Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA INTEGRATED– SEMESTER VIII- EXAMINATION –WINTER-2023

Subject Code:4480601 **Date: 02/12/2023**

Subject Name: Big Data

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.**
4. **Use of simple calculators and non-programmable scientific calculators are permitted.**

Q.1	**(a)**	i) Explain Terms: IoE, KPI, cluster, Data Node	**04**
		ii) What is replication? State its types.	**03**
	(b)	i) Explain 4 V's of Big Data.	**04**
		ii) Explain in brief Structured, Semi-structured and unstructured Data.	**03**
Q.2	**(a)**	i) Differentiate between traditional BI and Big Data BI.	**04**
		ii) Differentiate between RDBMS and Hadoop.	**03**
	(b)	Discuss visual analysis with its importance.	**07**
		OR	
	(b)	State various categories of NoSQL databases and explain each of them in brief.	**07**
Q.3	**(a)**	List and Explain Big Data analytics lifecycle.	**07**
	(b)	Explain CAP and BASE Theorem in detail.	**07**
		OR	
Q.3	**(a)**	Explain SCV principal in detail.	**07**
	(b)	Explain the term "sharding" along with an appropriate example.	**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)	Compare parallel data processing and distributed data processing.	**07**
		OR	
Q.4	**(a)**	What is MapReduce? Explain using an appropriate example.	**07**
	(b)	Explain the concepts "task parallelism" and "data parallelism" along with appropriate example.	**07**
Q.5	**(a)**	Differentiate between "quantitative analysis" and "qualitative analysis".	**07**
	(b)	Discuss any 7 commands of Redis using suitable example.	**07**
		OR	
Q.5	**(a)**	Explain in brief Semantic analysis and A/B Testing.	**07**
	(b)	MongoDB : Create collection students with fields : studID, studName, studDept, studGrade, studHobby,Salary 1. List students details 2. List student whose name ends with 'P'. 3. Count no. of students department wise. 4. Create index on studID. 5. Arrange documents in ascending order of student Department. 6. Display 4th document to 5th document. 7. Remove documents whose hobby is "singing".	**07**

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