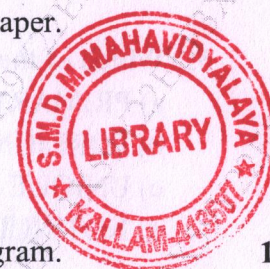


SUBJECT CODE NO: - BB-2545**FACULTY OF SCIENCE AND TECHNOLOGY****B.Sc. (CBCGS)(Pattern 2022) S.Y SEM IV****Examination November / December 2025****Computer Science-XII DBMS with SQL****[Time: 1:30 Hours]****[Max. Marks:40]**

Please check whether you have got the right question paper.

N. B

- 1) All questions are compulsory
- 2) All questions carry equal marks



Q1 a) Explain the three-schema architecture of a database with a diagram. **10**

OR

- b) Describe different types of database models. **05**
 c) What are the major components of a DBMS? Explain their roles? **05**

Q2 a) Explain the components of an E/R diagram with examples **10**

OR

- b) What is SQL? Explain different types of SQL commands **05**
 c) Define 1NF and 2NF with examples? **05**

Q3 Write short notes (Any two) **10**

- a) Aggregation functions in SQL
- b) relationship types
- c) Types of database Users
- d) Role of indexes in databases

Q4 Multiple choice questions **10**

1. Which of the following is an example of a logical data model?
 - a) File system
 - b) Hierarchical model
 - c) Relational model
 - d) Both (b) and (c)

2. In an E/R diagram, a diamond shape represents:
 - a) Entity
 - b) Relationship
 - c) Attribute
 - d) Weak entity
3. Which SQL clause is used to remove duplicate rows from the output?
 - a) GROUP BY
 - b) DISTINCT
 - c) ORDER BY
 - d) HAVING
4. Which normal form ensures that there are no repeating groups in a table?
 - a) 1NF
 - b) 2NF
 - c) 3NF
 - d) BCNF
5. Which of the following SQL statements defines a primary key?
 - a) PRIMARY KEY (column_name)
 - b) FOREIGN KEY (column_name)
 - c) UNIQUE (column_name)
 - d) NOT NULL (column_name)
6. What is the primary function of a DBMS?
 - a) Data storage and retrieval
 - b) Providing network security
 - c) Managing software applications
 - d) Handling hardware configurations
7. A weak entity always has:
 - a) A primary key
 - b) A foreign key
 - c) strong relationship with a parent entity
 - d) A composite attribute
8. A multivalued attribute in an E/R model is represented by:
 - a) A double ellipse
 - b) A rectangle.
 - c) A dashed oval
 - d) A diamond
9. Which of the following is NOT a component of a DBMS?
 - a) Query Processor
 - b) Transaction Management System
 - c) Operating System
 - d) Storage Manager
10. Which of the following is a key advantage of using a DBMS over a file system:
 - a) Redundancy increase
 - b) Data inconsistency
 - c) Data integrity and security
 - d) Slower data retrieval