

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**FACULTY OF APPLIED SCIENCES**  
**COMPUTER SCIENCE**  
**MAY EXAMINATIONS 2011**

**SUBJECT: VISUAL PROGRAMMING CONCEPTS AND DEVELOPMENT**  
**CODE: SCS1206**

**INSTRUCTIONS TO CANDIDATES**

This paper consists of **five** questions. Answer any **four** questions.  
All questions carry equal marks

**Time: 3 hours**

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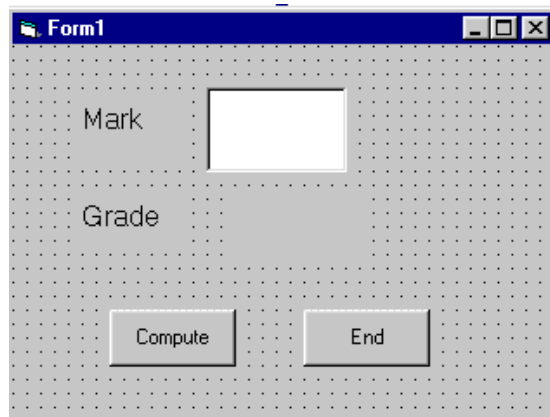
**QUESTION ONE**

- a) (i) The following code can be used to declare variables in Visual Basic.net

***Dim password As String, Name&surname As String, first\_num As Integer***

What is wrong in this declaration and why? [5]

- b) **Figure 1** shows the Graphic User Interface designed to compute examination grades based on the marks that a student obtained.



**Figure 1**

A student who gets 80 or above gets a D . A student who gets 70 and above, gets a 2:1.  
One who gets 60 and above gets a **2:2**. One who attains between 40 and 59 gets a **P**.  
Anyone who get less than 40 has a P as a grade.

With the above information, write the decision making code and show your object property table. [20]

d) Explain what an **event** is and give two examples of events in Visual Basic.NET. [3]

## QUESTION TWO

a) What does the following program do? Explain the meaning of each line of the code snippet.

```
Do while counter <=1000
  num.Text=counter
  counter =counter+1
Loop
```

[10]

b) Explain what the following are used for in Visual Basic.net

- (i) Text box
- (ii) List box
- (iii) Label
- (iv) Combo box
- (v) The control with an icon shown below.



[10]

c) (i) Which numeric data type has a range of values 0 to 255? [1]

(ii) What are the main differences between an **option button** control and a **check box**? [4]

### QUESTION THREE

- a) What are the different ways of starting Visual Basic.net [4]
- b) Giving a suitable example, explain what user defined data types are. [5]
- c) Why is Visual Basic.net called an Object Oriented Programming Language? [10]
- d) Define the following as applied to programming:
- (i) DLL
  - (ii) A bug [4]
- b) What do you find on a Visual Basic.net IDE toolbox? [2]

### QUESTION FOUR

*The following, Figure 2 is a small calculator designed in Visual Basic.net*

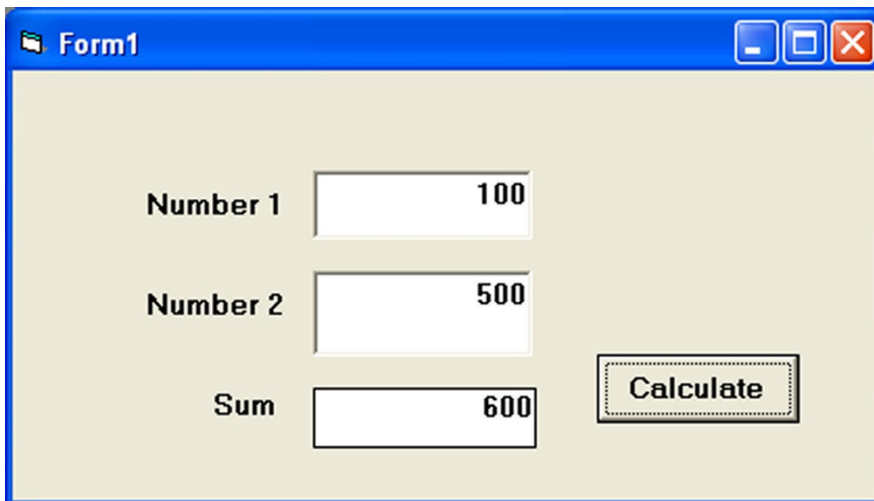


**Figure 2**

- a. Write code that will create a similar calculator. The calculator should allow the operation **add** (+), **subtract** (-), **multiply** (\*) and **divide** (/). Your code should include clearing of the display in case of erroneous data entry using the button **clear**. [20]
- b. Write a Visual Basic.net code to connect to a Microsoft Access Database. [5]

### QUESTION FIVE

- a) Give a detailed description of a Visual Basic.net IDE and its components. [10]
- b) Outline steps to create the form shown in **Figure 3** below and write Visual Basic.net code to calculate the sum of two numbers. [15]



The screenshot shows a Windows-style window titled "Form1" with a blue title bar and standard minimize, maximize, and close buttons. The main area of the window is light beige. It contains three text boxes arranged vertically on the left side. The first text box is labeled "Number 1" and contains the text "100". The second text box is labeled "Number 2" and contains the text "500". The third text box is labeled "Sum" and contains the text "600". To the right of the "Sum" text box is a button with a dotted border and the text "Calculate".

*Figure 3*

**END OF QUESTION PAPER**