



# MURANG'A UNIVERSITY OF TECHNOLOGY

## SCHOOL OF COMPUTING AND INFORMATION TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE

UNIVERSITY ORDINARY EXAMINATION

2018/2019 ACADEMIC YEAR

**SECOND YEAR FIRST SEMESTER EXAMINATION FOR DIPLOMA IN  
INFORMATION TECHNOLOGY**

SCS 053 – VISUAL PROGRAMMING

DURATION: 2 HOURS

DATE: 26/4/2019

TIME: 2-4 P.M.

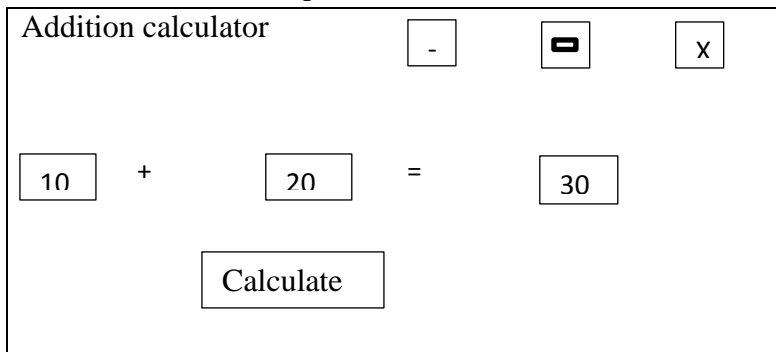
**Instructions to candidates:**

1. Answer question One and Any Other Two questions.
2. Mobile phones are not allowed in the examination room.
3. You are not allowed to write on this examination question paper.

**SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION**

**QUESTION ONE (30 MARKS)**

- a) Briefly define what is visual programming (2 marks)
- b) Using code segments, differentiate between IF-THEN and IF-THEN-ELSE as used in decision making in VB2010. (4 marks)
- c) Controls are very common in VB2010, briefly describe what they are and give three examples. (4 marks)
- d) The following are properties/methods of textboxes in VB. Distinguish their functionality:
  - i. GotFocus and LostFocus (2 marks)
  - ii. Keydown and keyup (2 marks)
- e) Describe the following data types: (3 marks)
  - i. Byte
  - ii. Integer
  - iii. Double
- f) Using examples, show how to declare the following variables in VB: string, integer, single and float. (4 marks)
- g) Write a simple program to implement a calculator as shown in the diagram below. The calculator should compute on event of calculate button being clicked. (6 marks)



- h) Differentiate between DO WHILE.....LOOP and DO.....LOOP WHILE using segments of code. (3 marks)

**SECTION B – ANSWER ANY TWO QUESTIONS IN THIS SECTION**

**QUESTION TWO (20 MARKS)**

- (a) Briefly describe what is encapsulation? (2 marks)
- (b) Differentiate between OR and XOR logical operators. (4 marks)
- (c) Name six components found in visual basic IDE. (6 marks)
- (d) As much as VB2010 is object oriented programming, it's also an event driven programming.
  - i. Describe what is an event as used in VB2010. (2 marks)

- ii. Write simple code to be located on form load ( ) event to change the title of the form to “WELCOME TO VB2010” and change its color to cyan. Use color.cyan to invoke color class. (6 marks)

**QUESTION THREE (20 MARKS)**

- a) Constants are used in many programming languages, well VB2010 is no exception. Define what they are and declare two constants to illustrate how they are declared. (4 marks)
- b) Exception handling ensures that errors that might arise during execution of the program are taken care of. Using Try.....Catch block, illustrate how this works in VB2010. (6 marks)
- c) Procedures and routine helps programmers to organize their code into single section. That’s why while writing code, it appears between private sub and end sub. VB allows us to create our own subroutines from scratch, which can either be private, public, static. Describe the following terms as used in subprograms:
  - i. Private (1 mark)
  - ii. Public (1 mark)
  - iii. Static (1 mark)
- d) Define what a function is. (2 marks)
- e) Write a public function to calculate and return the circumference of a circle. The function should accept radius as the parameter. (5 marks)

**QUESTION FOUR (20 MARKS)**

- a) What does string concatenation mean? (1 mark)
- b) If text1=”VISUAL” and text2=”. Using two distinct operators, combine the string to achieve two similar output “VISUAL BASIC” (2 marks)
- c) Using nested IF, write a simple program to grade students and display grade in textbox named txtGrade according to the table below. (10 marks)

Mark range	Grade
0-39	E
40-49	D
50-59	C
60-69	B
70-100	A

- d) Implement a For....Next loop to print 0 to 100 on a label named lbldisplay on event of clicking a button cmdDisplay. (7 marks)