DEERWALK INSTITUE OF TECHNOLOGY			
FINAL EXAMINATION		**SUBJECT**	CSC-252: System Analysis and Design
PASS MARK	24	**FULL MARK**	60
TIME	3 Hrs	**DATE**	25th 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.

Group A

Long Answer question (20)

1. Study the following case and answer the questions that follows

Passenger Reservation System

Assume that ABC Bus Corporation has approached you for computerizing their bus reservation system for various destinations originating from Kathmandu. The Corporation has currently about 1000 buses spread over 60 routes operating from Kathmandu to various places. Of them, 700 are regular, 200 are semi-luxury, and remaining are super deluxe buses. The seating capacity are 48, 42 and 36, respectively.

The Corporation would like to have at least one week advance reservation. The details required to be provided by the passenger would be date of journey, starting point, destination, number of seats (half or full), concession required, if any, route no., and departure time of the service. If seats are available, your system should be able to provide enquiry services in a variety of ways to help the passenger take a decision.

1. What is the route nos., which halt at the place requested by the passenger either as a final destination or as an intermediate point?
2. Whether seats are available by same route no. but at a different departure time.
3. Whether seats are available by a different route no. on the same day.
4. The earliest date on which seats are available for a place by a given route no.
5. The cost of travel by various categories of buses (namely, ordinary, deluxe, etc) to a destination by various routes.

The above are some of the questions that could be asked by the customer.

Two seats are reserved VIPs and/or emergency quota. However , if nobody turns up for the same, upto half an hour before the departure, the seats are allotted to those in the waiting list according to priority.

Concessions are given in respect of students during summer vacation. Thus they need to pay only 50% of the actual fare. Employees and their eligible family members may travel free once a year, by producing the appropriate identity cards. Your system must verify that the total distance travelled by such a person does not exceed 3000km. Seats are not allowed for half ticket but a seat may be allotted for half tickets issued.

You system should provide a facility for cancellation. 10% of the fare shall be forfeited if the cancellation is done atleast two days prior to the journey. 20% shall be forfeited if the cancellation is done one day prior to the journey but not more than two days, 25% if done 8 hours and 40% for less than half an hour and up to half an hour after departure of the bus. In all other cases the amount is

forfeited. The reservation fee of Rs. 5 is always non-refundable. Journey can be postponed/advanced subject to availability of seats by the same route at most once at no extra cost.

Your system would have to maintain a database of various routes originationg from Kathmandu and the fare by each of them for various categories of buses to various destinations. Frequently the Corporation revises the fares and your system should accommodate this. Assume that more than one counter is simultaneously active for reservation/cancellation.

1. Draw Decision Tree for Cancellation of the ticket (5)
2. Write structured English for Concessions process (5)
3. Design database tables such that customers can be easily answered. (10)

Group B

Short Answer questions: Answer any ***eight*** questions: (8X5=40)

1. Explain different types of feasibility used in software development.
2. What is a RAD ? In which case it is more effective to implement?
3. Explain various components of ER diagram with suitable examples.
4. Why is data dictionary important in software engineering?
5. Explain various ways of information gathering.
6. Describe pay back period with the help of a numerical example of your own.
7. Write down the considerations for designing effective User Interface.
8. What are various types of testing? Explain.
9. Explain various types of maintenance.
10. Draw a use case diagram for Library management system.