18CS823

Eighth Semester B.E. Degree Examination, July/August 2022 **NOSQL Database**

Max. Marks: 100 Time: 3 hrs.

Note: Answer any FIVE full questions, choosing ONE full question from each module

Module-1

- What is NOSQL? Explain briefly about aggregate data models with a neat diagram. 1 Considering example of Relations and Aggregates. (08 Marks)
 - Briefly describe the value of Relational databases. (07 Marks)
 - c. Explain briefly about impedance mismatch, with a neat diagram. (05 Marks)

OR

- Write short notes on: 2
 - Consequences of Aggregate Orientation Key value data model. i)
 - iii) Document data model Column family stores. (08 Marks)
 - Explain about graph databases, with a neat diagram. (07 Marks)
 - What are Schemaless databases? Explain. (05 Marks)

Module-2

- What are the distribution models? Briefly explain two paths of data distribution. (10 Marks)
 - b. Explain about Update consistency and Read consistency, with an example. (10 Marks)

- Write short notes on:
 - Combining Sharding and Replication Single server ii)
 - (07 Marks)

- b. Explain the following:
 - Relaxing consistency ii) CAP theorem
 - Relaxing Durability iv) Quorums. (08 Marks)
 - c. Define Version Stamps. Explain briefly about various approaches of constructing version stamps. (05 Marks)

Module-3

- Explain with a neat diagram, the partitioning and combining in Map reduce. (10 Marks)
 - b. Explain two stages Map-Reduce example, with a neat diagram. (10 Marks)

a. Explain Basic Map - Reduce, with a neat diagram.

- (07 Marks)
- b. How are calculations composed in Map Reduce? Explain with a neat diagram. (08 Marks)
- What are Key value Stores? List out some popular key value database. Explain how all the data is stored in a single bucket of key value data store. (05 Marks)

Module-4

- What are Document Databases? Explain with an example. List and explain any 2 features of document databases. (10 Marks)
 - Elaborate the suitable use cases of document databases. When document databases are not

1 of 2

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OR

8 a. Briefly explain scaling feature in document databases, with a neat diagram.
b. Describe some example queries to use with document databases.
(10 Marks)
(10 Marks)

Module-5

a. What are Graph databases? Explain with example graph structure.
b. Briefly describe relationships in graph databases, with a neat diagram.
c. Describe the Query features and transactions of graph databases.
(08 Marks)
(08 Marks)
(08 Marks)

OR

a. Explain Scaling and Application level sharding of nodes with a neat diagram. (10 Marks)
b. Explain some suitable usecases of graph databases and describe when we should not use graph databases. (10 Marks)

