Reg. No. :

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. Column header is refer as

    (a) Table   (b) Relation   (c) Attributes   (d) Domain

2. Which SQL Query is use to remove a table and all its data from the database**?**

    (a) Create   (b) Drop   (c) Delete   (d) Select

3. In a two-phase locking protocol, a transaction release locks in _____ phase.

    (a) shrinking phase (b) growing phase   (c) running phase   (d) initial phase

4. Hashing technique which allocates fixed number of buckets is classified as

    (a) dynamic hashing (b) external hashing (c) static hashing   (d) internal hashing

5. Representation of queries in form of data structure graph is classified as

    (a) scanner tree   (b) parser tree   (c) query graph   (d) query tree

PART - B (5 x 3 = 15 Marks)

6. Define single valued and multi valued attributes.

7. List the properties of decomposition.

8. Explain current page table and shadow page table.

9. Give the measures of quality of a disk.

10. What are the cost components for query execution?

PART - C (5 x 16 = 80 Marks)

11. (a) With a neat diagram, explain the structure of a DBMS. (16)

Or

(b) (i) Give the symbols used in the E-R notation. Construct an E-R diagram for a banking Enterprise. (10)

(ii) With relevant examples discuss the various operations in Relational Algebra. (6)

12. (a) What are the pitfalls in relational database design? With a suitable example, explain the role of functional dependency in the process of normalization. (16)

Or

(b) (i) Explain triggers with example. (6)

(ii) Define normalization. Explain 1NF,2NF and 3NF using appropriate examples. (10)

13. (a) Describe about testing of Serializability. (16)

Or

(b) (i) Explain Time stamp-Based Concurrency Control protocol and the modifications implemented in it. (8)

(ii) Explain the deferred and immediate modification versions of the log based recovery scheme. (8)

14. (a) Describe the different types of file organization? Explain using a sketch of each of them with their advantages and disadvantages. (16)

Or

(b) Describe the structure of B+ tree and give the algorithm for search in the B+ tree with example. (16)

15. (a) Give the diagrammatic representation to indicate the basic steps in query processing. (16)

Or

(b) (i) Explain in detail about Heuristics and Cost Estimates in Query Optimization. (8)

(ii) How to choose the best evaluation plan for query? How does pipelining improve query evaluation efficiency? (8)

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