

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA Integrated - SEMESTER- VIII • EXAMINATION – WINTER 2018

Subject Code:4480601**Date:16/11/2018****Subject Name: Big Data (BD)****Time:02.30 pm to 5.00 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)** Answer the following:
- (i) Define the terms: “consistent hashing” and “object versioning”. **02**
 - (ii) State any two techniques of machine learning. **02**
 - (iii) Compare parallel data processing and distributed data processing. **03**
- (b)** Answer the following:
- (i) What is NoSQL? **01**
 - (ii) What is replication? State its types. **03**
 - (iii) Explain the term “sharding” along with an appropriate example. **03**
- Q.2 (a)** Define data analytics and explain its categories in detail. **07**
- (b)** What is Business Architecture? Explain how Big Data is related to it at various levels of the organization. **07**
- OR**
- (b) (i)** State the phases of Big Data analytics lifecycle. **04**
- (ii)** Differentiate between traditional BI and Big Data BI. **03**
- Q.3 (a)** What is sorted ordered column-oriented store? Explain how it differs from an RDBMS along with an appropriate example. **07**
- (b)** Describe the distributed storage architecture of HBASE along with appropriate diagram. **07**
- OR**
- Q.3 (a)** What is MongoDB? Explain how MongoDB achieves horizontal scaling. **07**
- (b)** Describe how MapReduce is implemented in MongoDB. **07**
- Q.4 (a)** Explain why MapReduce is not suitable for real-time data processing. How can it be enabled to work in a near-real-time scenario? **07**
- (b)** Describe SCV principal in detail. **07**
- OR**
- Q.4 (a)** What is MapReduce? State the key considerations while developing a MapReduce algorithm. **07**
- (b)** Explain the concepts “task parallelism” and “data parallelism” along with appropriate example. Which of these concepts is adopted by MapReduce? **07**
- Q.5 (a)** Explain correlation and regression analysis along with appropriate example. **07**
- (b)** State and explain the types of data analysis in brief. **07**
- OR**
- Q.5 (a)** What is visual analysis? Explain its types in brief. **07**
- (b)** Explain the process of importing and exporting data in MongoDB along with appropriate example. **07**
