2011
COMPUTER PROGRAMMING

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A
(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following : 10 × 1 = 10

   i) What is the sequence in which the following events are triggered when a form is loaded ?

      a) Initialize, Resize, Paint, Load

      b) Load, Initialize, Resize, Paint

      c) Initialize, Load, Paint, Resize

      d) Initialize, Load, Resize, Paint.

   ii) What is the sequence of events when a form is unloaded ?

      a) Unload, QueryUnload, Terminate

      b) QueryUnload, Unload, Terminate

      c) Unload only

      d) QueryUnload, Unload.

iii) When is the terminate event of a form triggered ?

    a) When the user moves to another form or program

    b) When the form is unloaded

    c) Never

    d) When all references to the form are deleted.

iv) Which event is triggered when the user moves to another form ?

    a) Unload

    b) Deactivate

    c) Terminate

    d) Load.

v) Which properties must be set to bind a control to a Data Environment ?

    a) Data source and Data field

    b) Data field and Data format

    c) Data member and Data field

    d) Data source, Data member and Data field.

vi) To modify the value of a field, what is the proper sequence of commands ?

    a)   Assign the value of the field and then invoke the edit and update method

    b)   Invoke the edit method and then assign the value of the field

    c)   Invoke the edit method and then assign the value of the field, then call update method

    d)   Invoke the edit method, assign the value of the field, and then call commit method.

vii) The control that cannot be displayed on the screen is

    a)   Data controller

    b)   Option button

    c)   Check box

    d)   Timer.

viii) Worst case complexity of binary search is

    a) $O(\log n)$

    b) $O(n \log n)$

    c) $O(n^2)$

    d)   none of these.

[Turn over

ix) The "For-Each-Next" looping is convenient when

    a) loop variable need to be auto incremented

    b) "For-Next" loop is already heavily used

    c) it is unclear how many elements are in array

    d) all of these.

x) "Preserve" statement is usually associated with the statement

    a) With   b) Dim

    c) ReDim   d) None of these.

GROUP – B
(Short Answer Type Questions)

Answer any *three* of the following.   3 × 5 = 15

2. Write a VB code to deduce square root of a number. The code must specifically mention the real imaginary roots.   5

3. Discuss the following VB control tools :

    a) Combo Box

    b) List Box

    c) Timer.   2 + 1 + 2

4. a) Show how can you assign properties using "With" black.

   b) How user defined data types are used in VB ?   3 + 2

5. Consider the following sorted data set :

   11, 22, 30 44, 55, 56, 70, 71, 80

   Show how binary search will proceed when the key element

   to be searched is (a) 11 (b) 90.   5

6. Write a program to display a Digital clock.   5

GROUP – C
(Long Answer Type Questions)
Answer any *three* of the following.   3 × 15 = 45

7. a) What do you mean by class and objects ? How does object oriented programming support the concept of polymorphism ?

   b) How will you create a standard .exe file in VB ?

   c) What is variant ? Will you prefer to use a variant as a programmer ? Explain.

   d) What do you mean by an event ?

(3 + 4) + 2 + (2 + 2) + 2

8. a) Discuss the following components of VB environment with the help of a schematic diagram :

    i)   Title Bar

    ii)   Menu Bar

    iii) Tool Bar

    iv) Tool Box

    v)   Properties Window

    vi) Project Window

    vii) Immediate Window.

   b) How docking of windows can be overridden ?

$(7 \times 2) + 1$

9. a) Write a VB code to perform Insertion sort.

   b) Find the following sum $S = 1 + 3 + 5 + \ldots\ldots + n$, where n will be submitted by user in text box. Using

    i)   For-Next

    ii)   Do Until-Loop

    iii) Do-Loop Until

    iv) While-Wend. $5 + 10$

10. a) Write a VB code to perform ordered linear search on a given set of data.

b) Implement a VB program that will take n as input from user and finds.

c) All Fibonacci numbers up to n and

d) The n-th Fibonacci number. 6 + 5 + 4

11. a) Discuss briefly about sub-procedures, event-procedures and function-procedures in VB.

b) What is dynamic array in VB ? What is the use of "ReDim" statement in VB ?

c) How does a sequential file differ from a random file? (3 × 3) + (2 + 1) + 3