THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY

MODULE II

VISUAL PROGRAMMING

3 hours

INSTRUCTIONS TO CANDIDATES

You should have an answer booklet for this examination.
*This paper consists of **EIGHT** questions.*
*Answer any **FIVE** in the answer booklet provided.*
All questions carry equal marks
Candidates should answer the questions in English.

This paper consists of 5 printed pages.

**Candidates should check the question paper to ascertain that all the
pages are printed as indicated and that no questions are missing.**

1 (a) (i) Define the term *Visual* as used in Visual Programming. (2 marks)

(ii) Other than Visual Basic. State **four** other Visual Programming languages that could be used for application development. (2 marks)

(iii) A computer lab technician wants to install a Visual Basic 6.0 on a computer with the following specifications:
• Android Operating System
• A 32 MB RAM
• Hard disk space of 116 MB

Explain **two** reasons that may make the installation not successful. (4 marks)

(b) Outline **four** factors to consider when naming objects in Visual Basic programming environment. (4 marks)

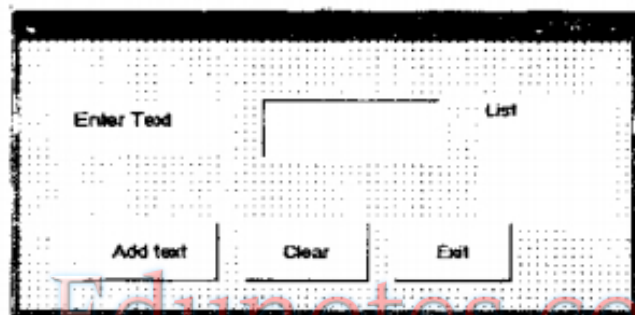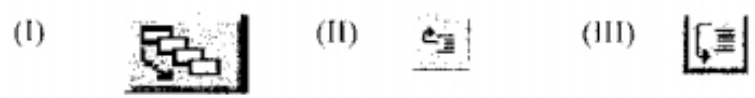(c) Figure 1 show an interface used to enter information into a database .Use it to answer the questions that follow:

Figure 1

Write a Visual Basic program that would implement each of the command buttons. (8 marks)

2 (a) Explain **two** ways used in a Visual Basic program to *pass parameters* to a function. (4 marks)

(b) Describe the **three** levels of variable declaration in a Visual Basic program. (6 marks)

(c) Distinguish between *name* and *text* property of an object as used in a Visual Basic environment. (4 marks)

(d) A soda wholesaler sells a 300ml bottle of soda for Kshs 25 when a customer purchases less than 200 bottles and Kshs 23 per bottle when a customer purchase 200 or more.

Write a Visual Basic program that prompts the user for the total number of bottles purchased through the use of a textbox. The program should then compute the total cost and display the results on a picture box. (6 marks)

3 (a) (i) State the type of error to be displayed in each of the following cases: (3 marks)

        (I) Using an If statement without an end If;

        (II) Program adding two numbers 50+50 and gives results as 5050;

        (III) Using a prefix *txtfistnumber* instead of *txtfirst* that exists on the property window.

    (ii) Explain a reason that may necessitate the use of each of the following debugging tools in a Visual Basic Program. (6 marks)

        (I)   (II)   (III)

  (b) Explain the use of each of the following properties assigned to a label at design time in a Visual Basic program. (6 marks)

    (i) Autosize;

    (ii) Forecolor;

    (iii) TabIndex.

  (c) Write a Visual Basic program that would display the following multiplication table on a form when a number 6 is entered in a textbox. Use a *for loop*. (5 marks)

    6 X 1 = 6
    6 X 2 = 12
    6 X 3 = 18
    6 X 4 = 24
    6 X 5 = 30
    6 X 6 = 36

4 (a) Other than the use of commas, describe **two** functions that may be used to format text in a Visual Basic program. Give an example in each case. (6 marks)

  (b) Distinguish between *data control* and *database engine* as used in a Visual Basic program. (4 marks)

  (c) (i) Outline the use of a boolean flag in programming. (2 marks)

    (ii) A company computes tax from employee's salary as follows:

SALARY	TAX	MESSAGE
Less than 10000	No tax	No tax
10000 and 20000	10%	Lowest tax
21000 and 35000	15%	Middle tax
Above 35000	20%	Highest tax

Table 1

Write a Visual Basic program that would accept salary of an employee through the use of a textbox. The program should then calculate the salary less tax to be paid and the results to be displayed on a label. Use an *If...Then...Else statement*. Attach the code to a command button. (8 marks)

5. (a) Outline **four** navigational methods of a *Recordset* object. (4 marks)

(b) Describe **three** Optional Parameters of the *OpenDatabase Method* that are used during the connection. (6 marks)

(c) A programmer intends to display a graphic on a Visual Basic program interface. Describe **two** controls that he would use to achieve his goal. (4 marks)

(d) Martin would like to use *Recordset* objects to manipulate data in a database. Describe **three** that he is likely to use. (6 marks)

6. (a) (i) Outline **three** benefits of using control arrays in a Visual Basic program. (3 marks)

(ii) Distinguish between a *parameter* and a local *variable* as used in a Visual Basic Program. Give an example in each case. (4 marks)

(b) Describe **three** circumstances under which ADO cursors may be used during data connection. (6 marks)

(c) Table 2 shows remarks displayed when a letter is input into a computer. Use it to answer the question that follows

No of letters in a word	Remarks
0	No word entered
1	One letter word entered
2	two letter word entered
3	Three letter word entered
4	More than three letters entered

Table 2

Write a Visual Basic program that would accept a word through the use of an Inputbox function. The program should then determine the number of characters in the word and display the remark on a picture box based on the number of letters as shown in table 2. Use *case* statement. (7 marks)

7. (a) State **six** examples of databases supported by a Visual Basic program. (3 marks)

(b) Explain **two** effects of using *option explicit statement* in a Visual Basic program. (4 marks)

(c) (i) Given the following code segment

```
Sub myfirstsub()
Print Tot (2,3)
End sub

Public Function Tot(x as single, y as single) as single
Tot =x + y
End Function
```

Interpret the code. (5 marks)

(ii)   The following is a message box function

(i)   (ii)   (iii)

yourMsg=MsgBox (Prompt, Style Value, Title)

Outline the function of each of the parts labelled (i),(ii) and (iii) .   (3 marks)

(d)   Write a Visual Basic program that would display each of the following lines of text in a multiline textbox when a command button is clicked: (5 marks)
    See no evil
    Speak no evil

8   (a)   Describe **three** properties that could be used with a *datalist* in a Visual Basic program.   (6 marks)

(b)   Distinguish between *local window* and *watch window* as used in a Visual Basic program.   (4 marks)

(c)   State a reason why each of the following Visual Basic conditions is wrong.   (3 marks)

    (i)   temperature >45 and <65

    (ii)   value1 and value2=5

    (iii)   case is 60 to 69.

(d)   Figure 2 show a form design in Visual Basic intended to perform addition and subtraction. The command button captioned Addition and subtraction all are both named *operator*. Write a Visual Basic program that would compute either addition or subtraction when either button is clicked. The answer should be displayed on a label. Use case statement.   (7 marks)

Figure 2

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