



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

THIRD YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE (COMPUTER SCIENCE)

BACHELOR OF SCIENCE (MATHEMATICS)

SMA 492: COMMERCIAL PROGRAMMING

DATE: 18/1/2021

TIME: 8:30 – 10:30 AM

INSTRUCTIONS

Answer Question ONE and any other TWO Questions

QUESTION ONE (COMPULSORY)(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"
```

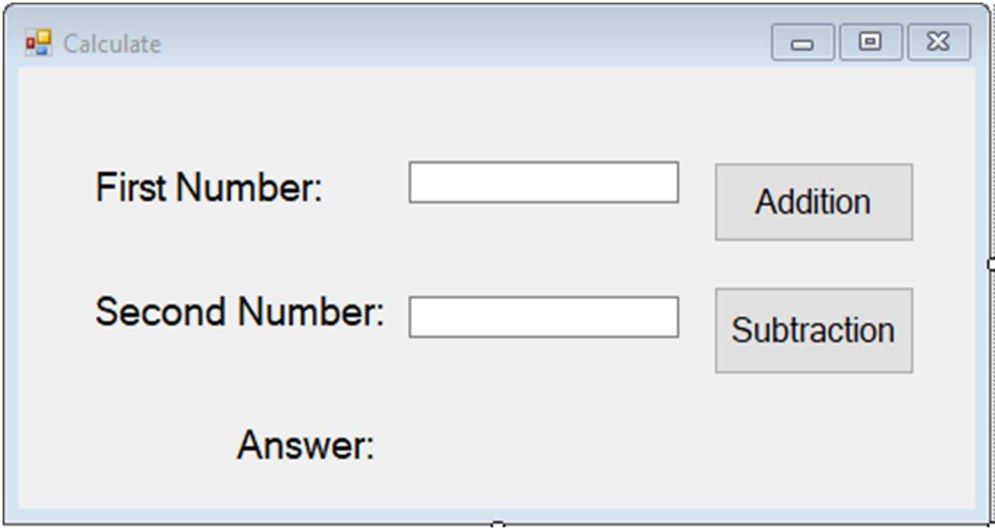
QUESTION TWO (20 MARKS)

- 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)

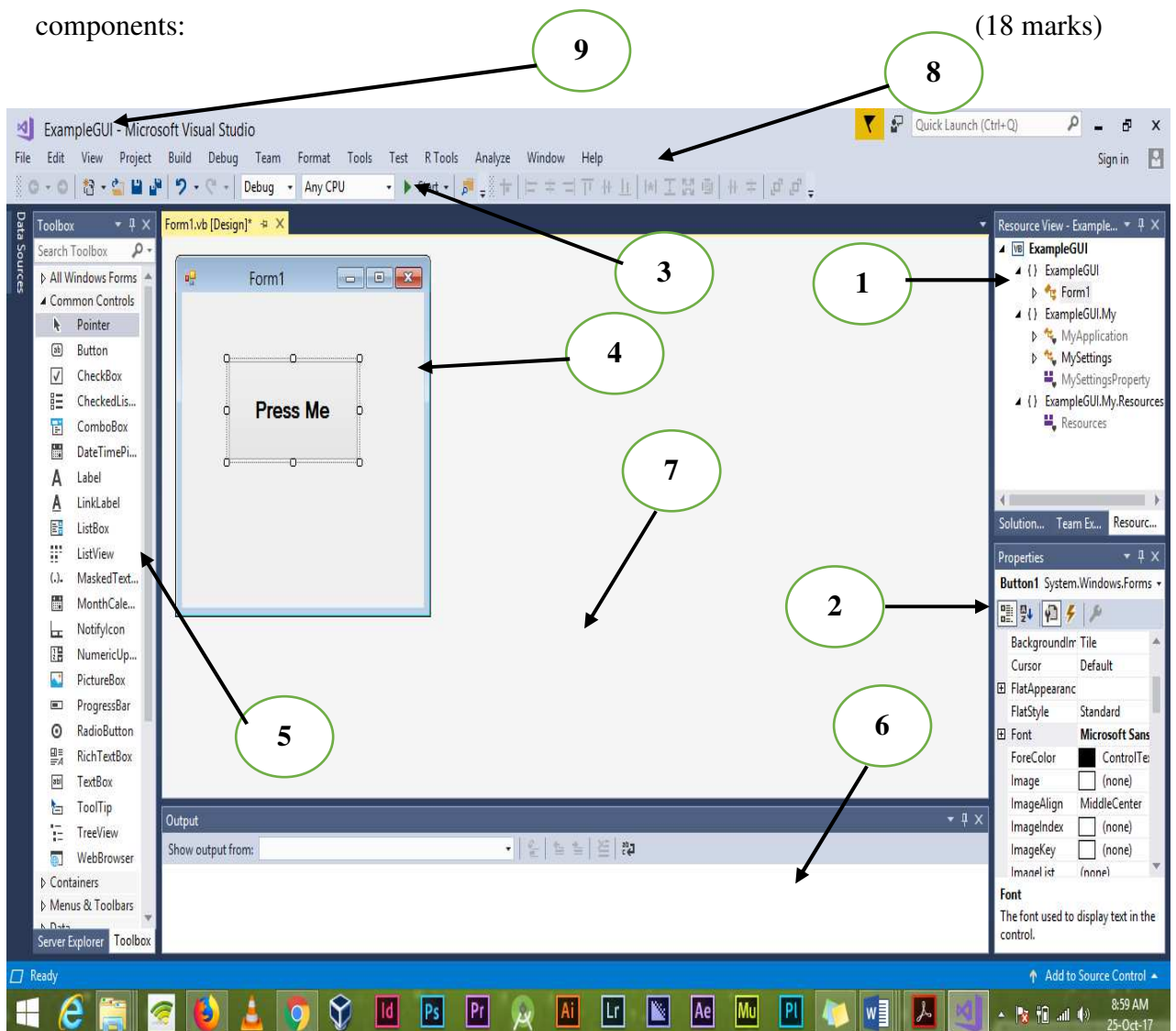
- b) Outline **FOUR** factors to consider when naming objects in Visual Basic.NET programming environment. (4 marks)

- 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)