

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2018****Subject Code: 2171607****Date: 15/11/2018****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.

- Q.1** (a) Explain structured, semi structured and unstructured data in terms of big data analytics. **03**  
(b) Discuss Four V's of Big Data. **04**  
(c) What are the advantages of Hadoop? Draw Hadoop ecosystem and explain its components. **07**

- Q.2** (a) Differentiate SQL and NOSQL. **03**  
(b) Explain working of reduce phase of MapReduce with an example. **04**  
(c) Define HDFS. Describe namenode, datanode and block. Explain HDFS operations in detail. **07**

**OR**

- (c) What is HBase? Explain storage mechanism of HBase with an example. **07**

- Q.3** (a) How to create collection in MongoDB? Explain with its syntax. **03**  
(b) Write the use and syntax of following HDFS commands: **04**  
i. put ii. expunge iii. chmod iv. get  
(c) What is RDD? Explain transformations and actions in RDD. Explain RDD operations in brief. **07**

**OR**

- Q.3** (a) Write down the differences between Apache Pig and MapReduce. **03**  
(b) Explain Five P's of Big Data in brief. **04**  
(c) Justify: "SPARK is faster than MapReduce". **07**

- Q.4** (a) What is Apache Pig and why do we need it? **03**  
(b) Explain the components of SPARK. **04**  
(c) Explain CRUD operations of MongoDB with an example. **07**

**OR**

- Q.4** (a) Write down the goals of HDFS. **03**  
(b) Explain MongoDB sharding process. **04**  
(c) Discuss the applications of big data analytics in weather forecasting. **07**

- Q.5** (a) Explain benefits of ZooKeeper. **03**  
(b) Discuss Machine Learning with MLlib in SPARK. **04**  
(c) What is NoSQL? List out the features of NoSQL. Explain types of NoSQL databases in brief. **07**

**OR**

- Q.5** (a) Define Term Frequency and Inverse Document Frequency. **03**  
(b) Which terms are used for table, row, column and table-join in MongoDB? **04**  
(c) Explain the architecture and features of HIVE. **07**

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