

Seat No. : _____

AL-104

April-2025

B.C.A., Sem.-IV (As Per NEP-2020)

DSC-C-BCA-242T : Database Management Concepts

Time : 2:00 Hours]

[Max. Marks : 50

1. Write the following :
 - (A) Explain foreign key constraint with example. 5
 - (B) List and explain different SQL data types with examples. 5

OR

 - (A) Explain logical & arithmetic operator in detail. 5
 - (B) Write difference between DML and DCL. 5

2. Write the following :
 - (A) List the various types of sub query. Explain any two in detail. 5
 - (B) What are aggregate functions ? Write SQL queries using SUM(), AVG(), COUNT(). 5

OR

 - (A) Explain Set Operators in detail. 5
 - (B) Explain sequence in detail. 5

3. Write the following :
 - (A) Explain difference between consistent and inconsistent state of transaction. 5
 - (B) What is a Transaction ? Explain ACID properties. 5

OR

 - (A) What is concurrency control ? Explain locking methods. 5
 - (B) Explain Database Recovery Management. 5

4. Write the following :
 - (A) Explain levels of Data and process distribution. 5
 - (B) Explain distributed processing and distributed database. 5

OR

 - (A) Explain distributed database transparency features. 5
 - (B) Explain transaction transparency. 5

5. Choose the correct option from the following (Any Ten) :

10

- (1) A _____ is a unique value that identifies a row.
- (2) Which SQL command is used to add a new column to an existing table ?
 - (a) ADD COLUMN
 - (b) UPDATE COLUMN
 - (c) MODIFY COLUMN
 - (d) ALTER TABLE
- (3) What will the WHERE salary BETWEEN 5000 AND 10000 condition do ?
 - (a) Select salary equal to 5000 or 10000
 - (b) Select salaries lower than 5000
 - (c) Select salaries between 5000 and 10000 (inclusive)
 - (d) Throw an error
- (4) Which operator is used to check if a value exists within a list ?
 - (a) =
 - (b) IN
 - (c) LIKE
 - (d) ALL
- (5) A sequence in SQL is used to :
 - (a) Join tables
 - (b) Create indexes
 - (c) Generate numeric values automatically
 - (d) Define primary key
- (6) Which join returns all possible combinations of rows from two tables ?
 - (a) INNER JOIN
 - (b) OUTER JOIN
 - (c) NATURAL JOIN
 - (d) CROSS JOIN
- (7) Which function returns the current system date and time ?
 - (a) GETDATE()
 - (b) SYSDATE()
 - (c) CURRENT_TIME()
 - (d) TODAY()
- (8) Which command is used to permanently save a transaction ?
 - (a) ROLLBACK
 - (b) COMMIT
 - (c) SAVE
 - (d) CLOSE
- (9) Which type of processing occurs in multiple locations but uses a single-site data source ?
 - (a) SPSD
 - (b) MPSD
 - (c) MPPD
 - (d) SSDP
- (10) What protocol ensures that a transaction either commits completely at all sites or is rolled back at all sites ?
 - (a) Locking protocol
 - (b) Two-Phase commit
 - (c) Savepoint mechanism
 - (d) Snapshot isolation
- (11) Which of the following data types can store alphanumeric characters ?
 - (a) INT
 - (b) CHAR
 - (c) DATE
 - (d) FLOAT
- (12) Write down the full form of DDBMS ?