Chapter 1

1   Define schema.   **CSVTUonline.com**   2

2   Discuss the three levels of architecture in DBMS.   7

3   Construct an E-R diagram for a hospital with a set of patients and a set of medical   7
    doctors. Associate with each patient a log of various tests and examinations conducted.

4   What is an attribute? Explain the following attribute types :   7
    (i)   Simple and composite
    (ii) Single-valued and Multi-valued
    (iii) Null attributes
    (iv) Derived attributes

Chapter 2

1   Define relational model.   2

2   Consider the following relational database :   7
    Employee (person_name, street, city)
    Works (person_name, company_name, salary)
    Company (company_name, city)
    Manager (person_name, manager_name)
    Give an expression in relational algebra to express each query :
    (i) Find the names of all employees who work for First Bank Corporation.
    (ii) Find the names and cities of residence of all employees who work for First Bank
    Corporation.
    (iii) Find the names, street addresses and cities of residence of all employees who work
    for First Bank
        Corporation and earn more than $10,000.
    (iv) Find all employees in the database who live in the same cities as the companies for
    which they work.
    (v) Find all employees in the database who lives in the same cities and on the same
    streets as do their managers.

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3   Write short notes on the following :   7
    (i) Specialization
    (ii) Aggregation

4   Explain with example the various join operators used in relational algebra.   7

| 3 | How is the cursor helpful in retrieving data from database? Explain the different types of cursor with attributes. | 7 |
| 4 | What are the views? Explain the operations that can be performed on views. | 7 |

Chapter 4

1	Define transitive dependency.	2
2	Define normalization. Explain 3NF and BCNF with example.	7
3	Define ACID property.	7
4	What do you mean by transaction? Explain transaction state.	7

Chapter 5

1	Define recovery.	2
2	Explain the shadow paging and on line backup technique used for recovery of database.	7
3	What is ordered indexing? Explain the types of ordered indices.	7
4	What are the different file organization for relational tables?	7