



MACHAKOS UNIVERSITY

University Examinations for 2017/2018

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FOURTH YEAR SECOND SEMESTER EXAMINATION FOR BACHELOR OF
SCIENCE (MATHEMATICS AND COMPUTER SCIENCE)

SMA 492: COMMERCIAL PROGRAMMING

DATE: 6/12/2017

TIME: 2.00-4.00 PM

Instructions: Answer Question ONE and any other TWO Questions

QUESTION ONE (30 MARKS)

- a) i) What is the .NET Platform? (3 marks)
- ii) State **FIVE** core technologies in the .NET Platform? (5 marks)
- iii) What is a managed environment? (2 marks)
- iv) Explain **FIVE** components of the .NET Framework? (10 marks)
- b) i) Assuming that the company you work for asked you to identify appropriate software to use for developing application. State **THREE** likely reasons for choosing visual programming language (3 marks)
- ii) Distinguish between Single Document Interface (**SDI**) Application and Multiple Document Interface (**MDI**) as used in VB.NET applications. (4 marks)
- iii) Explain the ERROR in the following VB.NET program code (3 marks)

$x = 2$

$y = 3$

$$x + y = z$$

```
answer.print "z"
```

QUESTION TWO (20 MARKS)

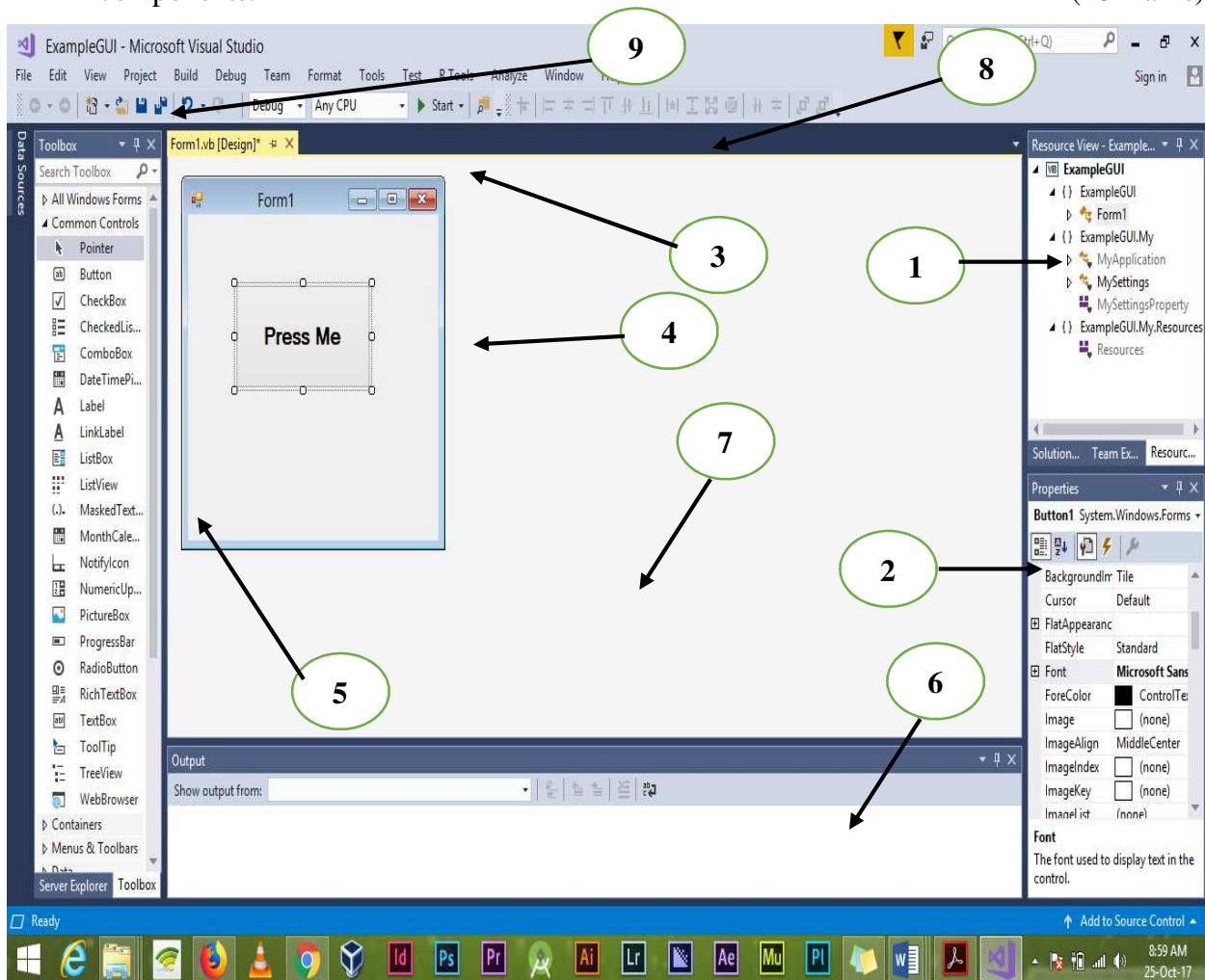
- a) i) Define the term Visual as used in Visual Programming. (2 marks)
- ii) Other than Visual Basic. State **four** other Visual Programming languages that could be used for application development. (2 marks)
- iii) A computer lab technician wants to install a Visual Basic.Net on a computer with the following specifications:
- Android Operating System
 - A 32 MB RAM
 - Hard disk space of 116 MB

Explain **TWO** reasons that may make the installation not successful. (4 marks)

- b) Outline **FOUR** factors to consider when naming objects in Visual Basic.NET programming environment. (4 marks)
- c) **Figure 1** show a form design in VB.NET intended to perform addition and subtraction. Write a VB.NET program that would allow a user to **ADD** or **SUBTRACT** two numbers when either button is clicked. The answer should be displayed on a label. Attach the program code to a command click event (8 marks)

QUESTION THREE (20 MARKS)

- a) Explain the function of each of the following Integrated Development Environment (IDE) components: (18 marks)



- b) Explain the term variable scope as used in VB.NET programs. (2 marks)

QUESTION FOUR (20 MARKS)

- a) State the type of error to be displayed in each of the following cases: (3 marks)
- Using an If statement without an end if;
 - Program adding two numbers 60+60 and gives 6060;
 - Using a prefix *txtfirstnumber* instead of *txtfirst* that exists on the property window.
- b) A company computes tax from employee's salary as follows:

SALARY	TAX	MESSAGE
Less than 10000	No Tax	No Tax
10000 and 20000	10%	Lowest Tax
21000 and 35000	15%	Middle Tax
Above 35000	20%	Highest Tax

Write a VB.NET program that would accept salary of an employee through the use of a textbox. The program should then calculate the salary less tax to be paid and the results to be displayed on a label. Use an *if....Then....Else statement*. Attach the code to a command button.

(7 marks)

QUESTION FIVE (20 MARKS)

- a) State the recommended **prefixes** when naming each of the following VB.NET controls.
 - i Combo box
 - ii Command button
 - iii List View
 - iv Text view

(4 marks)
- b) As a software developer you have been asked to develop a simple calculator, you have the option of using a VB.NET Console application or a VB.NET GUI application. Which option will you use? And WHY?

(4 marks)
- c) State FOUR factors to consider when declaring identifiers in VB.NET.

(4 marks)
- d) Sketch the output generated by the following VB.NET statement.
 MsgBox("Do you want to delete?", vbYesNoCancel + VbQuestion, "Confirm Please")

(4 marks)
- e) Differentiate between a splash window and a menu editor window as used in VB.NET

(4 marks)