**RELATIONAL DATABASE MANAGEMENT SYSTEM...**
**FOURTH SEMESTER 2008**

Question 1
(a)What is the difference between a primary key and a candiate key?
(b)Let R=(A,B,C,D) and functional dependency (1)A-->C (2)AB-->D.
What is the closure of {A,B}?
(c)What do you mean by semi less join ?
(d)Define super key and give examples to illustrate the super key.
(e)What are the two techniques to prevent deadlock?
(g)Define and differentiate between Natural join and inner join ?
(h)What is meant by Concurrency?
(i)Mention the various categories of Data Model?
(j)Define: Entity Type,
Entity Set and Value Set.

Question 2

(a)What is normalization of relation ?
What is a key attribute in a relation ?
What is the difference between 1st Normal Form, 2nd Normal Form and 3rd normal form?(5)
(b)Define entity, attribute and relationships as used in relational databases.Describe Purpose of E-R Model . Illustrate your answer with an example.(5)

Question 3

(a)Define the structure and properties of B-Tree is used as a index structure. Construct a B-Tree of
order 3 with following key value: 10,2,30,20,86,4,6,3,60,84,88,33,52,91,69. (5)
(b)What are the mesure component of the relational model ?
What is a simple relational database?
What are the two models in which you can use SQL? (5)

Question 4
(a)Explain the difference between Implicit and Explicit locks.
GIve the examples in support of your answer. (5)
(b)What is an Object Oriented database?
What is the advantages compare to relational databases?
Explain some applications where an Object Oriented database might be useful.(5)

Question 5
(a)State Armstrong's axioms. Show that Armstrong's axioms are complere. (5)
(b)Explain the difference Between the inner join and outer join .
What are the restrictions on using Outer join? Give examples to support Your answer.(5)

Question 6

(a)What does the term redundanacy means ?
Discuss the implications of a redundancy in relational data base.(5)
(b)Define(i) Primary key, and (ii) foreign key,
Suppose relation R(A,B,C,D,E)
has functional dependencies
AB-->C
D-->A
AE-->B
CD-->E
BE-->D
Find all the candidate keys of R.(5)

Question 7
(a)What is the distributed management system?
How it is different from the client server system?(5)
(b)Consider the following two tables...

S

| A | B | C |
|---|---|---|
| 3 | 7 | 9 |
| 8 | 6 | 5 |

R

| A | F | G |
|---|---|---|
| 5 | 8 | 1 |
| 8 | 2 | 6 |

Show the sematis and the output of the following Querry:

```
SELECT *
FROM S,R
WHERE     S.A=R.A AND S.B=R.G;
```

(C)Define "data mining" What are the supports must available with DBMS to facilitate data mining?(3)

Question 8

(a)List out the six fundamental operators and 4 aditional operators in relational algebra.(2.5)
(b)Explain the two condition needed  for set difference operation (Union operation ) to be valid.(2.5)
(c)Construct a B+ Tree of order 1 with following keys,1,9,5,3,7,11,17,13,15?(2.5)]
(d)What is the use of outer join and list out the three types of outer join with the notations used in relational algebra?(2.5)