Code No: R059210506 **Set No. 3**

II B.Tech I Semester Regular Examinations, November 2007
DATA BASE MANAGEMENT SYSTEMS
(Common to Computer Science & Engineering, Information Technology and Computer Science & Systems Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Explain the distinction among the terms primary key, candidates key and super key.
   (b) Write about the different types of attributes.
   (c) What are the two types of constraints in E.R diagram? Explain. [6+5+5]
2. (a) Distinguish between procedural and non-procedural DML's.
   (b) Define relational algebra, Tuple & Domain relational calculus.
   (c) What are the differences between the two types of relational calculus? [6+6+4]
3. (a) Explain in detail the 2 ways of executing pipeline? [6]
   (b) Write the SQL expressions for the following relational database? [10]
   sailor_schema (sailor_id, Boat_id, sailorname, rating, age)
   Recerves (Sailor_id, Boat_id, Day)
   Boat_Schema (boat_id, Boatname, color)
      i. Find the age of the youngest sailor for each rating level?
      ii. Find the age of the youngest sailor who is eligible to vote for each rating level with at lead two such sailors?
      iii. Find the No.of reservations for each red boat?
      iv. Find the average age of sailor for each rating level that at least 2 sailors.
4. (a) Define BCNF. How does BCNF differ from 3NF? Explain with an example.
   (b) Explain 3nf? Give one example? [8+8]
5. (a) Define the concept of schedule for a set of concurrent transaction. Give a suitable example. [8]
   (b) Explain read-only, write-only & read-before-write protocols in serialazability. [8]
6. (a) What are the recovery-related steps involved during normal execution. [6]
   (b) How does the two phase locking protocol ensures Serialazability. [10]
7. Give an example of a database application in which the reserved-space method of representing variable-length records is preferable to the pointer method. Explain your answer. [16]
8. Explain about the B^{+}_{-}tree file organization in detail.. [16]

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