



MACHAKOS UNIVERSITY

University Examinations for 2016/2017

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

SECOND YEAR FIRST SEMESTER EXAMINATION FOR DIPLOMA IN
INFORMATION AND COMMUNICATION TECHNOLOGY

DIT 205: VISUAL PROGRAMMING

DATE: 6/6/2017

TIME: 2:00 – 4:00 PM

INSTRUCTIONS

Answer Questions ONE and Any Other Two Questions

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Outline **two** characteristics of an event as used in Visual programming. (2 marks)
- b) Describe **two** controls that are associated with files as used in Visual Basic. (4 marks)
- c) Outline the functions of the following components of an IDE:
 - i. Immediate window;
 - ii. Menu bar;
 - iii. Project explorer window. (6 marks)
- d) Differentiate between *implicit* declaration and *explicit* declaration as used in visual basic. (4 marks)
- e) Distinguish between an *array* and *control array* as used in Visual Basic. (4 marks)
- f) Figure 1 shows a visual Basic window at designed time. Use it to answer the questions that follow.

Form1

Enter Registration No 045

Enter Name Mike

Enter Hourly Rate 100

Combo1

ADD

txtRegno

cboCountry

txtName

txtRate

cmdDisplay

Write Visual Basic programs attached to a command click that will;

- Change the font color and font style of the value 'Millicent' to red and italic respectively (2 marks)
- Clear all the texts in the text boxes. (2 marks)
- Add the following values to the combo box:
Kenya, Uganda, Tanzania, Sudan (3 marks)
- Change the font size and background color of the information in the combo box to 18 and green respectively. Use a *with statement*. (3 marks)

QUESTION TWO (20 MARKS)

- Outline **two** disadvantages of using *variant data type* in Visual Basic programs. (2 marks)
- Write a visual basic program that would prompt the user to enter admission number, name and marks scored by a student in three subjects. The program should then compute the students average mark and output the admission number, name, total marks and average marks each separated by 5 tabs on a form. Attach the code to a command click event. (6 marks)
- State the property that could be used for the output in each of the following Visual basic controls.
 - Textbox
 - Label
 - Picture box
 - Combo box (4 marks)

- d) Outline the difference between *Do....loop while* and *Do while.....loop* as used in visual basic programming. (4 marks)
- e) With the aid of an example, distinguish between the *name property* and the *caption property* as used in a visual basic program. (4 marks)

QUESTION THREE (20 MARKS)

- a) Rewrite the following mathematical expression to its Visual Basic equivalent.

$$P = \frac{AB(1 + B)^N}{(1 + B)^{N-1}} \quad (2 \text{ marks})$$

- b) Assuming a visual basic environment, evaluate the expression.
 $\text{MyVal} = x \wedge y * a \bmod b \backslash c$ given that $x=5, y=3, a=2, b=15, c=5$ (2 marks)
- c) Write a visual basic program that would allow the user to type the name of a student in the textbook and select the sex of the student. The program then will add the name of the student in the appropriate list

(6 marks)

- d) A student created a visual basic program that could accept two integers through the use of text boxes and compute their sum. He entered values 10 and 40 and executed the program the result was 1040. State the correction needed for the program to produce the expected result. (2 marks)
- e) Sketch the output produced when the following visual basic statement is executed.
 $\text{Marks} = \text{InputBox}(\text{"enter a student mark"}, \text{"student mark"}, 0)$ (2 marks)
- f) Write a visual basic program that would allow a user to select an option button either for a sphere or a circle. The program then computes the area of the respective figure through the use of appropriate functions. Attach the code to a command click event.
 Hint: area of sphere = $4\pi r^2$ and area of a circle = πr^2 (6 marks)

QUESTION FOUR (20 MARKS)

- a) Outline **three** functions of a data grid control as used in Visual Basic. (3 marks)
- b) Distinguish between *multiselect* and *selected* properties associated with a list used in Visual Basic. (4 marks)
- c) Explain **three** typical properties associated with data bound controls as used in Visual Basic. (6 marks)
- d) With the aid of a flowchart, explain a for.....next loop. (3 marks)
- e) State the prefix used for each of the following visual basic controls:
 - i. Option button
 - ii. Timer
 - iii. Drivelistbox
 - iv. Vscrollbar (4 marks)

QUESTION FIVE (20 MARKS)

- a) State the function of each of the following controls in a visual basic program;
 - i. Pointer
 - ii. Frame
 - iii. Ole
 - iv. Combobox (4 marks)
- b) Distinguish between module level and local variable as used in a visual basic program. (4 marks)
- c) Explain giving a reason why it is important to set *Autosize* property of a picture box to true when designing programs in visual basic. (2 marks)
- d) With the aid of an example in each case, distinguish between *string* and *Boolean* data type in visual basic programs. (4 marks)
- e) Describe the function of each of the following features as used in Visual basic:
 - i. Rdo table
 - ii. Data Access Object
 - iii. Open Database Connectivity. (6 marks)