

Code: R7410410**R07**

B.Tech IV Year I Semester (R07) Supplementary Examinations, May 2013

DATABASE MANAGEMENT SYSTEMS

(Common to ECE and E.Con.E)

Time: 3 hours

Max. Marks: 80

Answer any FIVE questions
All questions carry equal marks

- 1 (a) Define database system. Explain advantages of database system over traditional file system.
(b) Explain the database users and user interfaces.
(c) Construct an ER diagram for hospital management. Identify entities, attributes for each entity, relationship among entities. Represent necessary constraints in this design process.
- 2 (a) Write short notes on:
(i) Views. (ii) Integrity constraint.
(b) Consider following relation schema.
Sailors (sid: integer, sname: string, rating: integer, age: real)
Boats (bid: integer, bname: string, color: string)
Reserves (sid: integer, bid: integer, day: date)
Write the queries in relational algebra.
(i) Find names of sailors who have good rating (≥ 8).
(ii) Find the names of sailors who have reserved red boat and having rating less than 7.
(iii) Find the sids of sailors with age more than 20 years and not reserved interlake boat.
(iv) Find the names, age of sailors who have reserved at least two boats.
- 3 (a) Explain following clauses in SQL with example.
(i) EXCEPT (ii) EXISTS (iii) AVG.
(b) Explain with example different types of join operations.
- 4 (a) What is normalization? Explain in brief 1NF, 2NF and 3NF.
(b) What is dependency preserving decomposition?
- 5 (a) Explain ACID properties of transaction.
(b) Explain two phase locking protocol with example.
- 6 (a) Explain deferred database modification technique for recovery.
(b) How to recover a system from crash with loss of non-volatile storage?
- 7 Write short notes on:
(a) Primary index.
(b) Secondary index.
(c) Hash based indexing.
- 8 Explain buffer management and space management.
