

KIBABII UNIVERSITY COLLEGE

(A Constituent College of Masinde Muliro University of Science and Technology)

UNIVERSITY EXAMINATIONS 2013/2014 ACADEMIC YEAR

FOR THE CERTIFICATE IN INFORMATION TECHNOLOGY

COURSE CODE: DIT 052

COURSE TITLE: RAPID APPLICATION PROGRAMMING

DATE: December, 2014

TIME: 2 Hrs

INSTRUCTIONS

ANSWER QUESTION ONE AND ANY TWO QUESTIONS

Q1.

a) Define the following as used in programming:-

- i. Semantic
- ii. Syntax

(4 Marks)

b) Describe the Visual Basic programming toolbox controls, indicating their respective naming convention styles. (9 Marks)

Describe the qualities of a good program. (5 Marks)

Consider the following program:-

```
Private Sub Command1_Click()  
    Dim x as single  
    Dim y as single  
    Dim z as single  
  
    x = InputBox("Enter the value of x")  
    y = InputBox("Enter the value of y")  
  
    z = x + y  
  
    MsgBox "The result is " & z
```

End Sub

- i) Identify the errors in the above program and suggest corrections to the program. (2 Marks)
- ii) If the errors were corrected and the program executed, discuss the program output. (4 Marks)

Q2

Design an interface that would enable a user enter values in two text box controls and display the answer in a third text box control. Indicate the controls complete with their respective tentative names in tandem with the Visual Basic naming conventions (6 Marks)

Write a program that calculates the Perimeter of a Rectangle whose sides are defined by the user. (3 Marks)

Write a program that calculates the volume of a cylinder whose dimensions are defined by the user. (3 Marks)

Using one function, implement a program that calculates the Area and the circumference of a circle whose dimensions are defined by the user (6 Marks)

NB. The the perimeter of a rectangle is given by $2(L+W)$, area of a circle is given by πr^2 while the volume of the cylinder is given by $\pi r^2 h$ and $\pi = 3.14$

Q3

Describe the System Development Cycle (18 Marks)

Q4.

- a) Using the necessary examples, discuss the Visual Basic Programming control structures (9 Marks)
- b) Using a control structure of your choice, implement a program that would define the following pattern.

```
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* * * * *
*
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* * *
* * * *
* * * * *
```

(5 Marks)

c) Discuss the output of the following program

```
Private Sub Command1_Click()  
  
    Dim m, n, p, q as integer  
  
    n = 3  
    m = 2  
  
    p = m + n  
  
    q = p + m * n  
  
    MsgBox "The result is "&q  
  
End Sub
```

(4 Marks)

Q5

Given the following information, in an upcoming health center, patient is required to first report at the registry where the patient details are taken. The patient is then send to the consultancy room where the consultant takes the patient's symptoms, makes a diagnosis then decided whether the patient goes to the Lab for tests or not. If he/she is send to the Lab, the patient is tested and send back to the consultant for more diagnosis and prescriptions. If not, the consultant prescribes medication then sends him/her to the pharmacy. From the pharmacy, the patient clears with the accounts before leaving.

a) Draw a flowchart diagram to represent the flow of information in the program above.

(8 Marks)

b) Briefly define the Tables and a description of the fields that are involved in developing the database of the above system

(10 Marks)