22U155 (Pages: 2) Name: ....

Reg.No: ....

FIRST SEMESTER B.Voc. DEGREE EXAMINATION, NOVEMBER 2022

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC21U SDC1 DB03 - DATABASE MANAGEMENT SYSTEM WITH MONGO DB

(Information Technology)

(2021 Admission onwards)

Time : 2.5 Hours   Maximum : 80 Marks

Credit : 4

Part A (Short answer questions)

Answer *all* questions. Each question carries 2 marks.

1. Define DBMS.

2. Define the levels of data abstraction.

3. Define DCL.

4. What is meant by the degree of relationship set?

5. Define Foreign key.

6. Explain Outer join operation in Relational algebra.

7. What is meant by lossless-join decomposition?

8. Define Fourth Normal Form.

9. Explain the syntax and working of SELECT Command in SQL.

10. Define syntax and working of IN operator.

11. List Date and Time datatypes in SQL.

12. List the set operations of SQL.

13. Define JOIN clause.

14. Explain how to destroy view.

15. What is Rollback? Explain.

(Ceiling: 25 Marks)

Part B (Paragraph questions)

Answer *all* questions. Each question carries 5 marks.

16. Differentiate file processing system and DBMS.

17. Explain a) Data Models b) Schema and Instance

18. Explain different types of keys in ER model.

19. Distinguish between Relational Calculus and Domain Calculus.

20. Explain Relational database design Anomalies in a database.

21. Explain 1NF, 2NF, and 3NF by taking an un-normalized relation and apply the normalization procedure in sequence.

22. Explain Concurrency control with locking methods.

23. What are the advantages of MongoDB over RDBMS?

(Ceiling: 35 Marks)

Part C (Essay questions)

Answer any *two* questions. Each question carries 10 marks.

24. Explain about Database Administrators and users.

25. Explain in detail about inheritance, specialization and generalization using ER diagrams.

26. Explain about Normalization theory. Discuss various normal forms with examples.

27. a) Explain Transactions. What are the properties of database transaction? What are the two basic database access operations that a transaction can include?
    b) What are the ACID properties of transaction?

(2 × 10 = 20 Marks)

****