



MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)

University Examinations for 2013/2014

DEPARTMENT OF COMPUTING AND APPLIED SCIENCES

End of Term Examination for Diploma in Information Communication Technology

Module II

Visual Programming

Date: 27th March, 2014

Time: 2 Hours

Instructions

Answer all **five** questions

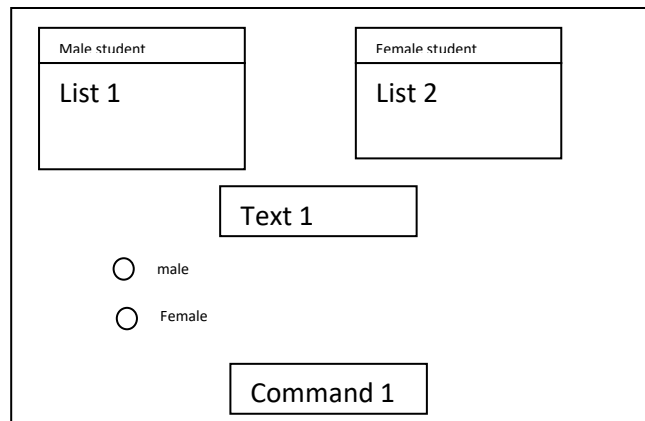
Question 1

- a) Outline the functions of the following components of an IDE:
 - i. Immediate window
 - ii. Menu bar
 - iii. Tool box
 - iv. Properties window (8 marks)
- b) Differentiate between *implicit* declaration and *explicit* declaration as used in visual basic. (4 marks)
- c) Write a visual basic program that would prompt a user to enter the dimensions in meters of a colleague's rectangular playing field through the use of input boxes, the program should then compute the area covered by the playing field in hectares and display it through a message box. Attach the code to a command click event. Hint: 1 hectare = 10000 square meters. (6 marks)
- d) 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)

Question 2

- a) State the property that could be used for the output in each of the following Visual basic controls.
 - i. Textbox
 - ii. Label

- iii. Picture box
 - iv. Combo box (4 marks)
- b) Outline the difference between *Do....loop while* and *Do while.....loop* as used in visual basic programming. (4 marks)
- c) Outline **four** date functions used in visual basic. (4 marks)
- d) Assuming a visual basic environment, evaluate the expression.
 $MyVal = x \wedge y * a \bmod b \setminus c$ given that $x=5, y=3, a=2, b=15, c=5$ (2 marks)
- e) 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)

Question 3

- a) 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)
- b) Sketch the output produced when the following visual basic statement is executed.
 $Marks = InputBox("enter a student mark", "student mark", 0)$ (2 marks)
- c) 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 (7 marks)
- d) Write a visual basic program that could display even numbers between 0 and 100. The program then computes and displays the sum of the numbers through a label. Attach the code to a command click event. (6 marks)
- e) Assuming a visual basic environment, evaluate the expression
 $Num = a - b * \text{sqr}(c)/d$ given that $a = 2, b = 3, c = 25, d = 5$ (3 marks)

Question 4

- a) State the prefix used for each of the following visual basic controls:
- i. Option button
 - ii. Timer

- iii. Drivelistbox
- iv. Vscrollbar (4 marks)
- b) Explain **two** uses of comments in visual basic programs. (4 marks)
- c) With the aid of an example in each case, distinguish between *string* and *Boolean* data type in visual basic programs. (4 marks)
- d) 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)
- e) Write the general syntax for a *function* as used in visual basic. (2 marks)

Question 5

- a) Write a visual basic program that would prompt the user to input fees paid by five students. The program should then compute the total fees paid and output the results through a message box. Attach the code to a command click event. Use the *Do While....loop*. (5 marks)
- b) State the function of each of the following controls in a visual basic program;
 - a. Pointer
 - b. Frame
 - c. Ole
 - d. Combobox (4 marks)
- c) With the aid of an example, distinguish between the *name property* and the *caption property* as used in a visual basic program. (4 marks)
- d) Anita would like to use *procedures* to develop an application in visual basic. Outline **three** benefits she would achieve from this. (3 marks)
- e) Distinguish between module level and local variable as used in a visual basic program. (4 marks)