Module - 1

June / July 2024

(1) Define database. Elaborate component modules of DBMS and their interactions. — (10)

(2) Describe the three-schema architecture. Why do we need mapping among schema levels? — (6)

(3) Explain the difference b/w logical & physical data independence. — (4)

(4) Draw ER diagram for an COMPANY database with employee, department, project as strong entities and dependent as weak entity. Specify the constraints, relationships and ratios in the ER diagram — (10)

(5) Define the following terms with example for each using ER notations:
Entity, attribute, composite attribute, multivalued attribute, participation role. — (10)

June / July supplementary

(6) What is DBMS? List the characteristics of database approach. Bring out major advantages of the database approach — (8)

• Explain data independence. Draw 3 schema architecture and discuss the mapping. — (7)

(7) Define following

(1) Database Administrator
(2) Canned transaction
(3) Weak entity
(4) Meta data
(5) Database Instance

— (5)

Describe components modules of DBMS and its interaction with neat diagram. — (8)

(8) Draw ER diagram of Library database schema atleast 4 entities. Also specify Primary keys, structural constraints and explain — (8)

(9) Briefly discuss different types of end users of database. — (4)

Dec 2024 / Jan 2025

(10) Define the following terms:

(1) database
(2) Schema
(3) Entity
(4) DDL
(5) Degree of a relationship

— (5)

- Briefly explain characteristics of database approach — (5)

(11) List and explain advantages of using DBMS approach — (10)

(12) Define following terms.

① Cardinality

② Weak entity

③ DML

④ Value sets

⑤ Program data independence — (5)

- Describe three-schema architecture. Why do we need mappings b/w schema levels? — (5)

(13) Explain different types of attributes in ER model with suitable example for each. — (10)

(14) Explain the operations of 2-tier and 3-tier client/server architecture of DBMS.

(15) What is a weak entity type? Explain the role of partial key in design of weak entity type.

(16) Differentiate specialization & generalization giving suitable examples.

(17) Write an ER diagram of hospital management system. Assume your own entities, attributes and relations.

(18) Define the following:

(1) Data model
(2) Complex attribute
(3) Recursive relationship
(4) Meta data
(5) Composite attribute
(6) Cardinality Ratio
(7) Value Set (Domain) of attribute
(8) DCL
(9) TCL

(19) Design an ER diagram for the mail order database

(20) Explain High-level Conceptual Data models for Database Design

(21) Workers behind the Scene

Actors on the Scene

(What are the responsibilities of DBA & database designers)