

Duration:- 2½

FUT 713011223 - FOMS (18)

16/3/24 ATUT

Marks:-75

- Note:- A) All the questions are compulsory.
B) Each question carries equal marks.
C) Figures (Diagrams /Charts) indicate full marks.

- Q.1** Attempt any Three of the following. 15M
1. Differentiate between DBMS & file system. CO1/A
 2. Explain Data Models. CO1/U
 3. Explain three levels of Architecture. CO1/U
 4. Explain Building Blocks of Data Management. CO1/U
 5. Write a short note on DDL (Data Definition Language) CO1/R
 6. What is SQL? Explain the following structure of SQL queries with appropriate example. CO2/R/A
i)select clause ii)from clause.
- Q.2** Attempt any Three of the following: 15M
1. Explain the term aggregation and Generalization with example. CO1/U
 2. Explain E-R diagrams and its components. CO1/U
 3. Draw an E-R diagram and reduce it to relational database model for a university database for scheduling of classrooms for final exams. This database could be modified using entities as:-
exam(course_name,section_number,room_number,time)
Course(name,department,C_number)
room(r_number, capacity, building) CO1/A
 4. Write a short note on subclass and superclass. CO1/R
 5. What is strong entity and weak entity? CO1/R/U
 6. Explain attributes and their types with example. CO1/U
- Q.3** Attempt any Three of the following: 15M
1. Write a short note on functional dependencies. CO1/R
 2. What is normalization? Explain 1NF, 2NF with suitable example. CO1/R/U
 3. Describe decomposition. What are desirable properties of decomposition? CO1/R
 4. Write a short note on BCNF. CO1/R
 5. Explain type of functional Dependencies. CO1/U
 6. Write the functional Dependencies properties. CO1/R
- Q.4** Attempt any Three of the following. 15M
1. Define views. What are the types of views? CO1/R/U
 2. Explain describe table command with example. CO1/A
a)Create table b)Alter table
 3. Explain various SET Operations. CO1/U

- What are triggers? Give an example. CO1/R
 - What are different file organizations? CO1/A
 - Define query? Explain steps of query processing. CO1/R/U
- 15M
- 2.5 **Attempt any Three of the following.** CO3/R
 - Write a short note on commit and rollback. CO3/R/U
 - What is transaction? Discuss the state transition diagram and properties of transaction. CO3/R/U
 - 3. What is dead lock? Explain how deadlock detection and prevention is done. CO3/R/U
 - 4. Explain various problem of concurrent executions. CO3/U
 - 5. Short note on shadow paging. CO3/R
 - 6. What is log based recovery? Explain types of transaction log. CO3/R/U
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