



**B.Tech - Even Sem : End Semester Exam**  
**Academic Year:2021-2022**  
**18CS40A6 - Fundamentals of DBMS**

Set No: 1

| Time: |  | Max.Marks: 100 |         |         |     |        |         |
|-------|--|----------------|---------|---------|-----|--------|---------|
| S.NO  | Answer All Questions   | Choice         | Options | Marks   | CO  | CO BTL | COI BTL |
| 1.    | Define the Term DBMS? Discuss Few advantages and disadvantages of DBMS?  | choice Q-2     |         | 10Marks | CO1 | 2      | 2       |
| 2.    | Discuss about Database users and Administrators?   |                |         | 10Marks | CO1 | 2      | 2       |
| 3.    | Discuss about logical database design (ER to Relational) with suitable examples?   | choice Q-4     |         | 15Marks | CO1 | 2      | 2       |
| 4.    | Draw the ER diagram for a company needs to store information about employees (identified by ssn, with salary and phone as attributes), departments (identified by dno, with dname and budget as attributes), and children of employees (with name and age as attributes). Employees work in departments, each department is managed by an employee, a child must be identified uniquely by name when the parent (who is an employee; assume that only one parent works for the company) is known. We are not interested in information about a child once the parent leaves the company? |                |         | 15Marks | CO1 | 2      | 2       |
| 5.    | Discuss about aggregate operators and give an example for each with query ?  | choice Q-6     |         | 10Marks | CO2 | 3      | 3       |
| 6.    | Discuss about the types of attributes and give an example for each?  |                |         | 10Marks | CO2 | 3      | 3       |
| 7.    | Discuss about integrity constraints over relations   | choice Q-8     |         | 15Marks | CO2 | 3      | 3       |
| 8.    | Describe briefly about views and explain about their types ?   |                |         | 15Marks | CO2 | 3      | 3       |
| 9.    | Discuss redundancy? What are the problems caused by the redundancy?  | choice Q-10    |         | 10Marks | CO3 | 3      | 3       |
| 10.   | Define the following:- 1) Prime attribute 2) Non-prime attributes Key attributes with suitable examples?   |                |         | 10Marks | CO3 | 3      | 3       |
| 11.   | Define normalization. List and Explain different normal forms with examples?   | choice Q-12    |         | 15Marks | CO3 | 3      | 3       |
| 12.   | Explain about schema refinement in database design?  |                |         | 15Marks | CO3 | 3      | 3       |
| 13.   | Discuss ACID Properties?   | choice Q-14    |         | 10Marks | CO4 | 3      | 3       |
| 14.   | Analyze the RAID methodology and its levels  |                |         | 10Marks | CO4 | 3      | 3       |
| 15.   | Define the term Indexing? Distinguish primary and secondary indexes.?  | choice Q-16    |         | 15Marks | CO4 | 3      | 3       |
| 16.   | a) Explain about two phase locking techniques for concurrency control? 8M b) Articulate about dead lock prevention protocols? 7M   |                |         | 15Marks | CO4 | 3      | 3       |