

Question Paper Code : 3368

BCA (Semester-IV) Examination, 2022

DATABASE MANAGEMENT SYSTEM

[Paper : BCA-404]

Time : Three Hours]

[Maximum Marks : 70

Note : Answer five questions in all. Question no. 1 is compulsory. Besides this, attempt one question from each unit.

1. Answer all of the following parts in brief : [3×10=30]

- (a) Differentiate between File Processing System and Database System.
- (b) Explain various advantages of Database System.
- (c) Differentiate between weak entity and strong entity with suitable example.
- (d) Define Attribute and types of attribute with suitable example.

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(1)

[P.T.O.]

- (e) Discuss the concept of Referential Integrity with suitable example.
- (f) What is Trigger? Why trigger is used?
- (g) Differentiate between Delete and Drop SQL statement.
- (h) Discuss tuple Relational Calculus with example.
- (i) Explain Conflict Serializability with suitable example.
- (j) Explain ACID property of transaction with example.

UNIT-I

2. Explain three-level schema architecture of Database. What do you mean by Data Independence? [10]
3. Explain various Data Models in detail. What is Database instance and schema. [10]

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UNIT-II

4. What is Key in Database? Explain Primary Key, Unique Key, Super Key, Candidate Key and Foreign Key with suitable example. [10]
5. Discuss the concept of ER Model. What are various notations used in it? Draw ER diagram for Hospital Management System.

UNIT-III

6. Write SQL queries based on following relational schema : [10]

Supplier(Sid, Sname, City)

Parts (Pid, Pname, Color)

Orders (Sid, Pid, Quantity)

- (i) Find name of supplier who belong to city Lucknow.
- (ii) Find name of parts whose color is red.

- (iii) Find name of supplier who have ordered parts in quantity more than 5000.
- (iv) Find detail of supplier who have ordered red color parts.
- (v) Find Sid of supplier who belong to city Lucknow or Kanpur.

7. Explain the concept of Entity integrity. Discuss the concept of view with suitable example. [10]

UNIT-IV

8. What is Normalization in Database? Explain 1NF, 2NF and 3NF with suitable example. [10]
9. What are various Concurrency Control Techniques? Explain them with example. [10]

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