MACHAKOS UNIVERSITY

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FIRST SEMESTER, 2021/2022 ACADEMIC YEAR

YEAR THREE SUPPLIMENTARY/SPECIAL EXAMINATION FOR THE DEGREE OF BACHELOR OF   SCIENCE IN COMPUTER SCIENCE

SCO 202: EVENT DRIVEN PROGRAMMING

DATE:_____   **TIME:** 2 HRS

EXAMINATION SESSION: AUGUST   **YEAR** 2022

Question ONE (30 Marks, Compulsory)

a) Suggest data types in VB for the following:

   i) PIN number   **(1 mark)**

   ii) Age of an employee   **(1 mark)**

b) For data types identified above, write an appropriate VB identifier for each **(2 marks)**

c) Using an example to differentiate between determinate and indeterminate loops

                                                          (6 marks)

d) Explain ALL the steps involved in creating a VB Application   **(6 marks)**

e) Explain the main components of a Visual Basic IDE   **(3 marks)**

f) Explain FOUR properties(components) of a user defined function **(4 marks)**

g) Use examples to explain the following terms
      i) Properties   **(2 marks)**
      ii) Events   **(2 marks)**
      iii) Methods   **(2 marks)**

h) Consider the following code written in VB 2010 and answer the questions that follow

```
Dim counter , sum As Integer
For counter=0 to 100 step 20
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 **(3 marks)**

iii) Draw a flow-chart to represent this program **(4 marks)**

Question TWO (20 marks)

a) Use an example to explain the following

    i) Frame **(2 mark)**

    ii) Window **(2 mark)**

    iii) ListBox **(2 mark)**

b) Declare an array data type to store temperature data in degrees centigrade **(4 marks)**

c) Write VB code to display temperature data on the console screen **(6 marks)**

d) 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 0.8 Write down a function/method to compute the wage of a worker working overtime **(4 marks)**

Question THREE (20 marks)

a) List down FOUR User interface Controls in VB. **(4 marks)**

b) In a practical lesson for SCO202 course unit, students were asked to create a simple payroll system. In the payroll, there are permanent and part-time staff. Permanent employees get a salary based on their job groups as follows: Job group A = 35000, Job group B, C… to K get an additional 5000 progressively. Part-time employees are paid based on the number of hours worked and an hourly rate of 500.

Answer the following questions in view of this problem statement:

    i) Name the types of controls you will use for the problem **(2 marks)**

    ii) How many of each control will you require for the problem? **(3 marks)**

    iii) How many variables would you need to declare **(2 marks)**

    iv) Draw the User Interface of the application **(3 marks)**

    v) Write the code you will require in the **click** event of the cmdAddbutton

(6 marks)

Question FOUR (20 marks)

a) Name any FOUR Visual Basic 2010 math functions **(4 marks)**

b) Write the code that can be used to print the sum of all numbers between 2 and 10 **(8 marks)**

c) Using a simple example show all the steps to create an application, which can access a database through Internet Explorer **(8 marks)**

Question FIVE (20 marks)

a) Consider the solution of a quadratic equation in VB and answer the following questions

   i) Sketch a flow-chart for the solution   **(8 marks)**

   ii) Write down VB Code for the solution of the problem **(8 marks)**

b) Describe a client-server architecture   **(4 marks)**

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