



**DEDAN KIMATHI UNIVERSITY OF TECHNOLOGY  
UNIVERSITY EXAMINATIONS 2019/2020**

**EXAMINATION FOR BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY  
AND BACHELOR OF SCIENCE IN BUSINESS INFORMATION TECHNOLOGY  
CIT 2201: APPLICATION PROGRAMMING / CIT 2207: APPLICATION AND  
EVENTS DRIVEN PROGRAMMING**

**DATE: AUGUST 2020**

**TME: 2 HOURS**

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**INSTRUCTIONS**

**Answer question ONE and any other TWO questions**

**QUESTION ONE (30 MARKS)**

- (a) Explain the following terms as used in VB.NET programming
- (i) Publish (2 marks)
  - (ii) Event driven programming (2 marks)
  - (iii) Integrated development environment (2 marks)
- (b) Differentiate the following terms as used in VB.NET
- (i) Dynamic and Static linking (4 marks)
  - (ii) Design Mode and Break Mode (4 Marks)
  - (iii)
- (c) Some countries use different units in measuring distance. You are tasked to develop a VB program to convert other distance units to meters. The program should allow the user to select the units to convert from a combo box, and allow the user to input the actual units a textbox. There should be two button to command: convert distance and clear controls. The program should then display the output on a label.

**Required:**

- (i) Draw a mock up screen with the above descriptions including naming the controls as: cboUnits, txtDistanceValue, lblDistanceMeters, btnConvert and btnClear. (6 marks)

- (ii) On the foam load event, write code that will assign cboUnits the following items:  
Miles, Yards, Foot, Inches and Nautical Miles (2 marks)
- (iii) On the btnClear click event, write code that will reset the controls (2 marks)
- (iv) On the btnConvert click event, using an appropriate control structure, write code that will consider the item selected in cboUnits control, then convert appropriately as per the conversion table below, and displace the results in lblDistanceMeters. Your program should validate if the distance is numeric, not a negative number and not zero. pppropriate validation messages should be displayed to the users using a messagebox control (6 marks)

Distance units	Equivalent in meters
Miles	1609.34
Yards	0.9144
Feet	0.3048
Inches	0.0254
Nautical Miles	1852

**QUESTION TWO (20 MARKS)**

- a) Define the following terms as used in programming and support your answer with examples
  - (i) Method (2 marks)
  - (ii) Variable (2 marks)
  - (iii) Comments (2 marks)

b) Name and describe two TextBox properties [2 Marks]

- c) Information provided in the table below can be used in a college admission system to automate allocation of grades to students. Each time a student’s score is entered in a TextBox named **txtScore**, the student is automatically allocated a grade which is displayed in a textbox named **txtGrade**.

Between 70 and 100	A
Between 60 and 69	B

Between 50 and 59	C
Between 40 and 49	D
Between 0 and 39	E

- (i) Draw an interface indicating the properties set for each control [2 Marks]
- (ii) Rewrite the code in (i) above using **SELECT-CASE** control structure [6 Marks]
- d) Differentiate between the following looping constructs. Give general syntax of each [4 marks]
- e) One of the qualities of a good program is readability. As a result, there are a number of techniques employed by programmers to ensure that programs are readable. Discuss any 2 of them. [2 marks]

**QUESTION THREE (20 MARKS)**

- (a) Giving an example, identify and explain three types messagebox dialog boxes used in VB (6 marks)
- (b) Write VB code to prompt a user to input his/her name on the console window, then the output will be shown as an example below: (2 marks)
- “Hello John!”
- (c) Using VB code, write two ways you can clear a textbox control (4 marks)
- (d) (i) Explain the terms Dynamic Linking Library as used in Visual Basic (2 marks)
- (ii) Discuss three reasons why software developers in Visual Studio are encouraged to come up with DLL? (6 marks)

**QUESTION FOUR (20 MARKS)**

- (a) Explain the term rapid application development (2 marks)
- (b) Differentiate the following windows as used in Visual Basic Programming IDE

- (i) Properties (2 marks)
- (ii) Methods windows (2 marks)

(c) The code below has bugs. Rewrite the debugged code (4 Marks)

```
Dim count As String
For count = 0 To 5
    MessageBox.Show(count)
Next
```

(d) (i) Contrast the terms error detecting and error handling as used in VB programming (4 marks)

(ii) Using an example, explain the four exception handling block as used in VB.NET programming (6 marks)