



Daffodil International University
Department of Software Engineering
Faculty of Science & Information Technology
Final Examination, Fall 2024

Course Code: SE 221; Course Title: Object Oriented Design

Sections & Teachers: [40(A-C)]AG, [40(D-G)]MBH, [40(H-I)]DB

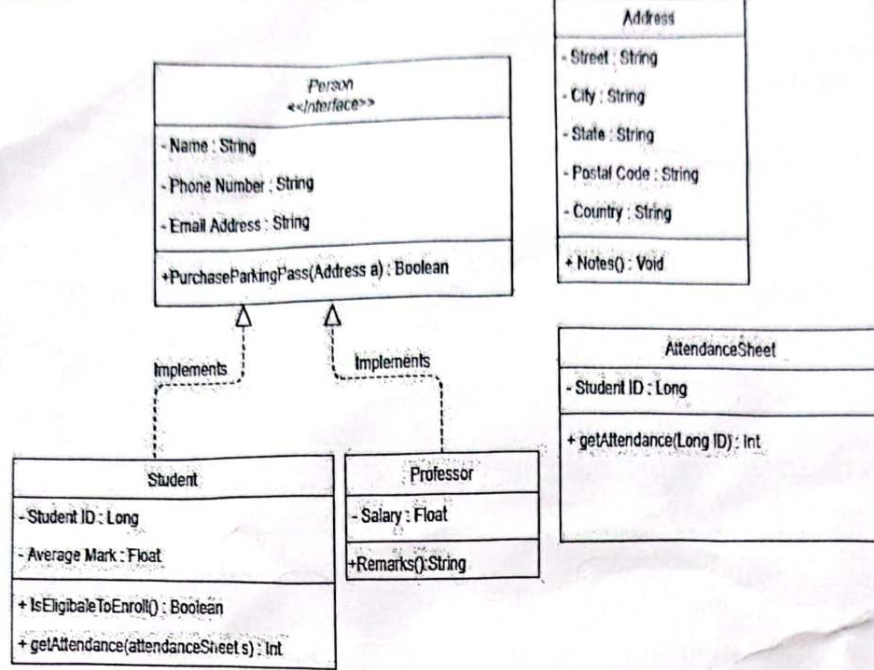
Time: 1:30 Hrs

Marks: 25

Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1	a)	Suppose you have to develop a <u>Car</u> booking System for an online platform. All bookings have attributes like a <u>bookingID</u>, <u>customerName</u>, <u>destination</u>, <u>pickUpPoint</u> and <u>approximateCost</u>. But only Premium users can <u>instantly</u> book a <u>vehicle</u>. The Diamond users can set the speed limit for the <u>ride</u>. In this system, one premium or Diamond user can book a vehicle for later which is not available for normal users and this type of booking will provide a discount of 20% from the current fare. Diamond users can play movies during the journey where premium users can play music only. Consider the above scenario and <u>picturize</u> a complete class diagram with standard notations. Please remember, you can not disclose the data of one end to another	[Marks-10]	CLO-1 Level-2
2	a)	In Q1, have you used any kind of Object oriented concept among the 4 pillars? Demonstrate the need of these concepts with some other code examples.	[Marks-3]	CLO-3 Level-3
	b)	When can we use try, catch and finally blocks in JAVA? Examine with a proper scenario while creating an object.	[Marks-2]	

3	a)	 <pre> classDiagram class Person { <<interface>> -Name : String -Phone Number : String -Email Address : String +PurchaseParkingPass(Address a) : Boolean } class Address { -Street : String -City : String -State : String -Postal Code : String -Country : String +Notes() : Void } class AttendanceSheet { -Student ID : Long +getAttendance(Long ID) : Int } class Student { -Student ID : Long -Average Mark : Float +IsEligibleToEnroll() : Boolean +getAttendance(attendanceSheet s) : Int } class Professor { -Salary : Float +Remarks() : String } Person < -- Student Person < -- Professor </pre> According to the above class diagram, Figure out proper working code segments together. Must build the main method in a different class and inside the main method, make the object of each class.	[Marks-8]	CLO-2 Level-4
b)		Figure out the output of the following code <pre> class Vehicle{ void drive(){ System.out.println("Driving my vehicle..."); } void speedUp(){ System.out.println("Speeding up my Vehicle..."); } } class Car extends Vehicle{ void drive(){ System.out.println("Driving a car..."); } } class Main{ public static void main(String[] args){ Vehicle v = new Car(); v.drive(); v.speedUp(); Car c = new Vehicle(); c.drive(); } } </pre> Handwritten annotations: 3, 2, 1	[Marks-2]	