



# THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

**A. M. E. C. E. A**

**MAIN EXAMINATION**

**JANUARY – APRIL 2018 TRIMESTER**

**FACULTY OF SCIENCE**

**DEPARTMENT OF COMPUTER AND LIBRARY SCIENCE**

**REGULAR PROGRAMME**

**DIT 006: INTRODUCTION TO VISUAL PROGRAMMING**

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<b>Date: APRIL 2018</b>	<b>Duration: 2 Hours</b>
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<b>INSTRUCTIONS: Answer Question ONE and any other TWO Questions</b>
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- Q1. a) Write brief notes about visual programming. Explain at least three advantages of visual programming over other languages to the developer. **(8 Marks)**
- b) Explain what is event based programming **(4 Marks)**
- c) Define Object Linking and Embedding **(4 Marks)**
- d) Explain the following errors that are commonly done in visual programming. **(6 Marks)**
- i. Syntax Error
  - ii. Logical errors
  - iii. Run-time error
- e) Discuss the importance of computer Programming **(3 Marks)**
- f) Explain the role of the following windows forms controls in user interface design. **(3 Marks)**
- i. Picture box
  - ii. Menu strip
  - iii. Progress Bar
- g) What is the role of Microsoft.Net framework? **(2 Marks)**
- Q2. a) With respect to Microsoft.Net framework, explain any THREE services provided by the framework class library (FCL). **(6 Marks)**
- b) Explain the following code? **(4 Marks)**

```

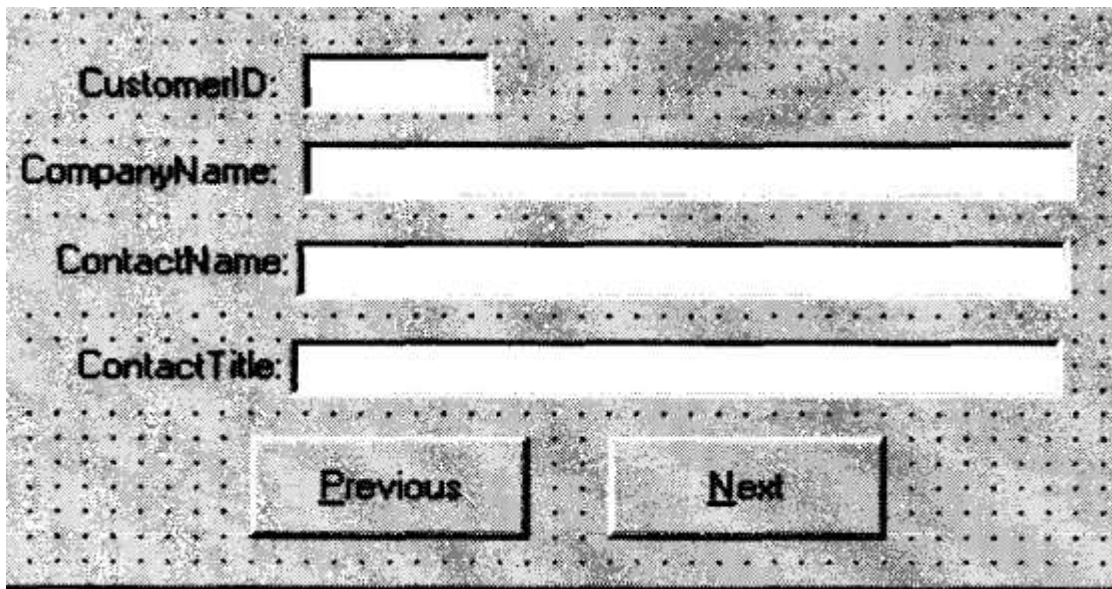
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
namespace WindowsFormsApplication1
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void Form1_Load(object sender, EventArgs e)
        {
            textBox1.Text = "Program window wide 20 %";
        }
    }
}

```

- c) State and Explain any two roles that computer Programming plays. **(4 Marks)**
- d) Visual Basic application cannot directly interact with a database. There are two intermediate components between the application and the database. Using an appropriate diagram explain these two components. **(6 Marks)**
- Q3. a) Explain how repetition can be achieved in Programming. **(2 Marks)**
- b) What are conditional Statements? **(2 Marks)**
- c) Explain the meaning of the following terms as used in computer Programming **(6 Marks)**
- i) Writing Program
  - ii) Compiling Program
  - iii) Executing Program

- d) DIT 006 Ltd is one of the leading fabric industries operating in Kenya at Karen area. You are one of the programmers in their **Information Systems (IS)** department. Design a program a form in visual basic.net to navigate the table customer details using previous and a Next buttons. One possible design is shown below. **(10 Marks)**



- Q4. a) Give two reasons why C# is widely used program. **(2 Marks)**
- b) Explain how a for loop differ from a while loop. **(4 Mark)**
- c) How do Semantic Errors occur in the written code? **(2 Marks)**
- d) Distinguish between option button and checkbox? **(4 Marks)**
- e) Explain any four standard controls in VB.net **(8 Marks)**
- Q5. a) A rectangular fish pond has a length of 4.5 meters, width 3.5M and the depth is 1.5 Meters. Write a C# program that, Shows the length of the pond, the width of the pond and then calculates area of the pond in M<sup>2</sup>. **(8 Marks)**
- b) The following form was designed in Data grid view to provide details of customers detailing Customer ID, Customer Name and the Amount they owed the company. write code using C# programming language that will help to navigate the first and the last record. **(10 Marks)**

The screenshot shows a window titled "Customer Details". Inside, there is a table with three columns: "CustomerID", "CustomerName", and "Amount". The first row of the table has a "\*" in the first column and empty cells in the others. Below the table is a horizontal scrollbar. Underneath the scrollbar are three input fields: "ID", "Customer Name", and "Amount". At the bottom of the window are two buttons labeled "First" and "Last".

c) Give examples and uses of two data types?

(2 Marks)

**\*END\***