PVP 12

Code: IT3T5

II B.Tech - I Semester – Regular Examinations – December 2014

DATA BASE MANAGEMENT SYSTEMS
(INFORMATION TECHNOLOGY)

Duration: 3 hours Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1 a) What is DBMS? Write the advantages of DBMS. 7 M

b) Explain 3-schema architecture of DBMS? 7 M

2 a) What is relational model? Explain the various integrity constraints over relations? 8 M

b) Consider the following relation schema. 6 M

Sailors (sid: integer, sname: string, rating:integer, age:real)
Boats (bid:integer, bname:string, Colour:String)
Reserves (Sid: integer, bid:integer, day:Date)

Write the following queries in SQL

i) Find the names of sailors who have reserved boat number 103.
ii) Find the sids of all sailors who have reserved red boats but not green boats.
iii) Find the name and age of the oldest sailor.

3 a) Explain the following relational operations with examples. 7 M

i) Selection ii) Projection iii) Division

b) Write the differences between TRC and DRC. 7 M

4 a) Define the following terms with examples. 6 M

i) Entity ii) Entity Set
iii) Relationship iv) Relationship set

b) Draw an E-R diagram for banking system and explain. 8 M

5 a) What is normalization? Write the differences between 3NF and BCNF. 7 M

b) What is decomposition? Explain various types of decomposition. 7 M

6 a) Define B-Tree and B+ - Tree and write the differences between them. 6 M

b) Briefly explain various hashing techniques. 8 M

7 a) Define transactions. Explain ACID properties in detail. 7 M

b) Explain the concept of optimistic concurrency control. 7 M

8 Explain the ARIES recovery algorithm with example. 14 M