



MACHAKOS UNIVERSITY

University Examinations for 2021/2022

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

SECOND YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (COMPUTER SCIENCE)

SCO 202: EVENT DRIVEN PROGRAMMING

DATE:

TIME:

INSTRUCTIONS

Answer Question One and Any Other Two Questions

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Name any FOUR data types used in Visual Basic programming (4 marks)
- b) Use the data types in question (a) above to declare FOUR variables (4 marks)
- c) Describe four functions used in manipulating strings. (4 marks)
- d) Write a VB statement for checking if an integer input via a Textbox control is Odd or Even (6 marks)
- e) Name FOUR controls used in graphical desktop applications development (4 marks)
- f) Using pseudocode distinguish between determinate and indeterminate loops (3 marks)
- g) List down the components of an IDE (5 marks)

QUESTION TWO (20 MARKS)

- a) VB uses coding/naming conventions while naming objects. Give an example name for each of the following objects:
 - i) a menu item for opening a document (1 mark)
 - ii) a variable to store a double data type (1 mark)
 - iii) a variable to display a Date type (1 mark)

- b) The problem is to write an application which will print the sum of all numbers between two input values. Answer the following questions in view of these problem statement:
- i) Name the types of controls you will use for the problem (3 marks)
 - ii) How many variables would you need to declare (3 marks)
 - iii) Write the code you will require in the click event of the cmdAddbutton (5 marks)
- c) Use a for ---statement to print the first 10 odd numbers one in each line (6 marks)

QUESTION THREE (20 MARKS)

- a) Explain Client Server architecture. (4 marks)
- b) Use examples to explain the following terms
- i) Properties (2 marks)
 - ii) Events (2 marks)
 - iii) Methods (2 marks)
- c) Consider the following code written in VB 2010 and answer the questions that follow
- ```

Dim counter , sum As Integer
For counter=4 to 100 step 10
sum+=counter
ListBox1.Items.Add (sum)
Next

```
- i) Write the output of the program (3 marks)
  - ii) Re-write the code using a Do....while statement (2 marks)
  - iii) Draw a flow-chart to represent this program (5 marks)

### QUESTION FOUR (20 MARKS)

- a) Name any FOUR Visual Basic 2010 math functions (4 marks)
- b) Students were asked to solve a quadratic equation in VB 2010. Answer the following questions
- i) Outline an appropriate procedure to follow (4 marks)
  - ii) Write down the algorithm that can be applied (6 marks)
  - iii) Sketch the User Interface for such an application (6 marks)

### QUESTION FIVE (20 MARKS)

- a) What is a three-tier application? (3 marks)
- b) Explain THREE properties(components) of a user defined function. (3 marks)
- c) Declare a 2-dimentional array data type to store rainfall data in millimetres. (4 marks)
- d) Explain ALL the steps involved in creating a VB 2010 Application (6 marks)

- e) The weekly pay for a worker is based on the hourly-rate times the number of hours worked. Overtime is computed by multiplying the extra hours worked with a rate of 1.5. Write down a method to compute the wage of a worker working overtime  
(4 marks)