

# 22521

**12425**

**03 Hours / 70 Marks**

Seat No. 

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- Instructions* –
- (1) All Questions are *Compulsory*.
  - (2) Answer each next main Question on a new page.
  - (3) Illustrate your answers with neat sketches wherever necessary.
  - (4) Figures to the right indicate full marks.
  - (5) Assume suitable data, if necessary.
  - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

- 1. Attempt any FIVE of the following:** **10**
- a) Write any two benefits of distributed database system.
  - b) Give syntax for Nested query.
  - c) State types of NOSQL database.
  - d) Enlist characteristics of data warehouse.
  - e) State any four components of Hadoop.
  - f) Explain multiset types in SQL.
  - g) Name any four common Mongo DB data types.
- 2. Attempt any THREE of the following:** **12**
- a) Explain Two-tier client server database model with diagram.
  - b) Compare SQL and NO-SQL database system.
  - c) Explain any two basic operation with Mongo DB shell.
  - d) Explain XML document schema.

P.T.O.

- 3. Attempt any THREE of the following:** **12**
- a) Draw and explain data warehousing life cycle.
  - b) Write output for the following command executed on Mongo DB shell.
    - i) > New date ("2023/7/9"/;
    - ii) > "Welcome, MSBTE". replace ("MSBTE", "MongoDB");
  - c) Explain any four applications of data mining.
  - d) Compare between HBase and Hive (any four)
- 4. Attempt any THREE of the following:** **12**
- a) Explain Locked Based Protocols.
  - b) What is the use of find ( ) in MongoDB? Explain it with suitable example.
  - c) Describe any two types of data warehouse architecture.
  - d) Compare data mining and data warehouse.
  - e) Describe Hadoop architecture with diagram.
- 5. Attempt any TWO of the following:** **12**
- a) Explain object identify and reference types in SQL with example.
  - b) Write query to execute find ( ) function on : Inventory.
    - i) To display all documents where status equals either "A" or "G"
    - ii) To display all documents in collection.
    - iii) To display all documents where quality is less than 40 and greater than 20.
  - c) Explain arrays and multiset types in sql with example.

**6. Attempt any TWO of the following:****12**

- a) Compare between Parallel and Distributed Database (any six points)
  - b) Explain flower expressions and nested queries in Xquery.
  - c) Explain steps used to perform data analysis in R programming.
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