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24270-C

B.C.A. (Fourth Semester)

Examination, 2024

Paper : Second

(BCA-402)

(Data Base Management System)

Time : Three Hours / [Maximum Marks : 70

Note : Attempt questions from **all** sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Note : Attempt all parts of this question. Give answer of each part in about 50 words.

$1\frac{1}{2} \times 10 = 15$

1. (i) Differentiate between physical and logical data independence.
- (ii) What are the responsibilities of a D.B.A?

P.T.O.

(3)

OR

What is meant by Super Key, Candidate key and Primary key? Explain with examples.

Explain the selection and Intersection operators of relational algebra with the help of suitable examples.

OR

Draw and explain ER diagrams for a Library Management System. Appropriately assume any required information yourself.

How many types of SQL Commands are there?

OR

What is SQL data types and literals? Explain in detail.

6. Explain the following:

- (i) Data Mining
- (ii) Data Warehousing

OR

What do you mean by Functional dependencies? Explain with example.



P.T.O.

(2)

- (iii) What are the main difference between Hierarchical and Network models.
- (iv) What are the weak entity sets?
- (v) What is Generalization?
- (vi) What do you understand by Relationship?
- (vii) What is Union?
- (viii) Why do you need to normalize database?
- (ix) What is Boyce-Codd normal form?
- (x) Differentiate between Authorization and Authentication.

Section-B

(Short Answer Type Questions)

Note : Attempt **all** questions. Give answer of each question in about 200 words.

7×5=35

- 2. Explain the Architecture of DBMS, using a diagram.

OR

What is a data model schema and instances?

- 3. What is Entity Relationship Model? Explain the major constructs of ER model with examples.

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Section-C

(Long Answer Type Questions)

Note : Attempt any **two** questions. Give answer of each question in about 500 words.

10×2=20

- 7. What are the disadvantages of traditional file based system over database approach? Discuss.
- 8. What do you understand by Relational model of database system? Elaborate the major characteristics of relational database management system.
- 9. What do you understand by Data Constraints is SQL? Explain its various types with the help of examples.
- 10. Discuss various locking techniques used in the concurrency control.
- 11. Write short notes on any **two** of the following:
 - (i) DML
 - (ii) Geographical Databases
 - (iii) Loss less join decompositions.

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