DEERWALK INSTITUE OF TECHNOLOGY			
FINAL EXAMINATION		**SUBJECT**	CSC 253- Database Management System
PASS MARK	24	**FULL MARK**	60
TIME	3 Hrs	**DATE**	22nd November,2013.

INSTRUCTIONS

- *Do not write anything on the question paper.*
- *Please write your name, roll number and other details very clearly on the front page of the answer sheet.*
- *If you are using multiple answer sheets, ensure that they are safely stapled together.*
- *Any attempt to cheat in any manner will result in automatic expulsion..*
- *If you need any kind of help please raise your hand.*
  Good luck and all the best.

1. Answer the following questions: (5 x 2= 10)

   a. Differentiate between physical and logical data independence.
   b. The null value attribute and its uses
   c. What is trigger? Explain with a suitable example.
   d. Explain recursive relationship with suitable example.
   e. Explain multi granularity concept

2. a) Draw and ER diagram for a real estate company which deals with the sales of land and building. It facilitates in providing loan from different banks in minimal interest. It should maintain a record of its assets according to its price and place. It should also maintain a record of customers who have bought the assets and who have booked them. (6)

   b) Differentiate between equijoin and natural join with suitable examples (4)

3. a) Assume a database about hotel (5)
   visitor(s#, name)
   hotel(hname, address)
   stays(h#, hname)

   Write relational algebra and SQL queries for each of the following cases.
   i. Find the names of all visitors whose hotel is in Kathmandu.
   ii. Find the names of all hotel where the number of visitors from Europe exceeds 30.

   b) What are constraints? Explain the various constraints with their uses. (5)

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4. a) Define first, second and third normal forms with suitable examples. (5)

b) Define functional dependency. Describe the closure of set of functional dependencies with example.(5)

5. a) What is a schedule? Define the concept of recoverable, cascade less, and strict schedule. Also compare them in terms of their recoverability. (5)

b) Which of the following schedule is (conflict) serializable? For each serializable schedule, determine the equivalent serial schedules. (5)

i. r1(X):r2(x):w1(x):r2(y):w2(x)

ii. r2(x):r1(x):r3(x):w2(x):w1(x):w3(x)

6. a) Describe two phase commit protocol for database transaction (5)

b) Discuss the problems of deadlock and starvation and the different approaches to dealing with these problems. (5)