

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA INTEGRATED– SEMESTER VIII - EXAMINATION –SUMMER-2021

Subject Code: 4480601

Date: 03-08-2021

Subject Name: Big Data

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)	1. Define Terms: DataNode, NameNode, Cluster, NOSQL	04
	2. Differentiate between File Systems and distributed file system.	03
(b)	Explain the stage of Big data analytics lifecycle.	07
Q.2(a)	1. Differentiate between RDBMS and NoSQL Databases.	03
	2. What is the meaning of “Sharding”. Explain with example.	04
(b)	1. Explain mongoimport, mongoexport and mongodump utility.	04
	2. Define Terms : HDFS , Hadoop, Task Tracker	03
	OR	
(b)	State various categories of NoSQL databases and explain each of them in brief.	07
Q.3(a)	What is HBase? Explain how data is stored in HBase using appropriate example.	07
(b)	What is MapReduce? Explain various map tasks of MapReduce with appropriate example.	07
	OR	
(a)	Describe the concepts “task parallelism” and “data parallelism” along with appropriate example. Which of these concepts is adopted by MapReduce?	07
(b)	Explain how we access data from different databases like MongoDB, HBase and Hadoop.	07
Q.4(a)	Explain A/B Testing, Correlation and Regression with suitable example.	07
(b)	Explain the terms “quantitative analysis” and “qualitative analysis”.	07
	OR	
(a)	What do you mean by the term “horizontal scaling”? Describe how horizontal scaling is achieved in MongoDB.	07
(b)	Explain ICT developments with example.	07
Q.5(a)	State the difference between traditional data visualization and data visualization for Big Data.	07
(b)	State the techniques of machine learning and explain any two of them in brief.	07
	OR	
(a)	1. Explain how group operation is performed while querying in MongoDB.	04
	2. What is visual analysis. Write its types only.	03
(b)	Describe CAP theorem along with appropriate example.	07