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Question Paper Code: 94C04

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2022

Fourth Semester

Computer Science and Business Systems

19UCB404 - Database Management Systems

(Regulations 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. INSERT INTO employee _____ (1002,Joey,2000) CO1- U
(a) Table (b) Values (c) Relation (d) Field
2. _____ is a key in a relational database that is unique for each record and also called unique identifier CO2- App
(a) Primary Key (b) Foreign key (c) Super key (d) Candidate key
3. _____ normal form is based on the Multi valued dependency CO2- App
(a) 1NF (b) 2NF (c) 3NF (d) 4NF
4. Which one of these is a desirable property of a decomposition? CO1- U
(a) Partition constraint (b) Dependency preservation
(c) Redundancy (d) Security
5. _____ Operator is used for appending two strings. CO2- App
(a) & (b) % (c) || (d) _
6. Which of the following is used to declare a record? CO1- U
(a) %ROWTYPE (b) %TYPE (c) Both A & B (d) None of the above
7. Which of the following has “all-or-none” property? CO1- R
(a) Atomicity (b) Durability (c) Isolation (d) All of the mentioned
8. _____ refers to a property of computer to run several operations simultaneously and possible as computers await response of each other CO2- App
(a) Concurrency (b) Deadlock (c) Backup (d) Recovery

9. Which of the following is not a NoSQL database? CO1- U
- (a) SQL Server (b) MongoDB
- (c) Cassandra (d) None of the mentioned

10. _____ stores are used to store information about networks, such as social connections. CO2- App
- (a) Key-value (b) Wide-column (c) Document (d) Graph

PART – B (5 x 2= 10 Marks)

11. Give an example for ternary relationship CO1- U
12. Define normalization CO1- U
13. Explain the purpose of %TYPE and % ROWTYPE data types with the example? CO3- App
14. What is rigorous two-phase locking protocol? CO1- U
15. What are the advantages of NoSQL over traditional RDBMS? CO2- App

PART – C (5 x 16= 80 Marks)

16. (a) Discuss in detail about the various Integrity constraints CO1- U (16)
- Or
- (b) Explain in detail about the various DML and DDL queries and Create a DML, DDL for student database. CO2- App (16)
17. (a) Discuss the candidate key, primary key, super key, composite key and alternate key with relevant examples for each CO2- App (16)
- Or
- (b) Illustrate the concept of anomalies and redundancies also discuss in detail about decomposition and its types CO2- App (16)
18. (a) Compare and contrast implicit and explicit cursors and write cursor program for electricity bill calculation CO2- Ana (16)
- Or
- (b) Illustrate triggers with a sample program to calculate grade of the student CO2- Ana (16)
19. (a) Illustrate the ACID properties through examples CO2- App (16)
- Or
- (b) Discuss the violations caused by each of the following: Lost update problem, Dirty read, Non-repeatable read, Phantom read. CO1- U (16)

20. (a) Illustrate the key-value stores in NoSQL. CO2- App (16)
Or
(b) Explain in detail about CAP theorem CO1- U (16)

