

III B. Tech I Semester Supplementary Examinations, October/November- 2018
DATABASE MANAGEMENT SYSTEMS

(Common to Computer Science Engineering and Information Technology)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
 2. Answering the question in **Part-A** is compulsory
 3. Answer any **THREE** Questions from **Part-B**

PART -A

- | | | | |
|---|----|---|------|
| 1 | a) | List the disadvantages of file system. | [4M] |
| | b) | How to define a domain constraint? Give an example. | [3M] |
| | c) | What is a view? What is an updatable view? | [4M] |
| | d) | Does 3NF allow redundancy? Justify your answer. | [4M] |
| | e) | State Thomas write rule. | [3M] |
| | f) | Differentiate between sparse and dense index. | [4M] |

PART -B

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|---|----|---|-------|
| 2 | a) | How does DBMS provide data abstraction? Explain the concept of data independence. | [8M] |
| | b) | With a neat diagram describe the overall system structure of DBMS. | [8M] |
| 3 | a) | What is an integrity constraint? Explain its enforcement by DBMS with illustrative example. | [8M] |
| | b) | List the data types supported by SQL. | [5M] |
| | c) | Demonstrate the use of DISTINCT keyword in SQL select statement. | [3M] |
| 4 | a) | What is meant by existential dependency of an entity set? Explain with an example. | [4M] |
| | b) | Consider the following database schema to write nested queries in SQL
Supplier (id, name, city)
Parts(pno, pname, pdescription)
Supply(id, pno, cost)
i) Find the names of the parts supplied by "RamRaj"
ii) Find the names of the suppliers who supply "Nuts"
iii) Find the cost of bolts being supplied by Nagpur suppliers. | [12M] |
| 5 | a) | Discuss the problems caused by redundancy and the purpose of normalization. | [10M] |
| | b) | Give relation schemas for the following normal forms
i) 2NF but not in 3NF ii) 3NF but not in BCNF | [6M] |
| 6 | a) | Does two phase locking protocol ensure conflict serializability? Justify your answer with appropriate examples. | [8M] |
| | b) | Write PL/SQL procedure to read student roll number from user, fetch marks from student table for this student, compute grade and update the grade column of the table.
STUDENT(roll number, name, marks1, marks2, marks3, marks4, grade)
[follow regular convention for student grades(A,B,C,D,F)] | [8M] |
| 7 | a) | Make a comparison of hash file organization with heap file organization. | [6M] |
| | b) | Demonstrate bulk loading of B+ tree of order 3 with the following data (key*)
56*, 32*, 18*, 72*, 45*, 16*, 98*, 83*, 81*, 27*, 39*, 51*, 66*, 44*, 33*, 22* | [10M] |
