



K22U 1731

Reg. No. : .....

Name : .....

IV Semester B.Sc. Degree (CBCSS – Supplementary) Examination, April 2022  
(2016 – 18 Admissions)  
**GENERAL COURSE IN COMPUTER SCIENCE**  
**4A13CSC : Database Management System**

Time : 3 Hours

Max. Marks : 40

SECTION – A

1. **One** word answer. **(8×0.5=4)**
- a) DDL stands for
  - b) When all entities are not involved in a relationship, it is called \_\_\_\_\_ participation.
  - c) \_\_\_\_\_ keyword is used for sorting the records in an SQL query in descending order.
  - d) A \_\_\_\_\_ is a subset of the database which is derived from the database files but is not explicitly stored.
  - e) A \_\_\_\_\_ is a database object that allows the automatic generation of values, such as check numbers.
  - f) The \_\_\_\_\_ of a relationship type is the number of participating entity types.
  - g) \_\_\_\_\_ describes an entity, such as the employee's name or salary.
  - h) \_\_\_\_\_ refers to the number of tuples of a relation.

SECTION – B

Write short notes on **any seven** of the following questions. **(7×2=14)**

- 2. Mention the aggregate functions in SQL and its purpose.
- 3. What is a composite attribute ? Give an example.

P.T.O.



4. What do you mean by an end user ? List various types of end users.
5. How does domain relational calculus differ from tuple relational calculus ?
6. What is a derived attribute ? Give an example.
7. What is a super key ?
8. What is a strong entity ?
9. Write down various DDL commands.
10. What is a physical database schema ?
11. What is the purpose of DELETE ? Give an example for DELETE statement in SQL.

#### SECTION – C

Answer **any four** of the following questions.

(4×3=12)

12. What are the responsibilities of DBA ?
13. Explain nested queries in SQL with syntax and example.
14. Explain functional dependency with an example.
15. Explain ALTER TABLE command for adding a column, modifying a column and dropping a column.
16. What is the purpose of GRANT ? Give an example to illustrate the granting of privileges.
17. Explain insertion anomaly with an example.



SECTION – D

Write an essay on **any two** of the following questions.

(2×5=10)

18. Explain in detail, the relational algebra operations with examples.
19. Explain 1NF, 2NF and 3NF in detail.
20. Explain the concept of primary key and foreign key with examples.
21. Consider the following schema and write down the SQL for the following. Assume the table is created with necessary constraints and values inserted.

Sailors(sid:integer,sname:string,rating:integer,age:integer)

Boats(bid:integer,bname:string,color:string)

Reserves(sid:integer,bid:integer,day:date)

- a) Find the names of sailors who have reserved boat 103.
  - b) Find the color of the boat reserved by Lubber.
  - c) Find the names of sailors who have reserved a red boat or a green boat.
  - d) Count the number of sailors.
  - e) For each red boat, find the number of reservations for this boat.
-