

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

(Regular/Improvement/Supplementary)

COMPUTER SCIENCE & MATHEMATICS (DOUBLE MAIN)

GDCS3B04T: DBMS & SOFTWARE ENGINEERING

Time: 2 Hours

Maximum Marks: 60

SECTION A: Answer the following questions. Each carries *two* marks.

(Ceiling 20 marks)

1. What is Functional Dependency? Provide an example.
2. What is the difference between DDL and DML in SQL?
3. Describe the concept of a Check Constraint in SQL.
4. Define ACID properties in a database transaction.
5. What is the Spiral Model?
6. How is the HAVING clause different from the WHERE clause?
7. What is Unit Testing? Why is it important?
8. Explain the concept of Agile Development.
9. What are the main components of an ER Diagram?
10. Differentiate the Primary Key and Foreign Key.
11. What is meant by Integration Testing in software development?
12. Explain the use of the SELECT command in SQL.

SECTION B: Answer the following questions. Each carries *five* marks.

(Ceiling 30 marks)

13. Explain the concept of the Two-Phase Locking Protocol in database systems.
14. How are constraints defined and used in SQL?
15. Compare the Waterfall Model with the Spiral Model in software engineering.
16. Explain the Incremental Process Model.
17. Describe the performance of Black Box testing with suitable examples.
18. What are the key principles of Agile Process Models?
19. Give an account on the different constraints in SQL.

SECTION C: Answer any *one* question. The question carries *ten* marks.

20. Explain the different Normal Forms with examples.
21. Describe the different types of UML diagrams and how they contribute to software design.

(1 × 10 = 10 Marks)