K24U 3536

Reg. No. : .....

Name : .....

**III Semester B.C.A. Degree (C.B.C.S.S. – O.B.E.-Regular/Supplementary/ Improvement) Examination, November 2024**
**(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 does ACID refer to in the context of transaction management ?
2. What is the significance of integrity rules ?
3. What is meant by lossless decomposition ?
4. What is sequence cycling ?
5. What is a subquery in SQL ?
6. What keyword is used to check if a value exists in the result of a subquery ?

PART – B
**(Short Essay)**

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

7. Explain the difference between a naive user and a sophisticated user.
8. What are the two primary responsibilities of a database administrator ?
9. Give a practical example that shows the use of a division operator.
10. What is the difference between a relation and a relationship in a relational database ?

**P.T.O.**

11. What is a composite key in a relational database ?
12. Write a short note on SQL datatypes.
13. Explain the concept of stored procedures.
14. Write an update statement to increase the salary of all employees in the "IT" department by 10%. Include a condition to limit the raise to employees with a current salary less than $100,000.

## PART – C
**(Essay)**

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

15. Describe the WITH CHECK OPTION clause in view of creation and its importance.
16. Discuss three advantages of the object-oriented data model.
17. Explain the concept of cardinality in data modeling and give examples.
18. Describe the concept of functional dependency in database normalization.
19. Compare and contrast relational algebra and relational calculus.
20. Describe the purpose and syntax of the ALTER TABLE command. Provide an example of adding a new column to an existing table.

## PART – D
**(Long Essay)**

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

21. Discuss the limitations of the ER model. What alternatives or extensions have been proposed to address these limitations ?
22. Describe the join operation in relational algebra, including its variants, and provide examples.
23. Describe the purpose and structure of the SELECT statement. Write a SELECT query that joins two tables and includes sorting and filtering.
24. Explain the differences between scalar, inline table-valued and multi-statement table-valued functions.

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