

Time: 3 Hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit.

Each question carries 10 marks and may have a, b, c as sub questions.

PART- A

(25 Marks)

- 1.a) Define DBMS. [2M]
- b) What is aggregation in ER diagram? [3M]
- c) Give an example of unsafe query. [2M]
- d) What is the use of LIKE operator in SQL? [3M]
- e) List the problems caused by redundancy. [2M]
- f) What is multivalued dependency? Give example. [3M]
- g) What is meant by log tail? [2M]
- h) How to test serializability of a schedule? [3M]
- i) What is a cylinder? [2M]
- j) Differentiate between sparse and dense index. [3M]

PART-B

(50 Marks)

- 2.a) Discuss different users and their interface to DBMS.
 - b) Write about query processor. [5+5]
- OR
- 3.a) What is a weak entity set? How is it represented in ER diagram?
 - b) With an example explain the concept of class hierarchy. [5+5]
4. Consider the following database schema to write queries in relational Algebra.
- Supplier (sid, sname, scity)
 Parts (pid, pname, poler)
 Supply (sid, pid, cost)
- a) Find the names of suppliers who supply green color parts
 - b) Find the supplier who supplies atleast two parts
 - c) Find the least cost "Nuts" and the details of the supplier. [10]
- OR
- 5.a) Explain group by and having clauses.
 - b) What is a trigger? Explain types of triggers. [5+5]
- 6.a) Give examples for lossy decomposition and loss-less join decomposition.
 - b) Discuss the drawbacks of 3NF over BCNF. [5+5]
- OR
- 7.a) What is canonical cover? How to compute it?
 - b) With example explain fifth normal form. [5+5]

8. What is the need of concurrent execution of transactions? Discuss the problems associated with this. [10]

OR

9.a) Explain the buffer management.

b) Write about remote backup system.

[5+5]

10.a) Explain disk organization.

b) Discuss the operations on hash file.

[5+5]

OR

11. Describe bulk loading of B+ tree indexing structure with suitable example data.

[10]

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