School of Information Technology and Engineering (SITE)

Fall Semester 2021-2022

Programme/Branch   : B.Sc (CS)   Slot: A1+TA1+TAA1   Due Date: 29/09/2021

Course Code: CSC1011 Course Name: OOAD   Max. Marks: 10

Assessment05-DA2

Instructions:

1. Should give your Reg. No., Name, Course Name & Code, Slot, faculty name and group ID, and question number on the first page of your answer.
2. You can use any **UML tools** for the illustration of diagrams with all necessary information and relationships in an appropriate manner**. (Ref. www.guru99.com)**
3. Ensure that readability of it.
4. Don't upload a hand-drawn scanned file, if you uploaded not considered for the grade.
5. You can answer your group question only.
6. You can upload your Digital Assignment02 through the http://vtop.vit.ac.in login only on or before the due date. Late submission is not allowed.
7. Don't upload .docx or .txt format.
8. Mark will be awarded based on uniqueness in your answer.

 Questions and Group details

 Group ID: 01[Reg.No. 19BCS0001 to 19BCS0021]-21 members

Problem Statement #01-Airline Ticketing System

The airline ticketing system software is a program whose primary responsibility is to allow passengers to make travel bookings on any one of the available air routes being serviced. The software can make connecting flight bookings and/or return journey bookings as well. The software needs to present the passengers with the options for querying all the available routes in some convenient way. The air carrier services offered have various attributes such as passenger classes, travel time, day/night travel, ticket concessions, etc. The airline ticketing system is used by reservation clerks. The system is also available online and passengers can connect to it through the web and make their bookings. In this case, the system also caters to different payment options such as credit/debit card, vpp, demand draft, etc.

Answer the following questions:

1) Identify the actors, use cases, relationships, and draw the corresponding use case diagram with all possible features.

2) Identify the classes, attributes, methods, relationships, and draw the corresponding Class, Object, and package diagrams with an appropriate illustration.

Group ID: 02[Reg.No. 19BCS0022 to 19BCS0044]-21 members

Problem statement # 02-Online Tests

Conducting tests has been a conventional procedure to check the merit of the candidate /student. To simplify the work or make the procedure robust, computers were introduced. The popular online tests are GRE, TOFEL, ONLINE QUIZ, SONY BENCHMARK, etc. Database of questions is maintained, questions may be different difficulty levels, and questions are strict of multiple choices or fill up the blanks. Students are given a unique user ID and password. He / She could take up the test. At the end of the session, results are displayed.

1) Identify the actors involved in online test software systems.

2) Draw activity diagram for **"Register test"** use case scenario using swim lanes, branching, and looping concepts.

3) Draw the statechart diagram for the **"Cancel test"** use case scenario using synchronization and splitting of controls concepts.

Group ID: 03[Reg.No. 19BCS0045 to 19BCS0064]-20 members

Problem statement # 03- ATM Systems

Software is to be designed for supporting a computerized ATM banking network. All the processes involved in a bank are computerized these days. All the accounts maintained in the bank and also the transactions affected, including ATM transactions, are to be processed by the computers in the bank. An ATM accepts a relevant cash card, interacts with the user, communicates with the central system to carry out the transaction, dispenses cash, and prints receipts. The system to be designed and implemented must include appropriate recordkeeping and security provisions. The system must handle concurrent access to the same account.

Functional Requirement

1. The bank client must able to deposit or withdraw an amount to/from his /her account using the ATM counter. Each transaction has to be recorded, and the client must be able to review all transactions performed in his / her account. All the transaction includes the following details; date, time, type of transaction, amount and account balance after the transactions.

2. Access to the bank account is provided by a PIN code.

3. PIN code allows access to the account of the bank client.

4. The system should be designed such that it automatically checks the amount in the amount of the client. If the amount to be withdrawn exceeds the amount in the account of the client then it should check whether the client could avail of the overdraft facility, as per the bank rules.

5. The bank in consultation with the client shall fix the amount that can be withdrawn on any specific day.

Answer the following questions:

1) Draw sequence and collaboration diagrams for **"Deposit money"** use case scenario with all possible features.

2) Draw component and deployment diagrams with appropriate illustrations.