

**2022/TDC (CBCS)/EVEN/SEM/
BVOCGE-402T/371**

TDC (CBCS) Even Semester Exam., 2022

B.VOC (Information Technology)

(4th Semester)

Course No. : BVOCGE-402T

(DBMS)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

*The figures in the margin indicate full marks
for the questions.*

Answer any five questions

1. What is DBMS? Explain the characteristics of DBMS. 2+12=14
2. What do you mean by RDBMS? Explain the following terminologies with examples : 2+12=14
 - (a) Table
 - (b) Record or Tuple
 - (c) Field or Attribute
 - (d) Domain
 - (e) Primary key
 - (f) Fundamental integrity constraints

(2)

3. Write short notes on the following relational algebra operations : $2 \times 7 = 14$

- (a) SELECT
- (b) PROJECT
- (c) RENAME
- (d) UNION
- (e) INTERSECTION
- (f) EQUI JOIN
- (g) THETA JOIN

4. What is Relational Calculus? Explain different forms of relational calculus. $2 + 12 = 14$

5. Explain the main phases of database design with diagram. 14

6. What is ER diagram? Explain three main components of ER diagram. $2 + 12 = 14$

7. What is Normalization? Define 1NF, 2NF, 3NF and BCNF with examples. $2 + 12 = 14$

8. What is functional dependency? How many types of functional dependency are there? Explain all the types of functional dependency. $2 + 2 + 10 = 14$

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(Continued)

(3)

9. (a) What is Constraint? Explain different types of constraints. $1 + 9 = 10$

- (b) Write the commands of the following : $1 \times 4 = 4$

- (i) To modify the structure of a table
- (ii) For dropping a table
- (iii) For renaming a table
- (iv) To update a table

10. (a) Write the syntax and explain the following statements : 6

- (i) GROUP BY
- (ii) ORDER BY
- (iii) HAVING

- (b) Write the steps for joining multiple tables using SQL commands with example. 8

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