Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

End - Term Examinations – May/June 2026

Date: 14 – 05- 2026 **Time:** 01:00pm – 04:00pm

School: SOCSE	**Program:** B.Tech. in Computer Science and Technology. (BIG DATA)	
Course Code: CBD2510	**Course Name:** No SQL Databases	
Semester: VI	**Max Marks**: 100	**Weightage**: 50%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Marks	**24**	**24**	**24**	**14**	**14**

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. **10Q x 2M=20M**

1.	List the Limitations of Traditional Database	2 Marks	L1	CO1
2.	Define Distributed Architecture	2 Marks	L1	CO1
3.	Infer Naming in document databases and give an example.	2 Marks	L1	CO2
4.	Define a replica set.	2 Marks	L1	CO2
5.	What is a compound index in MongoDB	2 Marks	L1	CO3
6.	Define aggregation in MongoDB	2 Marks	L1	CO3
7.	List the security aspects in MongoDB	2 Marks	L1	CO4
8.	Infer adaptive indexing	2 Marks	L1	CO4
9.	List the key difference between row-oriented and columnar databases.	2 Marks	L1	CO5
10.	Define database cracking	2 Marks	L1	CO5

Part B

Answer the Questions. **Total Marks 80M**

11.	**a.**	Describe vertical and horizontal scalability with neat diagram.	10 Marks	L3	CO1
	b.	Apply CURB operation for the Database: College database Collection: Students in NoSQL database.	10 Marks	L3	CO1
		Or			
12.	**a.**	Apply BASE property for Banking sector with proper justification.	10 Marks	L3	CO1
	b.	Describe the NoSQL emergence and its main features in detail.	10 Marks	L3	CO1

13.	**a.**	Describe the different types of Querying mechanism with suitable examples.	10 Marks	L2	CO2
	b.	Explain the characteristics of the Document Data Model.	10 Marks	L2	CO2
		Or			
14.	**a.**	Explain Update Consistency, Read Consistency and Relaxing Consistency with proper example.	10 Marks	L2	CO2
	b.	Explain structured, semi structured and unstructured data with proper example.	10 Marks	L2	CO2

15.	**a.**	Explain Indexing in MongoDB and its types.	10 Marks	L2	CO3
	b.	Compare MongoDB and Cassandra databases.	10 Marks	L2	CO3
		Or			
16.	**a.**	Explain Replication and Sharding in distributed NoSQL databases.	10 Marks	L2	CO3
	b.	Explain Transactions in NoSQL database and give the proper example.	10 Marks	L2	CO3

17.	**a.**	Explain the architecture of C-Store. Highlight its key components and how it handles data storage and query processing efficiently.	10 Marks	L3	CO4
	b.	Explain how insert, update, and delete operations are managed in column-store databases. Discuss the challenges and solutions.	10 Marks	L3	CO5
Or					
18.	**a.**	Explain the concept of representing the web as a graph. How does this representation help in analyzing web structure?	10 Marks	L3	CO4
	b.	Describe the PageRank computation process step-by-step using iterative methods.	10 Marks	L3	CO5