

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII (NEW) EXAMINATION – WINTER 2018****Subject Code: 2180710****Date: 29/11/2018****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.

		Marks
Q.1	(a) Discuss and differentiate structured, unstructured and semi- structured data. Give proper examples.	03
	(b) What is NoSQL database? Discuss key characteristics and advantages of NoSQL database.	04
	(c) Explain 4 'V's of big data with suitable example. Discuss how big data analytics can be useful in the development of smart transports.	07
Q.2	(a) Discuss role of JobTracker and TaskTracker in processing data with Hadoop.	03
	(b) What is MapReduce? Explain working of various phases of MapReduce with word count example.	04
	(c) Explain Hadoop architecture and its component with proper diagram.	07
OR		
	(c) Write a short note on Hadoop Ecosystem.	07
Q.3	(a) Give commands with appropriate arguments to perform data transfer between local file system and HDFS.	03
	(b) What is HBase? Differentiate HBase and RDBMS.	04
	(c) With suitable block diagram explain architecture of HDFS.	07
OR		
Q.3	(a) Discuss role of Data node and Name node in HDFS.	03
	(b) Write a short note on Apache Pig.	04
	(c) What is HiveQL? Explain various statements in HiveQL with example.	07
Q.4	(a) What is transformation and actions in Spark? Explain with example.	03
	(b) Discuss limitations of Hadoop and how it is overcome in Apache Spark,	04
	(c) Write a short note on Spark stack. Give brief explanation of each component.	07
OR		
Q.4	(a) What is RDD? Explain role of RDD in Spark.	03
	(b) Differentiate SQL and NoSQL databases. What are the applications of NoSQL database?	04
	(c) Discuss Spark Streaming with suitable example such as analyzing tweets from Twitter.	07
Q.5	(a) What is MongoDB? Discuss important features of MongoDB.	03
	(b) Discuss different types of NoSQL databases with proper example.	04
	(c) Explain basic CRUD operations with example in MongoDB.	07
OR		
Q.5	(a) Explain database, collection, document and fields with respect to MongoDB. Also give its equivalent term in RDBMS.	03
	(b) Explain use of aggregate function in MongoDB with suitable example.	04
	(c) A typical course feedback system functions as per following features: <ul style="list-style-type: none"> • Course management. • Subject management for course. 	07

- Faculty subject engagement.
- Student registration for course.
- Student feedbacks for faculty for subject.

Design MongoDB schema for above application. (Necessary assumptions could be made for detailed design.)
