Reg. No. :

Question Paper Code: 54805

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Fourth Semester

Information Technology

15UIT405 - DATABASE MANAGEMENT SYSTEMS

(Regulation 2015)

Duration: 1:15hrs   Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. In the E-R diagrams, the term cardinality is a synonym for the term?   CO1- R

    (a) Attribute   (b) Degree   (c) Entities   (d) Cartesian

2. In a table, _____ represents a relationship among a set   CO1- R
    of values.

    (a)Column   (b)Key   (c)Row   (d) Entry

3. Which is an unary operation in relational algebra?   CO2- R

    (a) Selection Operation   (b) Primitive Operation

    (c) Projection Operation   (d) Generalized selection operation

4. The _____ operation, denoted by −, allows us to find tuples that are in   CO2- R
    one relation but are not in another.

    (a) Union   (b) Set-difference   (c) Difference   (d) Intersection

5. Project join Normal form is also referred as --------- -   CO3- R

    (a) 2NF   (b) 3NF   (c) 4NF   (d) 5NF

6. In the _____ normal form, a composite attribute is converted to   CO3- R
    individual attributes.

    (a) First   (b) Second   (c) Third   (d) Fourth

7. Which of the following is a procedure for acquiring the necessary locks for a   CO4- R
    transaction where all necessary locks are acquired before any are released?

    (a) Record controller   (b) Exclusive lock

    (c) Authorization rule   (d) Two phase lock

8. _____ states that only valid data will be written to the database.   CO4- R

   (a) Consistency   (b) Atomicity   (c) Durability   (d) Isolation

9. Which type of file is easiest to update or modify?   CO5- R

   (a) Sequential   (b) Hashed   (c) Indexed   (d) Clustered

10. The searching technique that takes O (1) time to find a data is   CO5- R

    (a) Linear Search   (b) Binary Search   (c) Hashing   (d) Tree Search

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Why would you choose a database system over file system? Discuss   CO1- U   (8)
    the architecture of DBMS with a neat diagram

12. Illustrate the uses of Embedded SQL and Dynamic SQL with suitable   CO2- U   (8)
    examples.

13. What are the three data anomalies that are likely to occur as a result of   CO3- App   (8)
    data redundancy? Can data redundancy be completely eliminated in
    database approach? Why or Why not?

14. Illustrate two phase locking protocol with neat sketch.   CO4- U   (8)

15. Explain the difference between Hash indexes and B+ tree indexes. In   CO5- U   (8)
    Particular.

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