

B.C.A. Sem.-2 Examination

CC-110

Data Base Management System-I

May-2025

Time : 2-30 Hours]

[Max. Marks : 70

Que.1 Answer the following:

- A. Write a short note on DBMS Function. (7)
 B. Explain in detail about types of databases. (7)

OR

- A. Write a short note on advantages of DBMS. (7)
 B. Write a short note on components of DDBMS. (7)

Que.2 Answer the following:

- A. Write a short note on Integrity Rules. (7)
 B. Explain Intersect, Select and Project relational set operators with example. (7)

OR

- A. Write difference between Data dictionary and System Catalog. Also explain how Data redundancy can be reduced? (7)
 B. Discuss about the characteristics of tables. (7)

Que.3 Answer the following:

- A. Explain relationship strength and weak entity with example. (7)
 B. Develop an ERD for the following using Crow's Foot notation. (7)

- a) A college runs many departments.
 b) Each department has many students.
 c) Each department employes many faculties.
 d) Each department offers many courses.
 e) Each course generates many classes.
 f) Many students enroll for many classes.
 g) Many faculties teach many students.

OR

- A. Explain in detail about all-types^{of} relationship degree with example. (7)
 B. Develop an ERD for the following using Crow's Foot notation. (7)

- a) Hospital has one reception.
 b) Hospital has many rooms.
 c) Hospital has many Doctors.
 d) Hospital has many Nurses.
 e) Many nurses examine many patients.
 f) Many Patients visit to a hospital.
 g) Many patients treated by many doctors.

Que.4 Answer the following:

- A. What is normalization? Also explain need for the normalization. (7)
 B. Write a short note on normalization process using suitable example. (7)

OR

- A. How data anomalies can be removed from the table? Also explain rules for the conversion to 1NF, 2NF, 3NF. (7)
 B. Convert the following table up to 3NF. (7)

Employee_ID	Branch_No	Branch_Address	Emp_Name	Designation	Hrs/Week

Que.5 Answer the following: (Any Seven)**(14)**

- I. _____ is the DDBMS components that carry data from one computer to other computers.
 - a. Computer WorkStation
 - b. Network Hardware
 - c. Communication Media
 - d. Transaction Processor
 - II. Software component of Database system environment consist of _____.
 - a. Operating System Software
 - b. DBMS Software
 - c. Application Programs
 - d. All of these
 - III. The _____ servers the intermediary between the user and the database.
 - a. DBMS
 - b. Data
 - c. Relationship
 - d. Information
 - IV. _____ operator combines all rows from two tables, excluding duplicate rows.
 - a. Union
 - b. Intersect
 - c. Product
 - d. Project
 - V. Each column has a specific range of values known as the attribute domain.
 - a. Entity
 - b. Attribute
 - c. Attribute Domain
 - d. Entity Set
 - VI. The _____ provides a detailed description of all attributes of all tables found in a database.
 - a. DBMS
 - b. ERD
 - c. Data Dictionary
 - d. Attribute
 - VII. _____ attribute is an attribute whose value is derived from other attributes.
 - a. Derived
 - b. Optional
 - c. Simple
 - d. Distributed
 - VIII. Which of the following is a type of Relationship Degree?
 - a. Unary
 - b. Binary
 - c. Ternary
 - d. All of these
 - IX. A _____ Relationship indicates that the related entity is weak.
 - a. Strong
 - b. Existence-Independence
 - c. Optional
 - d. Mandatory
 - X. _____ dependency is the functional dependency of one non-prime attribute on to another non-prime attribute.
 - a. Partial
 - b. Functional
 - c. Transitive
 - d. Full Functional
 - XI. _____ is the process of redesigning table structure to minimize data duplication.
 - a. Normalization
 - b. Redundancy
 - c. Data Dictionary
 - d. All of these
 - XII. In _____ normal form partial dependency should not exist.
 - a. 1NF
 - b. 2NF
 - c. 3NF
 - d. None of these
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