

Roll No. :

Total No. of Questions : **10**]

[Total No. of Printed Pages : **3**

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B.C.A. (Part-I) Examination, 2023

DATABASE MANAGEMENT

Paper - BCA-102

Time : 3 Hours]

[Maximum Marks : 70

Section-A

(Marks : 2 × 10 = 20)

Note :- Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

Section-B

(Marks : 4 × 5 = 20)

Note :- Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **4** marks.

Section-C

(Marks : 10 × 3 = 30)

Note :- Answer any *three* questions out of four (Answer limit **500** words). Each question carries **10** marks.

Section-A

1. (i) What is Entity and Attribute ?
- (ii) Explain natural join with example.
- (iii) What are DML Commands in SQL ?
- (iv) What is Multivalued Dependency ?
- (v) Explain Deadlock.

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- (vi) Define Data Warehouse.
- (vii) What is the difference between relation calculus and relation algebra ?
- (viii) Explain 'C' in ACID properties.
- (ix) Why foreign key constraints are important ?
- (x) Define Normalization.

Section-B

2. Draw an E-R diagram which demonstrates the following :
- (i) Entity
 - (ii) Attribute
 - (iii) Multivalued attribute
 - (iv) Composite attribute
 - (v) Derived attribute

Or

Define schema and explain three level architecture in DBMS.

3. What is Integrity Constraints ? Why are they important ?

Or

Explain different types of join Operation.

4. Explain if and case statement with an example.

Or

Explain the creating and calling procedure.

5. Write desirable properties of transaction.

Or

What is the purpose of normalization in DBMS ? Explain.

6. Explain dead lock prevention protocols.

Or

Explain the different types of failure.

Section–C

7. What is Object Oriented Database ? Write advantages and disadvantages.
8. Explain all special relational operations with an example.
9. What is log based recovery techniques ? Explain in brief.
10. Explain the following with suitable example :
 - (i) Functional dependency
 - (ii) Transitive dependency
 - (iii) Join dependency
 - (iv) Multivalued dependency
 - (v) Fully functional dependency