

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER- VI EXAMINATION – SUMMER 2026

Subject Code:3161607

Date:29-05-2026

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.

- Q.1** (a) Define Big Data. Enlist its importance over traditional database system. **03**
(b) Explain characteristics of Big Data. **04**
(c) Explain Hadoop components with diagram. **07**
- Q.2** (a) What is distributed file system? Explain key features of Hadoop Distributed File System. **03**
(b) Explain working of reduce phase of MapReduce with an example. **04**
(c) Define HDFS. Discuss the HDFS Architecture and HDFS commands in brief. **07**
- OR**
- (c) List out the features of NoSQL. Explain types of NoSQL databases in brief. **07**
- Q.3** (a) Define the following terms for Big Data: **03**
i. Structured data
ii. Semi structured data
iii. Unstructured data.
(b) Explain Security in Hadoop. **04**
(c) How Big data helps stock market analysis. **07**
- OR**
- Q.3** (a) Write a MapReduce code for Word Count. **03**
(b) List the differences between NoSQL and relational databases. **04**
(c) Explain stream data architecture in detail. **07**
- Q.4** (a) Differentiate Master-slave Vs peer-to-peer. **03**
(b) Mention usefulness of Pig. What are key features of Pig? **04**
(c) Explain Map Reduce types and formats in detail. **07**
- OR**
- Q.4** (a) Explain any three HiveQL DDL command with its syntax and example. **03**
(b) Describe application of RTAP. **04**
(c) How Big data helps Health care domain. **07**
- Q.5** (a) Describe important features of Apache Spark. **03**
(b) What is Zookeeper? Write functions of it. **04**
(c) Justify: “SPARK is faster than MapReduce”. **07**
- Q.5** (a) How Implicit filtering is differing from explicit filtering? **03**
(b) Explain the components of SPARK. **04**
(c) Explain the architecture and features of HIVE. **07**
