Q-1 Answer in Short [2 Marks Questions]

1. (1) Explain *Like* operator in SQL.
   (2) List various DCL commands.
   (3) What is referential integrity ? How can we achieve it ?
   (4) How to reduce data redundancy ?
   (5) Explain prime and non-prime attributes.
   (6) Define Domain.
   (7) Define Data Dictionary.
   (8) What is the difference between ALTER and UPDATE command ?

2. (1) List the requirements of DBMS.
   (2) List out rules derived from Armstrong's axioms.
   (3) What is the purpose of storage manager?
   (4) Is it possible to change the structure of existing view? If yes then how?
   (5) Give example of decomposition which is loss less but not dependency preserving.
   (6) How redundancy can be removed?
   (7) Give difference between column level and row level constraint.
   (8) What is tuple?

3. (i) Explain prime and non-prime attributes.
   (ii) What do you mean by Domain Integrity?
   (iii) List various DDL, DML commands.
   (iv) Define Database Schema. What are the various types of schemas?
   (v) How to create relationship among tables?
   (vi) Give the difference between DROP and TRUNCATE command.
   (vii) Define Functional Dependency. Which functional dependency is achieved in 2NF?
   (viii) Explain Disjoint and Overlapping participation constraints.

Q-2 Answer in Detail. [5-7 Marks Questions]

1. Define DBMS. Explain advantages of DBMS.

2. Draw an E-R diagram for online library management system. **6**

3. What is Normalization ? Explain need of normalization with an example.

4. What is functional dependency ? Explain full and partial functional dependency.

5. Explain Relational Model, Network Model and Hierarchical model.

6. Explain the concept of Aggregation.

7. Explain Entity and Entity sets. Differentiate between strong and weak entity set.

8. Explain Super key, Candidate key Primary key, and Composite key with appropriate example.

9. Explain attributes and discuss types of attributes. **6**

10. Explain DDL and DML in detail with appropriate constraints. **6**

11. Explain briefly advantages and disadvantages of Distributed Database Management Systems.

12. Explain Data manager.

13. Explain 3NF. Also justify the statement "BCNF is stronger than 3NF" with the help of an example.

14. What are nested queries? Explain with the help of an example.

15. Draw an ER diagram for the situation given below :

    Library consists of many books in different subject areas where books are written by different authors and are published by different publishers. A book is published by only one publisher. There are inside - members and outside - members who gets books issued for their uses. The issuing and return operation of the books are managed by the librarian.

16. What is Functional Dependency (FD)? Find the valid FD's in the following relation:

A	*B*	*C*
i	1	2
i	1	3
j	1	4
j	1	3
k	2	5
l	4	7

17. Design a generalization specialization hierarchy for different accounts of a bank.

18. Explain Database Integrity.

19. Define Relationship and Relationship sets. Explain mapping cardinalities with example.

20. What is decomposition? Explain with an example, decomposition which is lossless and dependency preserving both.

21. Write a note on Relational Model.

22. Construct an E-R Diagram of a Banking System

23. Explain different database abstraction levels.

24. Who is DBA? Explain the various functions of DBA.