



Daffodil International University

Faculty of Science and Information Technology

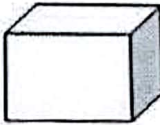
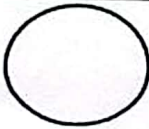

Department of CSE

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.	<div></div> <p>AB πr^2 ABC</p> <p>Create a Class AREA and find out the area of these three figures using Method Overloading.</p>	3	CO2
	b.	<p>Is there any error in the following code. If 'yes', provide the correction. If 'no' what will be the output of this program?</p> <pre>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 • }</pre>	2	

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