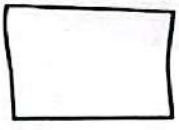
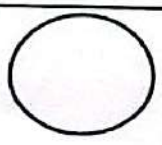
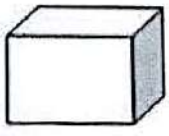
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Daffodil International University

Faculty of Science and Information Technology
Department of CSE
Midterm Examination, Semester: Fall 2023
Course Code: CSE214 Course Title: Object Oriented Programming
Batch: 63 Section: All

Time: 01:30H **[Answer all the Questions. Obtain marks in the right side]** **Full marks: 25**

1.	a.	Explain the fundamental paradigm difference between structured programming and Object-Oriented Programming	2	CO1
	b.	Inheritance in Java is undeniably useful as it aids in code reuse and reducing complexity. However, is multiple inheritance supported in Java? Explain your answer.	2.5	
	c.	Describe Interface is different from abstract Class?	2.5	
2.	a.	   AB πr^2 ABC Create a Class AREA and find out the area of these three figures using **Method Overloading.**	3	CO2
	b.	Is there any error in the following code. If 'yes', provide the correction. If 'no' what will be the output of this program?	2	

```
1  public class University {
2      public static void main(String[] args) {
3          Daffodil diu = new Department();
4          diu.display();
5      }
6  }
7
8  class Daffodil {
9      void display() {
10         System.out.println("Daffodil International University");
11     }
12 }
13
14 class Department extends Daffodil {
15     void display() {
16         System.out.println("Computer Science & Engineering");
17     }
18 }
```

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3.	**Online Banking System** Consider an Online Banking system, which consists of customers. The Customer is composed of Savings and Checking accounts, both of which are a type of Account. Each account has a unique account number, account balance, and account type (savings or checking). Customers also have unique customer IDs, names, addresses, and phone numbers. Customers can deposit and withdraw money from their accounts. Savings accounts earn an annual interest rate of 3%, while Checking accounts have no interest. Implement the necessary classes and methods for this online banking system. **N.B.** ***You are allowed to necessary assumptions for return type, modifiers and parameters of services***			CO3
	a.	Design **UML** class diagram that represents the above scenario.	**5**	
	b.	Write a **Java code** to implement your proposed UML's.	**8**	