United International University (UIU)

Dept. of Computer Science & Engineering (CSE)

Mid Term Exam   Trimester: Summer 2022   Marks: 30   Time: 1 hr 45 mins

Code: CSE 3411   Course Title: System Analysis & Design

"Any examinee found adopting unfair means will be expelled from the trimester / program as per UIU disciplinary rules."

Answer the following questions:

QUESTION 1 [CO3] 16

Lighthouse pizza wants to install a system to record orders for the pizza and chicken wings. When the regular customers call lighthouse pizza on the phone, their phone numbers go automatically into the system. The phone number invokes the name, address, and last order date automatically those display on the screen. Once the order is taken, the total including tax and delivery charge is calculated. Then the order is given to the cook. A receipt is printed. Occasionally, special offers (coupons) are printed so the customer can get a discount. Courier who makes the delivery give a copy of the receipt and coupon (if any). Weekly total amounts are kept for comparisons with last year's weekly performance. Consider necessary Data Tables as per needed.

a) Draw the Use case diagram for the above scenario (show an **extend** relationship in the diagram). Mention some rules or guidelines for drawing a Use Case diagram.   3+1
b) Write down the descriptive form for an important Use Case shown in the Use Case diagram.
                                                                                                        4
c) Mention some rules of Data Flow Diagram (DFD). Draw the DFD for the above scenario.
                                                                                                        2+3
d) Draw an Activity diagram or Swimlane diagram for the above scenario**.**   3

QUESTION 2 [CO2] 8

a) Suppose you are assigned to do a proper system analysis for fixing the final feature list for a web application for online vehicle (car/bike/cng etc.) renting system. Answer the following steps:

   i. Mention the major sources of information   2
   ii. Mention the activities/steps needed for the step of information gathering analysis (including gap analysis) to finalize the feature list of the product.   4
   iii. Draw the proposed system organogram for the scenario mentioned in question 2.   2

QUESTION 3   **[CO4]**   **6**

a) Mention the concept of feasibility analysis. Shortly brief on the reasons for the three types of feasibility analysis those are required to conduct during the feasibility analysis for any software product development.   1 +2

b) Suppose you are investing $6000, $5000, and $4000 at present, after 2 year and after 3 years respectively. In return after 2, 3, 4 and 5 years you will receive Revenue $2000, $4000, $4000 and $6000 respectively.   3

     Find out Profit/Loss through
         i.   Cash Flow Method
         ii.   Net Present Value (NPV) Method
       Consider bank interest 10%