NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF APPLIED SCIENCE
COMPUTER SCIENCE DEPARTMENT
DECEMBER 2002 EXAMINATIONS

SUBJECT: VISUAL PROGRAMMING CONCEPTS AND DEVELOPMENT
CODE: SCS1206

Instructions to candidate:

Answer the question in Section A and any FOUR in Section B
All questions carry equal marks [20 each]

3 HOURS

SECTION A

QUESTION ONE

1a)   What features of Visual Programming Languages borrow from
       Object Oriented programming methodology?   [3]

b)   What do you understand by the term "event driven programming"?
                                                                   [4]

c)   What are the differences between

    i.   Procedure and Function

    ii.   Pass ByVal and ByRef

    iii.   Name and caption property

    iv.   Method and Event Handler

    v.   Image and Picture Control   [10]

d)   Explain how Visual programming supports modular programming?
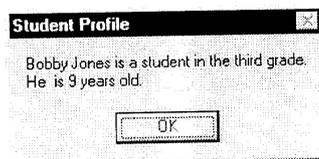   [3]

SECTION B

QUESTION TWO

2. A school wants you to develop the beginning structure of an input screen for its students. The required input information is:

i.   Student Name
ii. Student Grade (1 through 7)
iii. Student Sex (Male or Female)
iv. Student Date of Birth (Month, Day, Year)

Set up the screen so that only the Name and Date of Birth need to be typed; all other inputs should be set with option buttons, or comboboxes. When a screen of information is complete, display the summarized profile in a message box. This profile message box should resemble this:

Note the student's age must be computed from the input birth date - watch out for pitfalls in doing the computation.   [20]

QUESTION THREE

a) Build an application with two list boxes. Select items from one box. Click a command button to move selected items to the other list box. If you then double-click an item in the second list box, have it return to the first box.   [10]

b) Build an application with a Style 1 combo box. Populate with some kind of information. If the user decides to type in their own selection (that is, they don't choose one of the listed items), add that new item to the list box portion of the combo box.   [10]

QUESTION FOUR

Design a small application that accepts a user's name (first name and surname) into a textbox, then tests how many vowels are in the name and output the result. Your application should then output the name in reverse e.g if the user inputs Fred Flintstone your application should display that there are four(4) vowels and the name in reverse is :Enotstnilf Derf. (Pay particular notice to the capitals).   [20]

QUESTION FIVE

a) Write an application that uses the Function "forlunch" which outputs a lunch from a menu depending on the time and day of the week according to the following guideline:

On Friday "NUSTY fries " are served before 1pm and "Scrambled Visual Turlips" between 1 pm and 2pm.

Monday through Thursday "NUSTY cookies " are served before 1pm and " Mashed Event Driven Iterative potatoes" between 1 pm and 2pm.

On weekends the chef dishes out his speciality of "Nustly smoked salmon"

Note the dish on offer should be displayed in a messagebox, and meals are not served before 12pm and after 2pm (Your application should give an appropriate message if user requests anything during these times)   [20]

QUESTION SIX

A library would like a small application that displays a user's details as shown in the figure below. The application should allow the librarian to

i. lookup a user's details by entering the user's number and clicking on the "Look up" button resulting in the user's detail being displayed.

ii. Add a new user by filling the new user's details and clicking "Add New User" button   [20]

END OF QUESTION PAPER

GOOD LUCK!