



Daffodil International University
Faculty of Science & Information Technology
Final Examination, Spring 2023
Course Code: CSE233
Course Title: Object Oriented Programming II
Level: L2 Term: T1,T2 Batch: 59 & 60

Time: 2:00 Hrs

Marks: 40

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.	<p>a) Define Object Oriented Programming and the main features of OOP in python with proper examples.</p> <p>b) Create built-in and user-defined polymorphism with Python programming language.</p>	[5]	CO3
2.	<div style="text-align: center;"> <pre> classDiagram class StudentManagement { +name: String +id: Int +email: String +get Student info (): void +Course Information (): void +result (): void } class Administrator { -Accounts: Int +get Student info (): void +exam info (): void +Accounts Ledger (): void } class ExamController { #CGPA: Int -duration: real -result (): void -Exam details(): void } class StudentInformation { +Others information: String +get others information: String +get Student info (): Void +Course taken (): void +Enrolment record (): void } StudentManagement --> Administrator Administrator --> ExamController Administrator --> StudentInformation </pre> </div> <p>Develop the functionalities given below:</p> <ul style="list-style-type: none"> Identify all the attributes and methods. Now you have to build base class and subclass from the UML with those attributes and methods. Develop an appropriate OOP method where authority decides to waive 20% of the tuition fee if the student's CGPA is over 3.5 and 25% of tuition fee if the student's CGPA is over 3.75. Display their tuition fee after waiver using your method. Illustrate which methods have overloading and overriding relations into different entities. 	[15]	CO3
3.	<p>Analyze the pseudo code given below. If there is any error, rephrase it so that the compiler runs. You can't change arithmetic operations or any argument.</p> <pre> number = 22 divider = 0 result = number/divider print (result) </pre>	[5]	CO2

4.	Construct a 2D array using a 4X3 matrix where, first and third row will be 1 to 30 containing the same distance. Identify the following questions. i. Identify the shape of diagonal, above and below diagonal values. ii. Construct a 3X4 matrix from the previous one and identify mean, max, variance values of 2nd to 4th column. iii. Describe the difference between a numpy array can access previous memory or can not access.	[10]	CO1
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