

18. Explain the Subqueries in the *from clause* and *with Clause* with example.
 19. Explain the basic issues in the design of an E-R database schema.
 20. Discuss the normalization using multivalued dependencies.
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S.No. 5192

RCCS 10 CA 6/
RCCS 10 CS 6

(For candidates admitted from 2010 to 2015 batch)

B.C.A./B.Sc. DEGREE EXAMINATION, APRIL 2022.

Part III — Computer Applications/Computer Science —
Major

DATABASE SYSTEMS

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20)

Answer ALL questions.

1. Define Data Independence
2. What is meant by storage manager?
3. What is meant by Schema Diagrams?
4. Mention the relational operators in relational algebra.
5. Define Referential-integrity constraints.
6. Define Query and Query language.
7. What is Relationship and Relationship set?

8. Define Entity and Entity set.
9. Define Referential integrity
10. What is Multivalued dependency?

SECTION B — ($5 \times 5 = 25$)

Answer ALL questions, choosing either (a) or (b).

11. (a) List out the three levels of Data Abstraction and explain.

Or

- (b) Compare the two-tier and three-tier architecture of a database system.

12. (a) Differentiate the database schema and database instance.

Or

- (b) What is extended relational-algebra operations? Explain the operations of Generalized Projection.

13. (a) Explain any two SQL Set operations with example.

Or

- (b) Discuss the aggregation with grouping functions with example.

14. (a) Discuss the domain relational calculus with example.

Or

- (b) Discuss the Mapping Cardinality of one-to-one, one-to-many, many-to-one, or many-to-many relationship set.

15. (a) Define Atomic Domains and First Normal Form with example.

Or

- (b) Describe briefly the decomposition using functional dependencies.

SECTION C — ($3 \times 10 = 30$)

Answer any THREE questions.

16. Explain how data-definition language and data-manipulation language are used in data base manipulation

17. With example, discuss select, project, and rename unary operations of relational algebra.