MACHAKOS UNIVERSITY

University Examinations for 2016/2017

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FIRST YEAR SECOND SEMESTER EXAMINATION FOR DEGREE IN BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

SIT 104: VISUAL BASIC PROGRAMMING

DATE: 6/6/2017 **TIME: 2:00 – 4:00 PM**

INSTRUCTIONS

This paper consists of FIVE questions
Answer question one and other two questions in this paper

1. (a) (i) Describe each of the following components of the Visual Basic Integrated Development Environment.

I. Properties Window;

II. Object browser. (4 marks)

(ii) Outline **three** circumstances that could lead to the use of Visual Basic in the development of an application. (3 marks)

(b) (i) Describe each of the following Visual Basic objects:

I. ComboBox;

II. ListBox;

III. OptionButton. (6 marks)

(ii) Distinguish between *event* and *method* as used in Visual Basic programming. (4 marks)

(c) (i) State the prefix associated with each of the following Visual Basic controls:

I. Timer;

II. CheckBox;

III. Shape;

IV. Form. (2 marks)

(ii) Describe each of the following types of modules:

I. Form Module;

II. Class Module. (4 marks)

(d) Write a Visual Basic program that would prompt a user to enter the units of temperature (either Celsius or Fahrenheit) through the use of an input box. The program then prompts the user to key in temperature in the unit entered, converts the temperature to the alternative unit and displays the results through a message box. Use functions to convert. Attach the code to a command button.
Hint: Celsius = 5/9 * Fahrenheit – 32, Fahrenheit = 9/5* Celsius + 32.
(7 marks)

2. (a) (i) Outline **four** rules of naming variables in Visual Basic language. (4 marks)

(ii) Assuming Visual Basic programming language, state the order of execution of the following statement.

Z = exp X + Y – A * (B / C) (2 marks)

(b) (i) Write the output generated by each of the following Visual Basic string functions.

I. Upper(School of Computing)

II. Ltrim(Standard) (2 marks)

(ii) Write the output generated when the following Visual Basic statement is executed:

$A + B = B + C$, Given that A = 10, B = 5, C = 8
(2 marks)

(c) Distinguish between *debug* and *run* Visual Basic commands. (4 marks)

(d) Write a Visual Basic program that will compute the average of integers between 100 and 200 and output the result on a form. Use *do..* loop. Attach the code to a command button.
(6 marks)

3. (a) Explain each of the following methods of connecting a Visual Basic application to a database.

(i) ADO-DC;

(ii) ActiveX control. (4 marks)

(b) (i) With the aid of a sketch in each case, describe two types of reports that could be generated in a Visual Basic application. (4 marks)

(ii) Describe **two** functions that could be inserted in Visual Basic report. (2 marks)

(c) John, a programmer would like to create a Visual Basic application for capturing amount of milk supplied to a cooperative society by fifty farmers daily. Using a flow chart design the program for John. (6 marks)

(d) Study the following Visual Basic program code and then answer the questions that follow:

```
Private Sub cmdAdd_Click()
Dim Num As Integer
Num = (InputBox("Enter an Integer"))
Num = Num + 10
Num = (Num - 3) mod 4
picbox. Print Num
End Sub
```

(i) Interpret the program.
(ii) State the output generated if the input value is 10. (4 marks)

4. (a) Outline **three** data types used in Visual Basic programming language. (3 marks)

(b) (i) Explain **two** classes of operators used in Visual Basic programming language, citing two examples in each case. (5 marks)

(ii) Outline **four** elements of *for* control structure. (4 marks)

(c) Outline the use of each of the following inbuilt functions:

(i) DateAdd ( )

(ii) Year ( )

(iii) DateDiff ( ) (3 marks)

(d) The national government allocates bursary to university students annually. A student needs to apply by filling a form online. The form consists of a textbox to enter the student's registration number, a combo box to select the university, a picture box to upload a photo and option buttons to select gender. The form is submitted by clicking a button.

Sketch a Visual Basic language interface that could be used to implement this logic. (5 marks)

5. (a) Sketch the output generated when the following Visual Basic statement is executed. (4 marks)

```
MsgBox "The current date and time of the system is", "VbOKCancel" & Now
```

(b) Write a Visual Basic program that would generate the following output on a form.

```
7    8    9
7    8
7
```

Attach the code to a command button. (4 marks)

(c) Distinguish between *GotFocus* and *DropDown* properties of a combobox. (4 marks)

(d) Table 2 shows the grade scored by a candidate at KCSE and a corresponding area of study the candidate may be admitted into. Use it to answer the question that follows.

Grade	**Course**
A	Engineering
B	Medicine
C	Law
D	Science
	Arts

Table 3

Write a Visual Basic program that would prompt a user to enter the grade scored by a candidate through an input box. The program then outputs the corresponding area of study through a message box. Use the *select* control structure and attach the code to a command button. (8 marks)