Code No: RT31054   **R13**   SET - 1

III B. Tech I Semester Supplementary Examinations, May – 2016
DATABASE MANAGEMENT SYSTEMS
(Common to CSE and IT)

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**
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PART –A

1 a) List out Data base applications.   [3M]

   b) Write the syntax for UPDATE command in SQL.   [3M]

   c) Write short notes on nested queries.   [4M]

   d) What is an objective of the normalization?   [4M]

   e) Explain about deadlocks.   [4M]

   f) Explain about hash based indexing.   [4M]

PART –B

2 a) Explain in detail about Database Management System advantages over file   [6M]
       management system.
   b) Explain the architecture of DBMS.   [6M]
   c) Explain the concept of Data independence.   [4M]

3 a) Explain the following: [10M]
       i) Key constraints ii) Integrity constraints.
   b) Differentiate between where clause and group by clause.   [3M]
   c) Explain the different data types in SQL.   [3M]

4 a) Consider the following schemas: [10M]
       Sailors (sid, sname, rating, age)
       Reserves (sid, bid, day)
       Boats (bid, bname, color)
       Write the following queries in relational algebra, tuple relational Calculus and
       domain relational calculus:
       a) Find the name of sailors who have reserved boat 103.
       b) Find the names and ages of sailors with a rating above 7.
       c) Find the names of sailors who have reserved a red boat.
       d) Find the sname, bid, and day for each reservation.
       e) Find the name of sailors who have reserved at least one boat.

   b) Draw an ER diagram for Hospital management system.   [6M]

5 a) Explain briefly about 3NF, 4NF and BCNF with suitable examples?   [8M]

   b) What is Functional Dependency? Explain types and properties of FD's.   [8M]

6 a) Explain the time stamp based protocol for concurrency control in a DBMS.   [8M]

   b) Explain the ARIES recovery method. When does a system recover from a crash? In what order must a transaction be undone and redone? Why is this order important?   [8M]

7 a) Distinguish between: [8M]
      i) Primary and Secondary indexing. ii) Ordered indexing and hashing.
   b) Explain in detail about B+ trees.   [8M]

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