

(AUTONOMOUS)
MSc (SS) DEGREE EXAMINATION MAY 2026
(Ninth Semester)

Branch – **SOFTWARE SYSTEMS (Five Years Integrated)**

MODERN DATABASE SYSTEMS

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(5 x 1 = 5)

- 1 Which component is crucial for optimizing distributed queries?
(i) Data replication (ii) Indexing
(iii) Query decomposition (iv) Data compression
- 2 What is the primary advantage of NoSQL databases for big data?
(i) Strong consistency (ii) Scalability
(iii) Limited schema flexibility (iv) High disk space usage
- 3 Which NoSQL model is most suited for time-series data?
(i) Key-value store (ii) Document store
(iii) Column-oriented store (iv) Graph store
- 4 Which of the following use cases is best suited for a graph database?
(i) Storing large documents (ii) Social network analysis
(iii) Financial transactions (iv) Simple key-value data storage
- 5 Microsoft Azure is a platform primarily used for:?
(i) Local database management (ii) Cloud computing and storage
(iii) Real-time analytics (iv) Graph database operations

SECTION - B (15 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks

(5 x 3 = 15)

- 6 a Discuss about the SPARC Architecture.
OR
b Classify the Data Model and its types with suitable examples.
- 7 a State the Basic Principles of NoSQL models.
OR
b Differentiate the SQL Databases and NoSQL Databases.
- 8 a Illustrate the Hbase Architecture.
OR
b Criticize about the Concepts of Orient DB with example.

Cont...

- 9 a Justify in detail about the XML databases.
OR
b Elucidate about the Apache Hadoop Architecture.
- 10 a Design the Microsoft Azure in detail.
OR
b Justify about Automatic Schema Matching.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Illustrate the Distributed Query Processing and Optimization.
OR
b Explain the Architecture of parallel databases.
- 12 a Determine the NoSQL data Models with example.
OR
b Classify the various types of NOSQL database.
- 13 a Discuss about the Amazon DynamoDB NoSQL database service.
OR
b Evaluate the in-memory Key-value store in NoSQL.
- 14 a Elucidate the MongoDB in detail.
OR
b Appraise the Structure and features of Neo4j.
- 15 a Evaluate in detail about XML Schema Embedding.
OR
b Sketch about the Data Warehouse Integration.

Z-Z-Z

END