

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2023****Subject Code:3161607****Date:11-12-2023****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) Define big data. Enlist the characteristics of big data.	03
	(b) Distinguish Traditional Vs Big data business approaches.	04
	(c) Discuss the HDFS architecture in detail.	07
Q.2	(a) Explain hadoop scaling out in detail.	03
	(b) Write the use and syntax of following HDFS commands: i) chown ii) put iii) get iv) df	04
	(c) Explain Map-Reduce framework in detail. Draw the architectural diagram for Physical Organization of Computer Nodes.	07
OR		
	(c) Explain hadoop environment (i.e. echo system) with major components in detail.	07
Q.3	(a) Define NoSQL database. Enlist any four NoSQL database names.	03
	(b) Explain NoSQL data architecture patterns family document stores in detail.	04
	(c) Define data stream. Explain Real Time Sentiment Analysis.	07
OR		
Q.3	(a) Enlist and explain four ways that NoSQL systems handle big data problems.	03
	(b) Explain NoSQL data architecture patterns family column family (Bigtable) in detail.	04
	(c) Explain Stream Data Model and Architecture in detail.	07
Q.4	(a) Explain the distribution models master-slave vs. peer-to-peer.	03
	(b) Describe application of RTAP.	04
	(c) Explain data processing operators in pig in detail.	07
OR		
Q.4	(a) Explain analyzing big data with a shared-nothing architecture.	03
	(b) Explain graph analytics with suitable example.	04
	(c) Define zookeeper. Explain its working in detail.	07
Q.5	(a) Define features of Apache spark.	03
	(b) Explain querying data in Hive.	04
	(c) i) Write a Map-Reduce code for Word Count.	03
	ii) Explain Decaying Window Algorithm.	04
OR		
Q.5	(a) Explain in memory computing with spark.	03
	(b) Explain basic fundamentals of HBase.	04
	(c) i) Differentiate: Apache pig Vs Map Reduce.	04
	ii) How Implicit filtering is differing from explicit filtering?	03
