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B.C.A. (Part II) Examination, 2022
(New course)
Paper Second
(DATABASE MANAGEMENT SYSTEM)
(BCA-202)

Time : Three Hours]   [Maximum Marks:80
                                       [Minimum Pass Marks:27

Note: Attempt any two parts from each unit. All questions carry equal marks.

Unit - I

1. (a) What are the advantages of the database oriented approach to data Management?   **8**

   (b) What do you mean by Data Independence? Explain the different type of Independence.   **8**

[2]

   (c) Write the short notes on following: **8**

      (i)   Database Administrator

      (ii) DBMS architecture

Unit - II

2. (a) Draw an E - R diagram for any one of the following depicting primary key of each entity. Convert this diagram to a suitable relational scheme. Construct the appropriate tables for the E-R diagram   **8**

      (i)   Hospital Management System

      (ii) Banking Enterprise

   (b) What do you mean by extended ER features? Explain all the features with example.   **8**

   (c) Write the short notes on following: -   **8**

      (i)   UML Diagram

      (ii) Concept of Keys

Unit - III

3. (a) What do you understand by Join? Explain the different type of joins with example.   **8**

(b) What is the difference between Simple and Complex Queries? Explain with example. **8**

(c) Write the short notes on following - **8**

(i) Tuple relational calculus

(ii) Embedded Query Languages

Unit - IV

4. (a) What do you mean by Normalization? Explain the 1NF, 2NF and 3NF with example. **8**

(b) What do you mean by decomposition? What is the difference between Good and Bad decomposition? Explain with example. **8**

(c) Write the short notes on the following: - **8**

(i) Pitfalls in Database design

(ii) Join Dependencies

Unit - V

5. (a) Create the following table and insert two rows.
College (<u>Coll-id</u>, College_name, street, city)

Student (Std_name, Roll_no, D_o_B std - city, Coll - id)

Solve the following query in SQL: **8**

(i) Find student name who same city as 'Manish'.

(ii) Find student name who admit in Raipur college.

(iii) Insert class (Column) in student table.

(iv) Find the name of the College ascending order

(b) What do you mean by Integrity constraints? Explain the different types of Integrity constraints. **8**

(c) Write the short notes on following : **8**

(i) Query Processing

(ii) Security & Authorization in SQL