

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

RESIT/SPECIAL

FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE AWARD OF
CERTIFICATE IN COMPUTER SCIENCE

COSC 00107:APPLICATIONS PROGRAMMING

STREAMS: CERT COMP SCI (Y1S2)

TIME: 2 HOURS

DAY/DATE: MONDAY 01/02/2021

8.30 A.M. – 10.30 A.M.

INSTRUCTIONS:

- Answer question ONE and any other TWO questions in section B
- Do not write anything on the question paper
- This is a closed book exam, no reference materials are allowed in the examination room
- There will be NO use of mobile phones or any other unauthorized materials
- Write your answers legibly and use your time wisely.

SECTION A (Compulsory 30 Marks)

QUESTION ONE(30MKS).

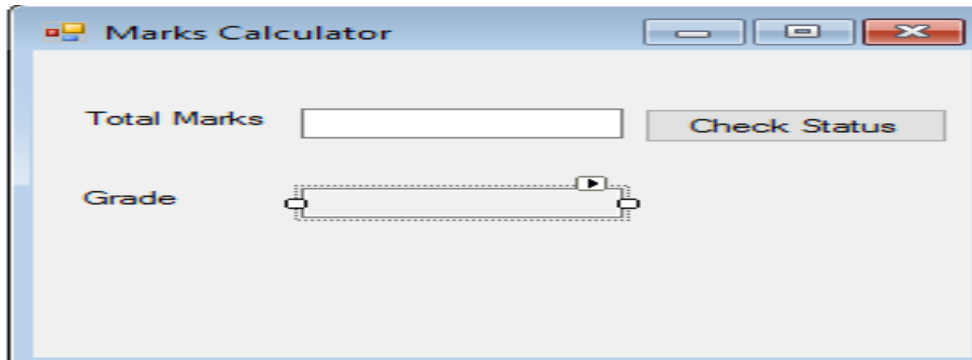
- a) State the standard prefix for each of the following data types (5 marks)
 - i. Double
 - ii. Boolean
 - iii. Currency
 - iv. Variant
 - v. Byte
- b) State four languages supported by .Net framework? (4 marks)
- c) VB.NET is a development tool that contains a rich set of productivity and debugging features. Discuss how beneficial these features are? (5 marks)
- d) By giving examples differentiate between a variable and a named constant (6 marks)
- e) Explain the differences between a subroutines and a function procedure (4 marks)

- f) State the function of each of the following category of statements as used in a visual basic program
- i. Assignment (2 marks)
 - ii. Executable (2 marks)
 - iii. Declaration (2 marks)
- g) Distinguish between local variable and global variable as used in visual basic program (4 marks)

SECTION B: ANSWER ANY TWO QUESTIONS FROM THIS SECTION.

QUESTION TWO (20MARKS)

- a) Distinguish between run-time error and logic error as used in visual basic programming (4 marks)
- b) Using the form below, write a program that would enable a teacher to input the marks and get the grade as **“PASS”** if the marks are 50 and above otherwise **“FAIL”** (6 marks)



- c) Suppose the grades are as follows: Amend your program to the **“Check Status”** button to handle the below, you need to ensure the teacher doesn't input a mark beyond 100 (10 marks)

“A” for exam marks greater than or equal to 90 and below 100.

“B” for exam marks in the range 80-89.

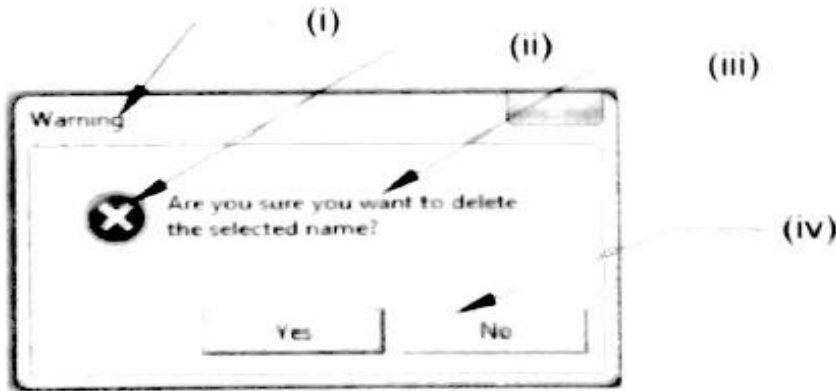
“C” for exam mark in the range 70-79.

“D” for exam mark in the range 60-69 and

“F” for all other marks.

QUESTION THREE (20MARKS)

- a) Describe three types of selection structures in visual basic (6 marks)
- b) The figure below shows the output from a message box function in a Visual Basic program. identify the arguments responsible for the output of each of the parts labelled (i) to (iv) (6 marks)



- c) List and describe the function of any four components that constitute visual basic integrated development environment (IDE) (8 marks)

QUESTION FOUR (20MARKS).

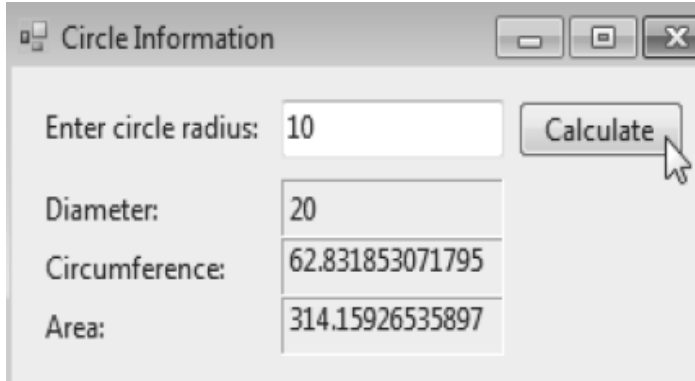
- a) State and explain any **FOUR** events associated with a textbox control in visual basic (8 marks)
- b) With the aid of an example in each case, explain two ways of concatenating two strings in visual basic program (4 marks)
- c) Distinguish between a listbox and combo box as used in visual basic (4 marks)
- d) Outline two ways in which a variable can be declared in order to be accessed from any part of the program (4 marks)

QUESTION FIVE (20MARKS)

- a) Write a visual basic program that enables a user to input the radius of a circle, the program would then display the circle's diameter, circumference and area (10 marks)

Use the following formulas (r is the radius): diameter=2r, circumference =2πr; area=πr²

NB: Figure below shows a case where the user inputs 10 as the radius and clicks on the Calculate button



- b) The figure below shows a sample of simple calculator, write a visual basic program that would produce such a calculator, with two textboxes to allow the user to input two numbers, four buttons that would enable for Addition, Subtraction, Multiplication and Division operations, the answer to any of the operations should be displayed on the label
(10 marks)

NB: Simple calculator showing Division operation

