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Reg. No.....

Name.....

B.C.A./B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MAY 2024

Fourth Semester

Core Course—DATABASE MANAGEMENT SYSTEMS

(Common for B.C.A. and B.Sc. Computer Applications [Triple Main])

[2013–2016 Admissions]

Time : Three Hours Maximum Marks : 80

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. What is a database ?
2. What is DML ?
3. What is a primary key ? Can there be more than one in a table ?
4. What is data independence ?
5. What is a secondary index ?
6. What is a strong entity ?
7. What is a view ?
8. What is OLTP ?
9. What are privileges ?
10. What is a revoking privilege ?

(10 × 1 = 10)

Part B

Answer any **eight** *questions.*
Each question carries 2 *marks.*

11. What are the roles and responsibilities of a DBA ?
12. What is an entity set ?
13. What are instances ?
14. What is a subclass ?
15. What are various entity types ?

Turn over

16. What is a foreing key ? Can there be more than one in a table ?
17. What is DCL ?
18. What is the use of the UNION operation ?
19. What is the use of the INTERSECTION operation ?
20. What is the use of the DROP command ?
21. What is the use of the ALTER command ?
22. What is a transaction ?

(8 × 2 = 16)

Part C

Answer any **six** *questions.*
Each question carries 4 *marks.*

23. Briefly, describe the various components and modules of DBMS.
24. Briefly, explain PROJECT operation with various options and examples.
25. Briefly, explain EQUIJOIN operation with various options and examples.
26. Briefly, explain CREATE command with various options and examples.
27. Briefly, explain UPDATE command with various options and examples.
28. Briefly, explain BETWEEN operator with various options and examples.
29. Briefly, explain 3NF.
30. Briefly, explain nested queries with an example.
31. Briefly, explain locking techniques for concurrency control.

(6 × 4 = 24)

Part D

Answer any **two** *questions.*
Each question carries 15 *marks.*

32. Using E-R modelling, architect an airline reservation management system with various diagrams and tables including dependencies and relationships.
33. Explain BCNF normal form in detail with examples.
34. Explain desirable properties of transactions in detail.
35. Explain database security in detail with various types, control measures, access control and protection.

(2 × 15 = 30)