03**
	(b)	What are the features of MongoDB?	**04**
	(c)	Explain the concept of regions in HBase and storing Big data with HBase.	**07**
		OR	
Q.4	**(a)**	How MongoDB is better than SQL database?	**03**
	(b)	Explain the Data Model of HBase.	**04**
	(c)	Explain Pig data Model in detail and Discuss how it will help for effective data flow.	**07**
Q.5	**(a)**	Write a short note on Spark.	**03**
	(b)	Write difference between MongoDB and Hadoop.	**04**
	(c)	Explain CRUD operations in MongoDB.	**07**
		OR	
Q.5	**(a)**	What are the features of MongoDB?	**03**
	(b)	Explain Replication and scaling feature of MongoDB.	**04**
	(c)	What is RDD? State and Explain RDD operations.	**07**

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