

E - 3899

**B.C.A. (Part-II) EXAMINATION, 2021**

(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**

Q. 1. (a) What is the role of database Administrator? How many type of database users. [08]

(b) What do you mean by data modeling? Explain the type of data model. [08]

(c) Write the short notes on following: - [08]

(i) Database Languages (ii) Data Independence

**Unit-II**

Q.2. (a) Construct an E-R diagram for a hospital with a set of patient and a set of medical doctors. Associate with each patient a log of the various tests and examination conducted. [08]

(b) What is difference between strong and weak entity set? Explain it. [08]

(c) Write the short notes on following: - [08]

(i) Extended ER Features (ii) Concept of Keys

**Unit-III**

Q.3. (a) What do you understand by Relational Algebra? How many type of the relation operation? Explain with example. [08]

(b) What is the difference between Tuple relational calculus and Domain relational calculus? Explain it. [08]

(c) Write the short notes on following: - [08]

(i) Simple and Complex queries

(ii) Embedded Query languages

**Unit -IV**

Q.4 (a) What do you mean by pitfalls in database design? Explain the various types of anomalies. [08]

(b) What do you mean by decomposition? What is the difference between Good and Bad decomposition? Explain with example. [08]

(c) Write the short on the following:- [08]

(i) De-normalization (ii) Functional Dependencies

**Unit-V**

Q.5 (a) Create the following table and insert two rows. [08]

Branch (Branch-id, Branch\_name, street, city)

Customer (Customer\_name, account\_no, customer-city)

Solve the following query in SQL :

(i) Find customers name who same city as 'MohanLal'

(ii) Find all customers name who living city at Raipur.

(iii) Insert Phone-no in Branch table.

(iv) Find the name of the customer order by.

(b) What do you mean by Integrity constraints? Explain the deferent type of Integrity constraints. [08]

(c) Write the short notes on following: - [08]

(i) Query Processing (ii) Security and Recovery