19U418S (Pages: 2) Name: …..…………….

Reg. No…….……………

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2021
(CUCBCSS-UG)
CC17U BCS4 B05 - DATABASE MANAGEMENT SYSTEM & RDBMS
(Computer Science – Core Course)
(2017, 2018 Admissions – Supplementary/Improvement)

Time: Three Hours   Maximum: 80 Marks

Section A
Answer *all* questions. Each question carries 1 mark.

1. What is the difference between physical and logical data independence?
2. Define the concept of Aggregation.
3. What is the difference between database schema and database instance?
4. What is DDL?
5. Compare Weak Entity set and Strong Entity set.
6. Define functional dependency?
7. What is the use of IN operator?
8. Define transaction.
9. What is cursor?
10. What is the responsibility of DBA?

(10 × 1 = 10 Marks)

Section B
Answer *all* questions. Each question carries 3 marks.

11. Compute the closure of the following set F of functional dependencies for relation schema r (A, B, C, D, E).

    A→BC   CD→E   B→D   E→A

    List the candidate keys for R

12. (a) Explain sub queries with an example.

    (b) What is the use of **group by** and **having** clause in SQL queries?

13. Write any two relational database design anomalies.
14. Write a short note on Primary Key, Foreign Key, Candidate Key and Super Key
15. Write any three aggregate functions in SQL with examples.

(5 × 3 = 15 Marks)

Section C

Answer any *five* questions. Each question carries 5 marks.

16. Explain three schema Architecture.

17. What are the different types of joining multiple tables?

18. Explain multi valued dependency and 4NF.

19. Explain how to create, rename a column and destroy view.

20. Explain two phase locking.

21. Explain control structures in SQL.

22. What are the advantages and disadvantages of stored procedure?

23. Explain triggers with examples.

(5 × 5 = 25 Marks)

Section D

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

24. What are the advantages and disadvantages of DBMS approach?

25. (a) Explain Integrity Constraints with examples.

   (b) Explain Relational Algebra and Operations.

26. What is Normalisation? Explain 2NF, 3NF, BCNF with examples.

27. Explain Date functions String functions and Set operations in SQL with examples.

28. (a) Explain ACID properties.

   (b) Explain Table-level Lock, Row-level Lock.

(3 × 10 = 30 Marks)

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