K25U 3029

Reg. No. : .....

Name : .....

III Semester B.C.A. Degree (C.B.C.S.S. – O.B.E. – Supplementary/ Improvement) Examination, November 2025
(2019 to 2023 Admissions)
GENERAL AWARENESS COURSE
3A13BCA : Database Management System

Time : 3 Hours Max. Marks : 40

PART – A
(Short Answer)

Answer **all** questions. **(6×1=6)**

1. What is meant by a data model ?
2. What is a deadlock in transaction management ?
3. What is the purpose of the REVOKE command in SQL ?
4. Write a DCL command to give select and insert privileges on the "Employees" table to a user named "HR_Manager".
5. Write the SQL command to create a new database named "Management".
6. Which clause is commonly used to introduce a subquery in a SELECT statement ?

PART – B
(Short Essay)

Answer **any 6** questions. **(6×2=12)**

7. What is an application programmer in the context of database users ?
8. What are the two primary purposes of a database system ?

P.T.O.

9. What is an Extended Entity-Relationship (EER) model ? What are the additional features of the EER model over the basic ER model ?

10. What is Boyce-Codd Normal Form (BCNF) ? How does it relate to 3NF ?

11. Explain the concept of referential integrity.

12. What is the purpose of the NULL value in a relational database ?

13. What is the difference between the delete command and the truncate command ?

14. Write a SQL DDL statement to create a table named "Employees" with columns for ID, name, department and salary. Include appropriate data types and constraints.

PART – C
(Essay)

Answer **any 4** questions. **(4×3=12)**

15. Describe three limitations of using views in database systems and their impact on database design.

16. What is the relational data model ? Explain relations, attributes and tuples.

17. What is normalization in database design ? Briefly explain the first three normal forms.

18. Describe the tuple relational calculus and provide an example of a query expressed in tuple relational form.

19. Explain the subqueries in SQL. Provide an example of a subquery used in a SELECT statement and describe how it works.

20. Describe the purpose and structure of stored functions in SQL. Provide an example of a simple stored function.

PART – D

(Long Essay)

Answer **any 2** questions. **(2×5=10)**

21. Explain the differences between conceptual, logical and physical data models in database design. How does the ER model fit into this spectrum ?

22. Describe the five basic operations of relational algebra and write an example for each.

23. Explain the concept of constraints in DDL. List and briefly describe five types of constraints used in SQL.

24. Write a SQL statement to create a sequence that generates even numbers starting from 1000, with a maximum value of 9999. Then show how to use this sequence in an INSERT statement.