S.No. 5259 16 SCCCS 4

(For candidates admitted from 2016-2017 onwards)

B.Sc. DEGREE EXAMINATION, APRIL 2022.

Part III — Computer Science — Major

DATABASE SYSTEMS

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20)

Answer ALL questions.

1. What is database?

2. List out the various data abstraction levels.

3. Define foreign key.

4. List out the fundamental Relational Algebra operations.

5. What is the use of ALTER command?

6. What is the difference between unique and primary key constraint?

7. Define Entity.

8. What is domain relational calculus?

9. What is first Normalization form?

10. Define functional dependency.

PART B — (5 × 5 = 25)

Answer ALL questions. Choosing either (a) or (b).

11. (a) What are the various types of data models? Explain.

Or

(b) Write short notes on Transaction management.

12. (a) Write short notes on keys available in Relational model.

Or

(b) Explain the extended Relational Algebra operations.

13. (a) Explain the basic data types and schema definition in SQL with example.

Or

(b) Briefly explain set operations in SQL with examples.

14. (a) Explain the tuple Relational calculus with example.

Or

(b) Explain the various issues in Entity – Relationship design.

15. (a) Explain the various features of good relational designs.

Or

(b) Explain decomposition using multivalued dependences.

PART C — (3 × 10 = 30)

Answer any THREE questions.

16. Discuss about database design.

17. Discuss about the structure of Relational databases.

18. Briefly explain basic structure of SQL queries with example.

19. Discuss about the Entity – Relationship model.

20. Explain in detail about decomposition using functional dependencies.

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