Reg No.										

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INSPIRED BY LIFE

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FOURTH SEMESTER B.E. (CSE) DEGREE END SEMESTER EXAMINATION – MAY – 2006
DATABASE MANAGEMENT SYSTEMS (CSE 206)
(REVISED CREDIT SYSTEM)
12-05-2006

TIME : 3 HOURS MAX.MARKS : 50

Instruction to Candidates

- Answer **any five** full questions.

1A. Discuss the major disadvantages of keeping organizational information in a file processing system, (5)

1B. Explain the following Relational Algebra operations:
i) Project ii) Set Difference iii) Full Outer Join (1+2+2)

2. Consider the following database schema:
Sailors(Sid: number, Sname: string, Rating: number, Age: number)
Boats(Bid: number, Bname: string, Color: string)
Reserves(Sid: number, Bid: number, Day: date)

Write the following queries in i)relational algebra, and ii) SQL:
a) Find the names of sailors who have reserved a red boat.
b) Find the names of sailors who have reserved all boats.
c) Find the names of sailors whose rating is better than some sailor called 'John'. (5+5)

3A. How the 'derived relations' and 'with clause' can be used in composing multiple SQL blocks to express a complex query? Explain. (3)

3B What are assertions? Why they should be used with great care? (2)

3C. (a) Discuss the concept of aggregation with an example.
(b)Explain the distinction among the terms Primary key, Candidate key and Super key. (2+3)

4A. Consider a relation schema
Emp_Dept=(Ename, Ssn, Bdate, Add, Dumber, Dname, Dmgrssn) and F= [Ssn→ {Ename, Bdate, Add, Dnumber}, Dnumber→ { Dname, Dmgrssn }]
(a) Calculate closures of {Ssn} and {Dnumber}
(b) Check whether Emp_Dept is in BCNF?
(c) Is the set F forms a canonical cover for Emp_Dept? (1+1+3)

4B. Explain the concept of mapping cardinalities. Under what conditions can an attribute of a binary relationship set be migrated to become an attribute of one of the participating entity sets? (3+2)

5A. Explain the concept of Multivalued functional dependency and State Fourth Normal form. (3+2)

5B. (a)What is meant by a recursive relationship set? Give one example.
(b) Explain different types of attributes used in E-R Diagram? (3+2)

6A. Explain the different techniques for improving the speed of access to blocks on disk. (4)

6B. Draw the precedence graph for the schedule given below and check whether it is conflict serializable or not.

T1	T2
Read(A)	
	Read(A).
	Write(A)
	Read(B)
Write(A)	
Read(B)	
Write(B)	
	Write(B)

(3)

6C. Write a note on Bitmap Indices. (3).

7A. Explain the ACID properties with an example. (4)

7B. Give an example of a relational algebraic expression and query processing strategy in each of the following:
a. MRU is preferable to LRU
b. LRU is preferable to MRU (2)

7C. Explain Dynamic hashing technique in detail. (4)

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