QP CODE

C1017

Enrollment Number: ……

Name: ……

B.C.A DEGREE EXAMINATIONS, JULY 2025
Third Semester
B.C.A
B21CA05DC – Database Management Systems
(2024 January admissions)

Time: 3 Hours **Max Marks: 70**

Section A

Answer any ten of the following questions in a word or sentence each. Each question carries 1 mark.

1. Which schema describes how data is organized and stored according to the data model of the Database Management System?
2. Who is responsible for overall management and maintenance of database?
3. What mechanism is used to control simultaneous access to data by multiple transactions?
4. What is a weak entity?
5. What is a foreign key?
6. What is the smallest unit of data in a database?
7. What is a domain?
8. Which functional dependency occurs when there is a relationship between non key attributes in a table?
9. Which normal form eliminates partial dependency?
10. Name the SQL clause used to filter records?
11. Which SQL command is used to permanently delete a table from a database?
12. Specify the command used to undo changes made by DML statements before a commit?
13. What does the LENGTH () function return?
14. Identify the keyword used to reverse the order of iteration in a loop?
15. Name the two types of cursors in PL/SQL.

(1X10=10)

Section B

Answer any five of the following questions in two or three sentences each. Each question carries 2 marks.

16. What are the three levels of data abstraction in DBMS? Explain briefly.
17. Define relationship and relationship set.

18. What is generalization and specialization in ER modeling?
19. Differentiate between DELETE and TRUNCATE commands in SQL.
20. Explain any two scalar functions in SQL.
21. Explain the parameter modes used in procedures.
22. What are the conditions for deadlock?
23. What is serializability in DBMS?
24. What are the key properties in transaction management?
25. Explain about PL/SQL character set.

(2X5=10)

Section C

Answer any five of the following questions in one page each. Each question carries 4 marks.

26. What do you mean by data independence? Explain different schema levels.
27. Explain the different types of database users.
28. Explain the structure of a PL/SQL block with an example.
29. Explain about different types of integrity constraints.
30. Explain PL/SQL conditional statements.
31. What are database triggers? Explain with an example.
32. Discuss the various types of failures in databases.
33. Explain the use of GROUP BY and HAVING clauses in SQL with examples.
34. Differentiate between undo and redo operations in recovery.
35. What are locks? Explain shared and exclusive locks.

(4X5=20)

Section D

Answer any two of the following questions in three pages each. Each question carries 15 marks.

36. Explain different data models in detail.
37. What is normalization? Explain 1NF, 2NF and 3NF with suitable example.
38. Discuss the advantages and disadvantages of PL/SQL. Write a program to print the Fibonacci series up to 10 terms.
39. Compare and contrast pessimistic and optimistic concurrency control methods with examples.

(15X2=30)