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Paper ID: MD006 **Course Code:** CCMAD-06T

Examination (January - 2024)
Certificate/ Diploma (Semester-II)
Programme in Mobile Application Development

Introduction to Database

Time Allowed: 2 Hours **Max. Marks: 70**

Instructions for the Students

1. The question paper shall consist of 70 Multiple Choice questions.
2. All questions are compulsory. Each question carries 1 mark.
3. There will be no negative marking.

Q1. What is a database? a) A collection of files b) A collection of tables c) A collection of records d) A collection of programs	Q2. Which normal form allows only atomic values in each column? a) First Normal Form (1NF) b) Second Normal Form (2NF) c) Third Normal Form (3NF) d) Boyce-Codd Normal Form (BCNF)
Q3. What does the Entity-Relationship Model represent? a) Tables in a database b) Relationships between tables c) Entities, attributes, and relationships d) Data redundancy	Q4. Which of the following is a property of a transaction that ensures that once a transaction is committed, its changes are permanent? a) Atomicity b) Consistency c) Isolation d) Durability
Q5. What does the term "Concurrency" refer to in the context of Database Concurrency? a) Ensuring transactions occur in a specific order b) Preventing data redundancy c) Managing multiple transactions executing at the same time d) Maintaining data isolation	Q6. What is the purpose of data abstraction in a database? a) To simplify complex queries b) To hide the complexity of data storage structures c) To reduce the size of the database d) To speed up data retrieval
Q7. What is the primary purpose of Time Stamping in Database Recovery Techniques? a) To create a consistent snapshot of the database b) To maintain a log of transactions c) To ensure serializability of transactions d) To record the time of each transaction for rollback purposes	Q8. In Database Recovery Techniques, what does the term "Rollback" mean? a) Restoring the database to a consistent state after a failure b) Reverting a transaction's changes if it cannot be completed c) Maintaining a log of transactions for recovery purposes d) Recording the time of each transaction for rollback purposes

Q9. What does the term "Immediate Update" refer to in the context of Database Recovery Techniques? a) Updating the database as soon as a transaction is initiated b) Updating the database only after the transaction is committed c) Updating the database immediately after a failure occurs d) Updating the database periodically at fixed intervals	Q10. DCL commands used for in SQL stands for__? a) Data Creation Language b) Data Control Language c) Data Comparison Language d) Data Classification Language
Q11. What are integrity rules in a database? a) Rules that maintain data consistency and accuracy b) Rules that define primary keys c) Rules that control access permissions d) Rules that define relationships	Q12. What is the primary function of a database? a) Data storage b) Data retrieval c) Data processing d) All of the above
Q13. What is relational design? a) Designing relationships between entities b) Designing tables and their relationships c) Designing primary keys d) Designing business rules	Q14. Which of the following is a property of a transaction that guarantees that the transaction will be completed in its entirety or not at all? a) Atomicity b) Consistency c) Isolation d) Durability
Q15. What is the primary goal of Deferred Update in Database Recovery? a) Immediate restoration of the database b) Maintaining a log of transactions c) Achieving serializability of transactions d) Delaying updates until the transaction is committed	Q16. What is the purpose of business rules in the context of databases? a) To define primary keys b) To enforce data integrity c) To specify relationships between tables d) To capture and enforce policies governing data
Q17. In the context of DBMS, what is a database instance? a) A snapshot of the database at a specific point in time b) A copy of the database schema c) A set of database users d) A database administrator	Q18. In the context of normalization, what is an atomic attribute? a) An attribute with a numeric value b) An attribute that cannot be divided further c) An attribute with a text value d) An attribute that is not needed
Q19. Which of the following is an example of a Real-time Transaction Processing System? a) Monthly payroll processing b) Online airline reservation system c) End-of-day inventory update d) Annual financial reporting	Q20. What is data redundancy? a) Unnecessary duplication of data b) Data inconsistency c) Data anomalies d) Data integrity
Q21. What does SQL stand for? a) Structured Language b) Sequential Query Language c) Structured Query Language d) Systematic Query Language	Q22. What is the purpose of the WHERE clause in a SQL query? a) To filter rows based on specified conditions b) To order the result set c) To group rows based on common values d) To perform mathematical operations

Q23. What is a database architecture level that deals with the user's view of the data? a) Physical level b) Logical level c) External level d) Conceptual level	Q24. What is the purpose of a data dictionary in a database system? a) To store user data b) To store system programs c) To store metadata about the database d) To store database instances
Q25. What does ACID stand for in the context of Transaction ACID Properties? a) Atomicity, Consistency, Isolation, Durability b) Authorization, Concurrency, Integration, Database c) Access, Control, Integrity, Distributed d) Accuracy, Cohesion, Isolation, Dependency	Q26. What does the term "data independence" refer to in the context of databases? a) The ability to hide data from users b) The ability to modify data without affecting applications c) The ability to encrypt data d) The ability to delete data
Q27. What is the goal of Database Recovery Techniques? a) To prevent data redundancy b) To ensure serializability of transactions c) To maintain data consistency d) To restore the database to a consistent state after a failure	Q28. Which of the following methods is used in Database Recovery to maintain a log of transactions for rollback purposes? a) Deferred Update b) Immediate Update c) Shadow Paging d) Time Stamping
Q29. Which command is used to add a new row to a table? a) ALTER b) UPDATE c) INSERT d) ADD	Q30. What does the term "Serializability" refer to in the context of databases? a) Ensuring data consistency b) Preventing data redundancy c) Ensuring transactions occur in a specific order d) Maintaining data isolation
Q31. In the context of Database Concurrency, what does the term "Recoverability" mean? a) Ability to restore the database after a failure b) Ability to maintain data consistency c) Ability to prevent data redundancy d) Ability to enforce data isolation	Q32. What is the role of a Database Analyst? a) Data Storage b) Database Design c) Database Management d) Data Retrieval
Q33. What is a data model? a) A type of database b) A representation of data and relationships c) A data analysis tool d) A programming language	Q34. Which normal form is achieved by removing transitive and partial dependencies? a) First Normal Form (1NF) b) Second Normal Form (2NF) c) Third Normal Form (3NF) d) Boyce-Codd Normal Form (BCNF)
Q35. Who is responsible for managing a database? a) Database Administrator b) System Analyst c) Programmer d) End User	Q36. What is the primary concern in Database Protection related to security issues? a) Data Redundancy b) Data Consistency c) Data Confidentiality d) Data Normalization
Q37. Which normal form allows partial dependency on the primary key?	Q38. In normalization, what is the purpose of the decomposition process?

a) First Normal Form (1NF) b) Second Normal Form (2NF) c) Third Normal Form (3NF) d) Boyce-Codd Normal Form (BCNF)	a) Combine multiple tables into one b) Split a table into smaller tables c) Add redundancy to improve performance d) Merge attributes within a table
Q39. Which of the following is an example of a security issue in database protection? a) Data Normalization b) Data Redundancy c) Unauthorized Access d) Data Consistency	Q40. What is the primary purpose of Shadow Paging in Database Recovery? a) To maintain a log of transactions b) To ensure serializability of transactions c) To achieve deferred updates d) To create a consistent snapshot of the database
Q41. Which term is used to describe the problems that arise in databases when multiple transactions are executed concurrently? a) Concurrency Control b) Database Locking c) Transaction ACID Properties d) Data Redundancy	Q42. What is the primary purpose of a database administrator? a) Data entry b) Database design c) Database management and maintenance d) Data retrieval
Q43. What are the fundamental concepts in the Relational Model? a) Tables, Fields, and Records b) Entities, Attributes, and Relationships c) Objects, Classes, and Inheritance d) Files, Directories, and Paths	Q44. What is the purpose of the Two-Phase Locking method in concurrency control? a) To ensure serializability of transactions b) To prevent data redundancy c) To enforce data consistency d) To improve data normalization
Q45. What does it mean for a relation to be in Boyce-Codd Normal Form (BCNF)? a) It is free from all anomalies b) It is in the highest normal form c) It is normalized up to the third normal form d) It is optimized for query performance	Q46. Which normal form is concerned with eliminating transitive dependencies? a) First Normal Form (1NF) b) Second Normal Form (2NF) c) Third Normal Form (3NF) d) Boyce-Codd Normal Form (BCNF)
Q47. What is a schema in a database? a) A subset of a database b) A collection of views c) A description of the data in the database d) A type of database table	Q48. How can data anomalies be avoided? a) Normalization b) Denormalization c) Redundancy d) Anomalies cannot be avoided
Q49. What type of SQL statement is used to retrieve data from a table? a) UPDATE b) DELETE c) SELECT d) INSERT	Q50. What is the role of the GROUP BY clause in SQL? a) To filter rows b) To order rows c) To group rows based on common values d) To perform aggregate functions
Q51. Which of the following is a key feature of the Entity-Relationship Model? a) Tables b) Fields c) Entities	Q52. What term is used to describe the process of converting a logical data model into a physical data model? a) Data abstraction b) Data independence

d) Records	c) Data normalization d) Data mapping
Q53. Which operator is used for combining multiple conditions in a WHERE clause? a) AND b) OR c) NOT d) XOR	Q54. Which SQL clause is used to sort the result set? a) ORDER BY b) SORT BY c) GROUP BY d) ARRANGE BY
Q55. In the context of DBMS, what is meant by "data redundancy"? a) The presence of duplicate data in the database b) The absence of duplicate data in the database c) The process of removing data from the database d) The process of adding data to the database	Q56. What is the purpose of the INNER JOIN in SQL? a) Retrieves all rows when there is a match in both tables b) Retrieves all rows from the left table and the matched rows from the right table c) Retrieves all rows when there is no match in both tables d) Retrieves all rows from the right table and the matched rows from the left table
Q57. Which of the following is a rule of functional dependency? a) Transitive Rule b) Associative Rule c) Commutative Rule d) Distributive Rule	Q58. What is the term for the ability of a database to modify its schema without causing applications to be rewritten? a) Data Abstraction b) Data Independence c) Data Redundancy d) Data Consistency
Q59. Which command is used to remove a table from the database? a) REMOVE b) DELETE c) DROP d) ERASE	Q60. What is the primary focus of the Relational Data Model? a) Entities and Relationships b) Tables and Relationships c) Fields and Records d) Entities and Attributes
Q61. Which term refers to a representation of the organization's data and the relationships between them? a) Data Structure b) Data Hierarchy c) Data Model d) Data Format	Q62. What is the primary role of a cursor in SQL? a) To perform mathematical operations b) To retrieve and manipulate data row by row c) To group rows based on common values d) To sort the result set
Q63. In SQL, what does DML stand for? a) Data Manipulation Language b) Data Modeling Language c) Data Migration Language d) Data Maintenance Language	Q64. Before the advent of databases, what was commonly used for data storage? a) Cloud storage b) File systems c) Magnetic tapes d) CDs
Q65. What is a foreign key in a relational database? a) A key from another database	Q66. What is the primary purpose of normalization in database design?

b) A key that is not unique c) A key that references the primary key in another table d) A key used for indexing	a) Enhance database security b) Minimize redundancy and dependency c) Maximize data storage d) Speed up query performance
Q67. What does the SELECT statement do in SQL? a) Adds a new row to a table b) Retrieves data from a table c) Deletes rows from a table d) Updates rows in a table	Q68. What is a primary key in a relational database? a) A key used for authentication b) A key that uniquely identifies a record in a table c) A key that allows null values d) A key used for encryption
Q69. What is the purpose of the Data Abstraction Layer? a) To hide the complexity of the physical data storage b) To hide the complexity of the user interfaces c) To hide the complexity of data processing d) To hide the complexity of data retrieval	Q70. What are data anomalies? a) Unnecessary duplication of data b) Inconsistencies and errors in data c) Redundancy in data d) Integrity constraints