

SUBJECT : **BCA**
Paper Name : **Database Management System**
Paper No : **402**
Semester : **4th SEMESTER**

A. Multiple choice questions: (75 Questions)

1. Architecture of the database can be viewed as
 - (a) one level
 - (b) two levels
 - (c) three levels
 - (d) four levels

2. A logical schema
 - (a) is the entire database
 - (b) is a standard way of organising information into accessible parts.
 - (c) describe how data is actually stored on disk
 - (d) both A and C

3. The database environment has all of the following components except.
 - (a) database
 - (b) users
 - (c) seperate files
 - (d) database administrator

4. Conceptual design is
 - (a) documentation technique
 - (b) needs data volume and processing frequencies to determine the size of the database
 - (c) involves modellling independent of the DBMS
 - (d) designing the relational model

5. A subschema expresses
 - (a) the external view
 - (b) the logical view
 - (c) the physical view
 - (d) All of the above

6. Data independence means
 - (a) data is defined seperately and not included in programs
 - (b) programs are not dependent on the physical attributes of data
 - (c) programs are not dependent on the logical attributes of data
 - (d) Both B & C

7. Which database level is closest to the users?
 - (a) Internal
 - (b) Conceptual
 - (c) External
 - (d) Physical

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8. SET concept is used in
 - (a) Network model
 - (b) Hierarchichal model
 - (c) Relational model
 - (d) Object Oriented model

9. What are binary computer representations of stored logical entities?
 - (a) Data
 - (b) Relationships
 - (c) Constraints
 - (d) Schema

10. What defines how and where data are organized in physical data storage?
 - (a) Internal schema
 - (b) External schema
 - (c) Conceptual schema
 - (d) Physical schema

11. Database level is the one closest to the users?
 - (a) Internal
 - (b) Physical
 - (c) External
 - (d) Conceptual

12. Which of the following constraint limits the values an attribute can take?
 - (a) Type
 - (b) Range
 - (c) Relationship
 - (d) Temporal

13. An entity set that does not have sufficient attributes to form a primary key is a
 - (a) simple entity set
 - (b) composite entity set
 - (c) strong entity set
 - (d) weak entity set

14. In an ER Diagram, attributes are represented by
 - (a) rectangle
 - (b) square
 - (c) triangle
 - (d) ellipse

15. ER model uses this symbol to represent weak entity set?
 - (a) rectangle
 - (b) dotted rectangle
 - (c) double outlined rectangle
 - (d) diamond

16. Which of the following are the the properties of entities?
 - (a) Groups
 - (b) Tables
 - (c) View
 - (d) Attributes

17. What is a relationship called when it is maintained between two entities?
 - (a) Unary
 - (b) Binary
 - (c) Ternary
 - (d) Quaternary

18. The RDBMS terminology for a row is
 - (a) tuple
 - (b) relation
 - (c) attribute
 - (d) degree

19. In ER Diagram relationship type is represented by
 - (a) ellipse
 - (b) rectangle
 - (c) diamond
 - (d) oval

20. Which of the following clause is usually used together with aggregate functions?
 - (a) ORDER BY ASC
 - (b) ORDER BY DESC
 - (c) GROUP BY
 - (d) HAVING

21. Who proposed the relational model?
 - (a) Codd
 - (b) Charles Babbage
 - (c) Date
 - (d) Chen

22. The primary key must be
 - (a) NOT NULL
 - (b) UNIQUE
 - (c) Option A or B
 - (d) Option A and B

23. The attribute that can be divided into other attributes is called
 - (a) Simple attribute
 - (b) Composite attribute
 - (c) single valued attribute
 - (d) multi valued attribute

24. A relationship between the instances of a single entity type is called a _____ relationship.
- (a) unary
 - (b) binary
 - (c) ternary
 - (d) auxiliary
25. What are the components of an ER model?
- (a) Entities
 - (b) Attributes
 - (c) Relationships
 - (d) All of the above
26. An attributes that holds multiple values for a single entity
- (a) simple
 - (b) composite
 - (c) derived
 - (d) multi valued
27. The subclass are also connectes to the circle by _____
- (a) single line
 - (b) double lines
 - (c) dotted lines
 - (d) double dotted lines
28. Which of the follwoing is a top down process?
- (a) Specialization
 - (b) Generalization
 - (c) Categorization
 - (d) All of the above
29. Expresses the specific number of entity occurrence associated with one occurrence of the related entity.
- (a) connectivity
 - (b) degree
 - (c) cardinality
 - (d) degree
30. A visual representation of the conceptual model is called a _____
- (a) Physical
 - (b) Logical
 - (c) Conceptual
 - (d) Internal
31. Cartesian Product in relational algebra is
- (a) Unary operator
 - (b) Binary operator
 - (c) Ternary operator

(d) Quaternary operator

32. In case of entity integrity, the primary key may be
- (a) null
 - (b) not null
 - (c) both null & not null
 - (d) any value
33. Which one of the following statement is false?
- (a) The data dictionary contains the name and description of each data element
 - (b) The data dictionary is a tool used exclusively by the database administrator
 - (c) The data dictionary is normally maintained by the database administrator
 - (d) Data elements in the database can be modified by changing the data dictionary
34. Relational algebra is
- (a) Data Definition Language
 - (b) Data Control Language
 - (c) Meta Language
 - (d) Procedural Query Language
35. Key to represent relational between tables is called
- (a) primary key
 - (b) candidate key
 - (c) composite key
 - (d) foreign key
36. A file manipulation command that extracts some of the records from a file is called
- (a) SELECT
 - (b) PROJECT
 - (c) PRODUCT
 - (d) JOIN
37. Consider the join of a relation R with relation S. If R has m tuples and has n tuples, then the maximum size of join is:
- (a) mn
 - (b) m + n
 - (c) $(m + n)/2$
 - (d) $2(m+n)$
38. A relation is a
- (a) subset of a cartesian product of a list of attributes
 - (b) subset of a cartesian product of a list of tuple
 - (c) subset of a cartesian product of a list of domains
 - (d) subset of a cartesian product of a list of relations
39. Which of the following is not modification of the database?
- (a) deletion

- (b) insertion
 - (c) sorting
 - (d) updating
40. Which of the following is Relational algebra operation
- (a) select
 - (b) union
 - (c) rename
 - (d) All of the above
41. Which of the following is not binary operation?
- (a) UNION
 - (b) PROJECT
 - (c) SET DIFFERENCE
 - (d) CARTESIAN PRODUCT
42. If every non key attribute is functionally dependent on the primary key, the relation will be in
- (a) First Normal Form
 - (b) Second Normal Form
 - (c) Third Normal Form
 - (d) Fourth Normal Form
43. Which of the following is correct?
- (a) Function dependencies are not associated with relations; they are based on the semantics of information that we are dealing with
 - (b) If a relation has no redundant information its attributes must not have any function dependencies
 - (c) functional dependencies may be determined if we are given several instances of a relation
 - (d) functional dependencies that hold for attributes of a relation need not be satisfied at all times
44. A functional dependency between two or more non key attributes is called
- (a) partial functional dependency
 - (b) transitive dependency
 - (c) full functional dependency
 - (d) key dependency
45. Which of the following concept is applicable with respect to 2NF?
- (a) Full functional dependency
 - (b) Partial dependency
 - (c) Transitive dependency
 - (d) Non transitive dependency
46. Symbol used to denote the RENAME operation?
- (a) Sigma
 - (b) Rho
 - (c) Pi
 - (d) None of the above

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47. What will be the number of rows of CARTESIAN PRODUCT if the participating relations have 5 and 20 rows respectively?
- (a) 5
 - (b) 20
 - (c) 25
 - (d) 100
48. Which of the following is a logical operator?
- (a) AND
 - (b) OR
 - (c) NOT
 - (d) All of the above
49. The most common relationship in the relational database model.
- (a) one to one relationship
 - (b) one to many relationship
 - (c) many to many relationship
 - (d) All of the above
50. 'AS' clause is used in SQL for rename operation.
- (a) Selection operation
 - (b) Projection operation
 - (c) Rename operation
 - (d) Join operation
51. The language which has recently become the defacto standard for interfacing application programs with relational database system is
- (a) Oracle
 - (b) SQL
 - (c) DBase
 - (d) 4GL
52. The DBMS language component which can be embedded in a program is
- (a) Data Definition Language (DDL)
 - (b) Data Manipulation Language (DML)
 - (c) Data Control Language (DCL)
 - (d) Data Query Language (DQL)
53. Count function in SQL returns the number of
- (a) columns
 - (b) groups
 - (c) distinct values
 - (d) values
54. A DBMS query language is designated to
- (a) specify the structure of a database
 - (b) support end users who use English like commands
 - (c) support in the development of complex applications software

- (d) All of the above
55. The statement in SQL which allows to change the definition of a table is
- (a) ALTER
 - (b) CREATE
 - (c) SELECT
 - (d) UPDATE
56. Which of the following is correct?
- (a) SQL query automatically eliminates duplicates
 - (b) SQL permits attributes names to be repeated in the same relation
 - (c) SQL query will not work if there are no indexes on the relations
 - (d) None of the above
57. Which of the following is a legal expression in SQL?
- (a) SELECT NULL FROM EMPLOYEE;
 - (b) SELECT NAME FROM EMPLOYEE;
 - (c) SELECT NAME FROM EMPLOYEE WHERE SALARY = NULL;
 - (d) SELECT NAME FROM EMPLOYEE WHERE SALARY = 20000;
58. The full form of DDL is:
- (a) Dynamic Data Language
 - (b) Data Detailed Language
 - (c) Data Derivation Language
 - (d) Data Definition Language
59. Which one is NOT comparison operator in SQL?
- (a) LIKE
 - (b) BETWEEN
 - (c) =
 - (d) +
60. To delete a particular column in a relation the command used is:
- (a) UPDATE
 - (b) ALTER
 - (c) DELETE
 - (d) DROP
61. A table joined with itself is called
- (a) JOIN
 - (b) SELF JOIN
 - (c) OUTER JOIN
 - (d) EQUI JOIN
62. Data Manipulation Language enables users to
- (a) Retrieval of information stored in database
 - (b) Insertion of new information into the database
 - (c) Deletion of information from the database

- (d) All of the above
63. Which of the following is not an aggregate function?
- (a) MIN
 - (b) MAX
 - (c) SELECT
 - (d) AVG
64. What does the following SQL statement do? `SELECT * FROM CUSTOMER WHERE CUST_TYPE = "BEST";`
- (a) selects all the fields from the customer table for each row with a customer labeled "best"
 - (b) selects the "*" field from the customer table for each row with a customer labeled "*"
 - (c) select fields with a "*" in them from the customer table
 - (d) counts all records and displays the value
65. Which of the following is not Data Definition Language?
- (a) CREATE
 - (b) ALTER
 - (c) DROP
 - (d) SELECT
66. The method in which records are physically stored in a specified order according to a key field in each record is
- (a) direct
 - (b) sequential
 - (c) hash
 - (d) All of the above
67. Transaction processing is associated with everything below except
- (a) maintaining data
 - (b) recording a business activity
 - (c) producing detail, summary or exception reports
 - (d) confirming an action or triggering a response
68. Acid properties of Transaction
- (a) Atomicity, Consistency, Isolation, Durability
 - (b) Atomicity, Consistency, Isolation, Database
 - (c) Atomicity, Consistency, Inconsistency, Durability
 - (d) Atomicity, Concurrency, Isolation, Durability
69. Permission to access a named object in a prescribed manner.
- (a) Permission
 - (b) Role
 - (c) Privilege
 - (d) All of the above
70. Database user is responsible for the performace of the database.
- (a) DBA

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- (b) Security officer
- (c) Network administrator
- (d) System analyst

71. Function of the Database Administrator

- (a) Installing and upgrading the DBMS and application tools
- (b) Enrolling users and maintaining system security
- (c) Contacting DBMS vendor for technical support
- (d) All of the above

72. Failure is caused by hardware failure

- (a) Physical
- (b) Design
- (c) Operations
- (d) Design

73. Volatile storage media

- (a) Main memory
- (b) MAgnetic disk
- (c) Magnetic tape
- (d) Optical disk

74. Which of the following is not a recovery technique?

- (a) Deffered update
- (b) Imediate update
- (c) Shadow pagging
- (d) Write ahead logging

75. Recovery technique that does not need logs?

- (a) Deffered update
- (b) Immediate update
- (c) Shadow paging
- (d) Intermediate paging

B. Fill in the blanks: (25 questions)

1. _____ is a collection of information organised in such a way that a computer program can quickly select desired pieces of data.
2. _____ is a system database that contains descriptions of the data in the database.
3. The ER model is represented using an _____.
4. _____ is the process of producing a description of the implementation of the database on secondary storage.
5. _____ model represents an entity as a class.
6. A _____ is one that holds the a single value for a single entity.
7. In an ER diagram, the _____ are underlined.
8. _____ entities are also referred to as parent, owner or dominant entities.
9. The ER model that is supported with the additional semantic concepts is called the _____

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10. _____ is the process of minimizing the differences between the entities by identifying the common features.
11. Each pair of primary and foreign key columns is a _____ relationship.
12. _____ is the process of increasing redundancy in the database either for convenience or to improve performance.
13. A _____ operation on a relation produces another relation.
14. The result of the _____ operation between relations C and O is the relation that contains all tuples in C but not in O.
15. An entity type whose existence depends on another entity type is called a _____ entity.
16. The _____ operator is used to compare a value to a list of literals values that have been specified.
17. _____ is the standard command set used to communicate with the relational database management systems.
18. A _____ in a relational systems consists of a row of column heading, together with zero or more rows of data values.
19. _____ eliminates the duplicates from the result set.
20. _____ is used to find the sum of the values in a column.
21. _____ are named groups of related privileges that you grant to users or other roles.
22. _____ ensures that data in the database is correct and consistent.
23. A _____ is a unique identifier of each of the table.
24. _____ refers to the various strategies and procedures involved in protecting the database against data loss and reconstructing the data should that loss occur.
25. _____ are copies of physical databse files.

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A. Multiple choice ANSWER KEY:

1. C
2. A
3. B
4. C
5. A
6. D
7. C
8. A
9. A
10. A
11. C
12. B
13. D
14. D
15. C
16. D
17. B
18. A
19. C
20. C
21. A
22. D
23. B
24. A
25. D
26. D
27. A
28. A
29. C
30. C
31. B
32. A
33. D
34. D
35. D
36. A
37. A
38. C
39. C
40. D
41. B
42. C
43. A
44. B
45. A
46. B
47. D

- 48. D
- 49. A
- 50. C
- 51. B
- 52. B
- 53. D
- 54. D
- 55. A
- 56. D
- 57. D
- 58. D
- 59. D
- 60. B
- 61. B
- 62. D
- 63. C
- 64. A
- 65. D
- 66. C
- 67. D
- 68. A
- 69. C
- 70. A
- 71. D
- 72. A
- 73. A
- 74. D
- 75. C

B. Fill in the blanks:

- 1. Database
- 2. Data catalog
- 3. ER diagram
- 4. Physical database design
- 5. Object oriented
- 6. Single valued attribute
- 7. Primary key
- 8. Strong
- 9. Enhanced ER model
- 10. Generalization
- 11. One to Many relationship
- 12. Denormalization
- 13. SELECT
- 14. DIFFERENCE
- 15. Weak entity
- 16. BETWEEN
- 17. SQL
- 18. Table

19. DISTINCT
20. SUM ()
21. ROLES
22. Database integrity
23. Candidate key
24. Backup and recovery
25. Physical backups