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Question Paper Code: 94C04

B.E. / B.Tech. DEGREE EXAMINATION, MAY 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)

- Which of the following is a function of the DBMS? CO1- U
(a) Storing data (b) Retrieving data (c) Data Integrity (d) All the above
- _____ 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
- _____ normal form is based on the Multi valued dependency CO2- App
(a) 1NF B) 2NF C) 3NF D) 4NF
- Which one of these is a desirable property of a decomposition? CO1- U
(a) Partition constraint (b) Dependency preservation
(c) Redundancy (d) Security
- _____ Operator is used for appending two strings. CO2- App
(a) & (b) % (c) || (d) _
- Which of the following is used to declare a record? CO1- U
(a) (b) %TYPE (c) Both A & B (d) None of the above
%ROWTYPE
- 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. NoSQL databases is used mainly for handling large volumes of _____ data. CO2- App
- (a) unstructured (b) structured (c) semi-structured (d) all of the mentioned

PART – B (5 x 2= 10 Marks)

11. What is the purpose of database management systems? CO1- U
12. Define normalization CO1- U
13. Enlist the characteristics of PL/SQL? CO1- U
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) Draw a neat sketch of database system architecture and list out its various functions CO1- U (16)
- Or
- (b) Explain in detail about ER diagram and the various components of ER diagram and the representation of mapping cardinality 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) What do you mean by Normalization? Compare and contrast 1NF, 2NF, 3NF with a suitable example CO2- App (16)
18. (a) Explain the concept of Database Trigger with an example in PL/SQL. CO1- U (16)

Or

- (b) Define procedure in PL/SQL. How do you pass parameters in procedure? give the syntax for creating procedure with example CO2- App (16)
19. (a) Explain in detail about view serializability and consider the following schedules for checking these are view serializable or not CO3- Ana (16)

T1	T2	T3
		W(C)
	R(A)	
	W(B)	
R(C)		
		W(B)
W(B)		

Or

- (b) What is Concurrency control? How it is implemented in DBMS? Illustrate with suitable examples CO2- App (16)
20. (a) Illustrate NoSQL graph types and structure CO2- App (16)
- Or
- (b) Discuss in detail about document based NoSQL systems and MongoDB CO1- U (16)

