NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF APPLIED SCIENCE
COMPUTER SCIENCE DEPARTMENT
AUGUST EXAMINATIONS 2009

SUBJECT: VISUAL PROGRAMING CONCEPTS AND DEVELOPMENT
CODE: SCS 1206

INSTRUCTIONS TO CANDIDATES
Answer all questions from section A and any 2 from section B.
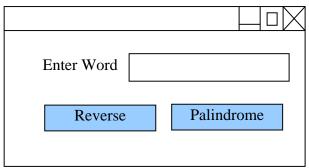Each question carries 25 marks

3HOURS

SECTION A
QUESTION ONE

a)   Explain any four advantages of using Visual Programming as compared to
   Commandline Programming for application development.   [8]

b)   With the aid of examples explain the following types of programming errors;

   i) Logic errors,   [2]
   ii) Syntax errors.   [2]
   iii) Run-time errors.   [2]

c)   Define the following terms as used in Visual Programming
      i.   User Interface
      ii.   Label
      iii.   Textbox
      iv.   Checkbox
      v.   Form   [10]

QUESTION TWO

   Write a program that implements the interface shown above and should be able to
   perform the following functions:

When the Reverse button is clicked, a word that the user inputs in the TextBox is reversed.When the Palindrome button is clicked, the program states wether the word that the user inputs in the TextBox is a palindrome or not.   [25]

SECTION B

QUESTION THREE

a)   Explain the following terms used in object models:
         i.   Inheritance
         ii. Generalization
         iii. Composition
         iv. Polymorphism
         v.   Aggregation   [10]

b)   Explain what is meant by "VB.NET implements single inheritance"   [3]

c)   Write code snippet of two classes showing the concept of inheritence, use UML diagrams to express yourself.   [12]

QUESTION FOUR

a)   Define the following terms;
         i)   Control
         ii)   Object
         iii)   Property
         iv)   Event Procedure
         v)   Method   [10]

b)   Write a VB.NET program that reads the contents of an input file and displays them on the console. The file name is to be specified by the user through the Input Box.   [15]

QUESTION FIVE

a)   What are the advantages and disadvantages of using the **Implicit declaration** as
        compared to **Explicit declaration.**   [10]

a)   Write a VB.NET program that accepts an integer n through an Input Box and
        calculates the factorial of n. The factorial of a number is given by:

$$fact(n) = n * (n - 1) * (n - 2) * \ldots 3 * 2 * 1$$

Use a Message Box to display the result.   [15]

END OF QUESTION PAPER