

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII(NEW) EXAMINATION – SUMMER 2019****Subject Code:2180710****Date:17/05/2019****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.

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|------------|-----------|---|-----------|
| Q.1 | (a) | What is Big Data? List Advantages of it. | 03 |
| | (b) | Explain characteristics of Big Data. | 04 |
| | (c) | What is the role of a “combiner” in the Map Reduce framework? Explain with the help of an example. | 07 |
| Q.2 | (a) | What is Name node & Data node in Hadoop Architecture. | 03 |
| | (b) | Explain traditional stream processing Architecture. | 04 |
| | (c) | What is data serialization? With proper examples discuss and differentiate structured, unstructured and semi-structured data. | 07 |
| OR | | | |
| Q.3 | (c) | Difference between HDFS and HBase. | 07 |
| | (a) | Draw Map Reduce Execution pipeline architecture. | 03 |
| | (b) | Explain working of Hive with proper steps and diagram. | 04 |
| Q.3 | (c) | What do you mean by HiveQL Data Definition Language? Explain any three HiveQL DDL command with its syntax and example. | 07 |
| | OR | | |
| | (a) | What is Zookeeper? List the Benefits and Limitations of it. | 03 |
| Q.4 | (b) | Explain Storage mechanism in HBase. | 04 |
| | (c) | Explain the HiveQL-Select-Order By with suitable example. | 07 |
| | (a) | Explain the following spark components i) MLib ii) GraphX | 03 |
| Q.4 | (b) | What is RDD in Apache Spark? Make a note on why RDD is better than Map Reduce data storage? | 04 |
| | (c) | Explain Feature Extraction and Transformation in detail. | 07 |
| | OR | | |
| Q.4 | (a) | What is Apache Spark? What are the advantages of using Apache Spark over Hadoop? | 03 |
| | (b) | Explain in brief four major libraries of Apache Spark. | 04 |
| | (c) | Compare: Map Reduce v/s Apache PIG. Explain in brief four major libraries of Apache Spark. | 07 |
| Q.5 | (a) | Compare: SQL v/s NoSQL. | 03 |
| | (b) | Explain MongoDB shell and how to run the shell. | 04 |
| | (c) | What is Mongo DB? Explain in brief key features of Mongo DB. Show basic CRUD operations in Mongo DB with proper example. | 07 |
| OR | | | |
| Q.5 | (a) | Why NoSQL? Explain Advantages & Disadvantages. | 03 |
| | (b) | Write a note on Use of NoSQL in Industry. | 04 |
| | (c) | Explain Mongo DB>Create Database & Collection and Drop-Database & Collection. | 07 |
