

Faculty of Science

B.Sc (Data Science) III-Year, CBCS –V Semester Regular Examinations –Jan, 2023

PAPER: No SQL Data Bases

Time: 3 Hours

Max Marks: 80

Section-A

- I. Answer any *eight* of the following questions (8x4=32 Marks)
1. Explain Materialized Views.
 2. What is Impedance Mismatch? Explain.
 3. Explain Graph Databases.
 4. Discuss about Sharding.
 5. Explain, How NoSQL Databases relax Consistency?
 6. Explain CAP Theorem.
 7. Explain the Use Cases of Key-Value Data Stores.
 8. Why are some applications not suitable to implement with Document Databases?
 9. Compare scalability of Redis and MongoDB.
 10. Explain CRUD operations on table in Cassandra.
 11. Discuss Use Cases of Graph Databases.
 12. Explain consistency of Neo4j.

Section-B

- II. Answer the following questions (4x12=48 Marks)
13. (a) Explain the differences between Relational Databases and NoSQL Databases.
What is the need of NoSQL Databases?
(OR)
(b) What is an Aggregate? Which NoSQL databases use Aggregate structure?
Explain how they are using Aggregate structures?
 14. (a) Explain various Consistencies with example.
(OR)
(b) What is Map-Reduce? Explain Partitioning and Combining functions in detail.
 15. (a) Explain CRUD operations of Key-value Data Stores with the help of Redis.
(OR)
(b) What is Document Database? Explain its features.
 16. (a) What is Column Family Data Stores? Explain its features.
(OR)
(b) Explain CRUD operations of Neo4j.

Faculty of Science

B.Sc (Data Science) III-Year, CBCS –V Semester Backlog Examinations –June, 2023

PAPER: NoSQL Data Bases

Time: 3 Hours

Max Marks: 80

Section-A

I. Answer any *eight* of the following questions (8x4=32 Marks)

1. Explain Impedance Mismatch.
2. Write consequences of Aggregate Orientation.
3. Explain Application vs Integrated Databases.
4. Discuss about Update Consistency.
5. What is Map-Reduce? Explain.
6. How consistency of Relational Database differs from NOSQL Databases?
7. Explain Suitable Use Cases of Key-value Data Stores.
8. Explain, where Document Databases are not suitable?
9. Discuss about the Scalability of MongoDB.
10. What is Column Family Store? Explain.
11. Explain CRUD operations of Neo4j.
12. Explain Create operations of Graph Database.

Section-B

II. Answer the following questions (4x12=48 Marks)

- 13.(a) What is the meaning of Attack of Clusters? How it leads to the emergence of NoSQL?

(OR)

(b) How to Model Data Access? Explain.

- 14.(a) Explain Single Server and Master Slave Distribution Models.

(OR)

(b) What is Version Stamp? Explain, How it is useful in maintaining Consistency?

- 15.(a) What is Key Value Data Store? Explain features of Redis.

(OR)

(b) Explain CRUD operations of MongoDB.

- 16.(a) What is Keyspace and Table? Explain Cassandra operations on them.

(OR)

(b) What is Graph Database? Explain features of Graph Databases.
