E 2281 (Pages : 2) Reg. No.....

Name.....

B.C.A./B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, APRIL 2016

Fourth Semester

Core Course—DATABASE MANAGEMENT SYSTEM

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

[2013 Admission onwards]

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions in* **one** *sentence.*
Each question carries 1 *marks.*

1. Define data model.
2. What is meant by entity set ?
3. What is derived attribute ? Give an example.
4. Define schema instance.
5. What is a view ?
6. What do you mean by SQL ?
7. What is specialization ?
8. Define meta data.
9. What do you mean by cardinality ?
10. What is a composite key ?

(10 × 1 = 10)

Part B

Answer any **eight** *questions in one* **or** *two sentences.*
Each question carries 2 *marks.*

11. How do you insert data into the database ?
12. What are the three levels of data abstraction ?
13. Write a note on transitive dependency.
14. What is DBA? What arc the functions of DBA ?
15. Write a note on join operation.
16. Explain the syntax and usage of commit and rollback.
17. What is the difference between weak and strong entity set ?
18. What are the basic units of ER diagrams ?

Turn over

19. Briefly describe entity integrity.
20. How does a view differ from a table ?
21. Write a short note on nested-queries.
22. How is locking implemented ?

(8 × 2 = 16)

Part C

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

23. What is data independence ? Explain the difference between physical and logical data independence.
24. Differentiate between DDL and DML.
25. Explain the terms primary key, candidate key and foreign key. Give an example for each.
26. What are the three data anomalies that are likely to occur as a result of data redundancy ?
27. Explain Granting of Privileges.
28. Define transaction. What are the ACID properties of transaction ?
29. Explain Domain Relational Calculus with example.
30. Discuss the concurrency control mechanism in detail with a suitable example.
31. Explain entity integrity and referential integrity rules in relational model. Show how these are realized in SQL.

(6 × 4 = 24)

Part D

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

32. What is a database? Describe the advantages and disadvantages of using DBMS.
33. Explain normalization and analyze INF to 3NF with examples.
34. With a neat diagram, explain the DBMS component modules in detail.
35. Construct an ER diagram with all major components for a banking enterprise with entity sets customer, branch, loan, account etc along with your own assumptions. Convert it into a set of tables also.

(2 × 15 = 30)