



16841



## BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – BCA-Hons-2024

Course Name – Database Management System

Course Code - BCA27103 (T)

( Semester II )

Library  
Brainware University  
398, Ramkrishnapur Road, Barasat  
Kolkata, West Bengal-700125

Full Marks : 40

Time : 2:0 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

### Group-A

(Multiple Choice Type Question)

1 x 10=10

1. Choose the correct alternative from the following :

- (i) The \_\_\_\_\_ indicates an absent value that may exist but be unknown or that may not exist at all.
  - a) Empty tuple
  - b) New value
  - c) Null value
  - d) Old value
- (ii) The information about data in a database is called:
  - a) meta data
  - b) tera data
  - c) hyper data
  - d) None of these
- (iii) Which of the following is capable of executing a trigger in PL/SQL?
  - a) Oracle server
  - b) User
  - c) Both user and oracle server
  - d) Neither user nor oracle server
- (iv) Using the \_\_\_\_\_ clause retains only one copy of such identical tuples.
  - a) Null
  - b) Not null
  - c) Unique
  - d) Distinct
- (v) What does the COUNT(\*) function return?
  - a) The total number of non-null values in a column.
  - b) The total number of distinct values in a column.
  - c) The total number of rows in a table, including duplicates and nulls.
  - d) The total sum of numeric values in a column.
- (vi) Identify the term used for the overall description of a database.
  - a) Instance.
  - b) Schema.
  - c) Snapshot.
  - d) Table.

- (vii) The SQL commands CREATE, ALTER, and DROP are classified as:
- a) DDL.
  - b) DML.
  - c) DCL.
  - d) TCL.
- (viii) Select the function that is not considered an aggregate function among the given options.
- a) Count.
  - b) Max
  - c) Min.
  - d) Select.
- (ix) Classify the term that describes the number of tuples in a relation.
- a) Cardinality.
  - b) Degree.
  - c) Modality.
  - d) Schema.
- (x) Identify the type of data model that is an extension of the ER Model.
- a) Relational Data Model.
  - b) Object-based Data Model.
  - c) Structured Data Model.
  - d) Semi-structured Data Model.

### Group-B

(Short Answer Type Questions)

3 x 5=15

2. Explain with an example, how a nested query is used to retrieve data from multiple related tables. (3)
3. Construct a SQL query to find the names of employees who work in the 'Sales' department using a join operation. Given the following relational schema: Employee (EmpID, Name, DeptID), Department (DeptID, DeptName). (3)
4. Explain the role of DBA. (3)
5. Develop an SQL function to calculate the total number of employees in a given department. (3)
6. Consider a relation R (ABCD) with FD = {AC → D, BC → D, A → B, B → A}. Is the relation in 3NF? Give reason. (3)

OR

"Every relation in BCNF is also in 3 NF; but a relation in 3 NF is not necessarily in BCNF" Explain. (3)

### Group-C

(Long Answer Type Questions)

5 x 3=15

7. Explain the purpose of the CREATE, ALTER, DROP, and TRUNCATE commands with syntax and examples. (5)
8. What are the advantages and disadvantages of the hierarchical data model? (5)
9. Explain different types of integrity constraints. (5)

OR

Differentiate between Data Definition Language (DDL) and Data Manipulation Language (DML) with examples. (5)

\*\*\*\*\*

Library  
Brainware University  
398, Ramkrishnapur Road, Barasat  
Kolkata, West Bengal-700125