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.**

Turn over

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:
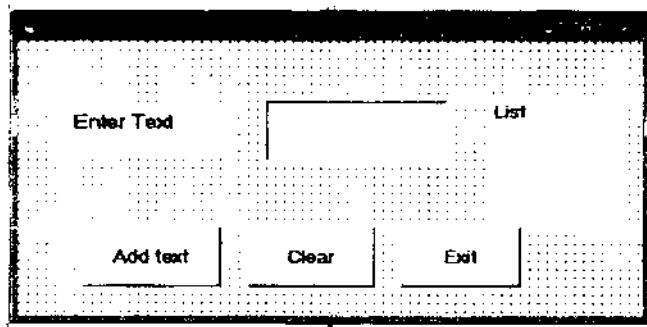

Figure 1

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

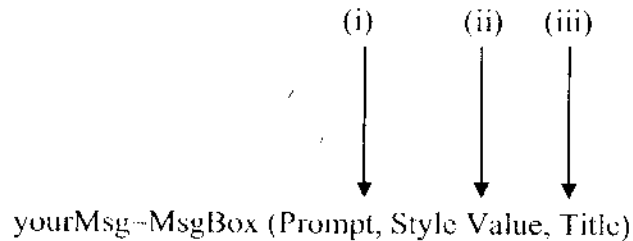| No of letters in a word	Remarks
0	No word entered
1	One letter word entered
2	two letter word entered
3	Three letter word entered
4	More than three letters entered

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)
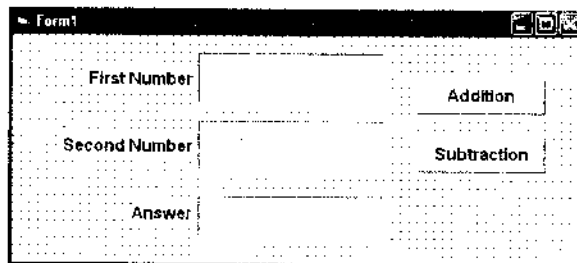

Figure 2

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