

Section A: Objective Type Questions

Q1. Choose the appropriate Answer: (8x1.5=12)

- i. Which type of data can be stored in the database?
A Image oriented data B Text, files containing data
C Data in the form of audio or video D All of the above
- ii. Which of the following is not an example of DBMS?
A MySQL B Google
C Microsoft Access D IBM DB2
- iii. Which of the following is not a type of database?
A Hierarchical B Network
C Relational D Decentralized
- iv. Which operation is used to extract specified columns from a table?
A Project B Join
C Select D Extract
- v. Which normal form eliminates partial dependencies?
A 1NF B 2NF
C 3NF D BCNF
- vi. In relational database design, normalization primarily aims to:
A Increase data redundancy B Minimize storage space
C Reduce update anomalies D Speed up query execution
- vii. The SELECT statement in SQL is used to:
A Create new tables B Retrieve data from tables
C Modify table structure D Delete rows from tables

viii. The INSERT INTO command is used to:

- A Create a new table B Add new rows to a table
C Delete rows from a table D Update existing rows in a table

Section-B: Descriptive Type Questions (Short Type)

Q2 : Answer all the Questions (8 x 4 =32)

- i. Compare and contrast Traditional File Processing Systems with Database Management Systems
- ii. What do you mean by DBMS catalog and metadata?
- iii. Define following terms:
a) Entity, b) Relationship, c) Attribute, d) Cardinality
- iv. Define a relational database and list its key components.
- v. What is a primary key in a relational database? Why is it important?
- vi. Define Lossless Join Property in the context of relational database design.
- vii. What is the purpose of the COMMIT and ROLLBACK commands in SQL?
- viii. Explain the purpose of the CHECK constraint in Oracle SQL.

Section – C: Descriptive Type Questions (Medium Type)

Answer all the questions: (4 x 7=28)

Q 3. Explain the three-level architecture of a DBMS with appropriate diagrams.

OR

What are the different types of DBMS users? Explain briefly.

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- Q 4. Design an entity-relationship diagram (ERD) for a College database system that includes entities such as Student, Course, and Teacher.

OR

Explain Selection and Projection Operations in Relational Algebra with an example for each.

- Q 5. Describe the concept of keys in relational databases. What are the different types of keys?

OR

Explain different types of Functional dependencies in DBMS

- Q6. Describe the steps involved in creating an index on a table in SQL.

OR

Explain the difference between a stored procedure and a function in PL/SQL.

Section – D: Descriptive Type Questions (Long Type)

Answer any two of the following: (2 x 14=28)

- Q 7. Discuss the components of a DBMS and their roles.
- Q 8. What are different data models? Compare and contrast these models in terms of their structure, advantages, and disadvantages.
- Q 9. Define each of the following normal forms: 1NF, 2NF, 3NF. Provide a brief example for each.
- Q 10. Define SQL. Explain Data Manipulation Statements in SQL with one example for each.