**Philadelphia University**

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**Faculty of Information Technology**

**Department of Software Engineering**

**Examination Paper**

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**Object-Oriented Programming 721220 First Exam 2nd semester** **2012-2013**

**Date: 4th April 2013**  **Section: 1**  **Time**: **50 Minutes**

**Information for Candidates**

1. *This examination paper contains 3 questions. The total is 20.*
2. *The marks for parts of questions are shown in round brackets.*

**I. Basic Notions**

*Objectives: The aim of the question is to evaluate your knowledge and skills concerning with the basic concepts of* ***OOP****.*

**Question 1: [4 Marks, 1 Mark each]**

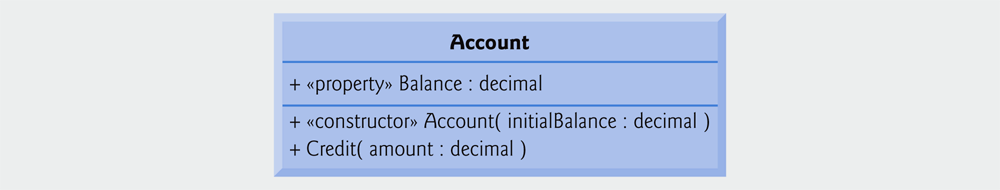
Fill in the blank with the correct answer:

1. To call the constructor of any class; use the keyword .................
2. A template for similar objects is called ......................

3- The following constructor has an error, which is ..............................

*Public* *void Student( ) { st\_ID = 1234; }*

1. The following diagram is created using a language called ..............................



### II. Familiar Problems Solving

### *Objectives: The aim of the question is to evaluate your basic knowledge of the key aspects of the lectures material and your ability to solve familiar problems.*

**Question 2:** **[8 Marks]**

Write a simple class called *student* that represents a university student. (1 mark)

1. This class has two instance variables representing student name and student ID. (1 mark)
2. Write a proper constructor for the class (2 marks)
3. Create two public properties:   
   1- that sets a name to the name field*.* (1 marks ) *2-* that sets a value to the Id field. (1 marks )
4. Create a method called *calc\_avg( )*, that takes five arguments and return their average. (2 marks)

**Question 3: [8 Marks]**

Study the following class, then answer the questions below:

using System;

public class Employee

{

private string name;

private double salary;

public double Sal

{

get { return salary; }

set { if (value >= 0) salary = value; }

}

public Employee( string n)

{

Sal=50;

name=n;

}

}

public class TestEmployee

{

public static void Main()

{

……………………………

emp.Sal= -700;

emp.name = "Enas";

Console.WriteLine("Salary = {0}", emp.Sal);

}   
 }

1. Create an object of class Employee called *emp* (2 marks).
2. The Main method conatins an error. Try to locate that error and correct it. (2 marks)
3. What is the output of the last statement? (2 marks)
4. Extend the class by adding a method called *tax( ).*

This method asks users to input the percentage of the tax. It then calcucates net salary after deducting the tax (2 marks)

Good Luck ☺