CHUKA  **UNIVERSITY**

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF CERTIFICATE IN COMPUTER SCIENCE

COSC 00107: APPLICATIONS PROGRAMMING

STREAMS: CERT (COMP SCI) YIS2 **TIME: 2 HOURS**

DAY/DATE: THURSDAY 09/04/2020 **11.30 AM – 1.30 PM**

INSTRUCTIONS:

- **Answer question one and any other two from section B**
- **Do not write on this paper**

SECTION A {compulsory}

Question One (30 Marks)

a) Define the following in the context of Event Driven Programming Principles

i.	Event Driven Programming	(1mk)
ii.	An event	(1mk)
iii.	An event procedure	(1mk)
iv.	A general procedure	(1mk)
v.	Method	(1mk)
vi.	Module	(1mk)
vii.	Properties	(1mk)
viii.	Forms:	(1mk)
ix.	Integrated Development Environment (IDE	(1mrk)

b) Clearly explain the standard steps in developing a Visual Basic Application (6 mrks)

c) Explain the function of the following windows that are found in VB.NET

i.	Solution Explorer.	(2mrks)
ii.	Properties window	(2mrks)
iii.	Form Designer window	(2mrks).

d) Clearly differentiate the following VB.BET controls

(i) RadioButton control and CheckBox (2 mrks)
(ii) ListBox and ComboBox (2 mrks)

e) Write Visual basic code that displays the text "Hello World" on a form . **[5mks)**

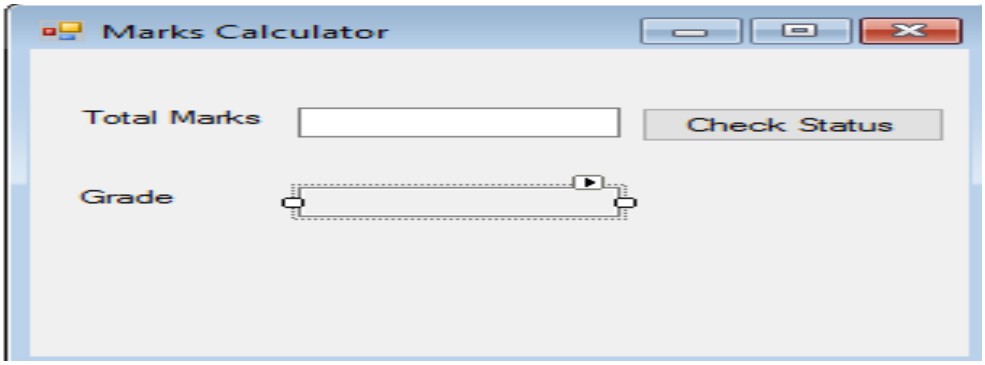
SECTION B: ANSWER ANY TWO QUESTIONS FROM THIS SECTION

Question Two (20 Marks)

a) Distinguish between run-time error and logic error as used in visual basic programming. (4mrks)

b)

c) 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**" (6mrks).



d) 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 (10mrks).

"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 (20 Marks)

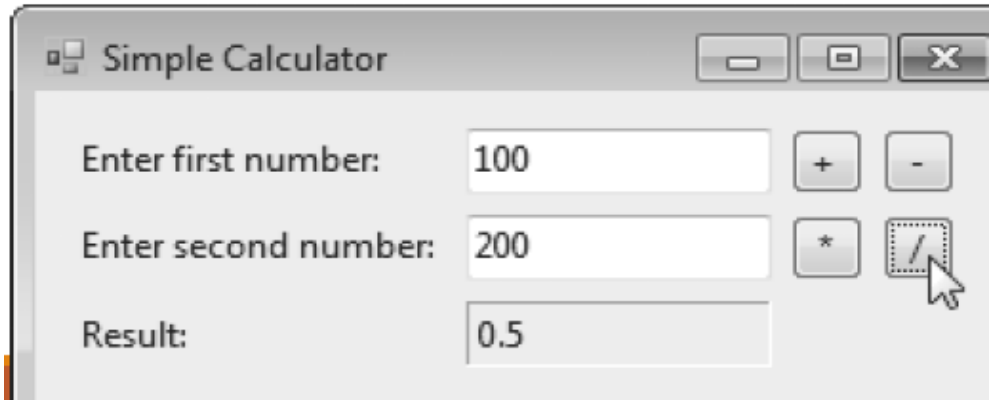
a) The table below shows a grading system used by a primary school to analyse students internal examination results .use it to answer the question that follows.

Average	Grade
75-100	A
65-74	B
55-64	C
45-54	D
Less than 45	F

Write a visual Basic program that accepts five values through the use of inputbox function .the program shoild then determine the average and its appropriate grade .The average and grade should be displayed on a form.use if….else if…else statement**.** **(7mks).**

b) Write Visual basic code that displays the text "Hello World" on a form **(5mks)**

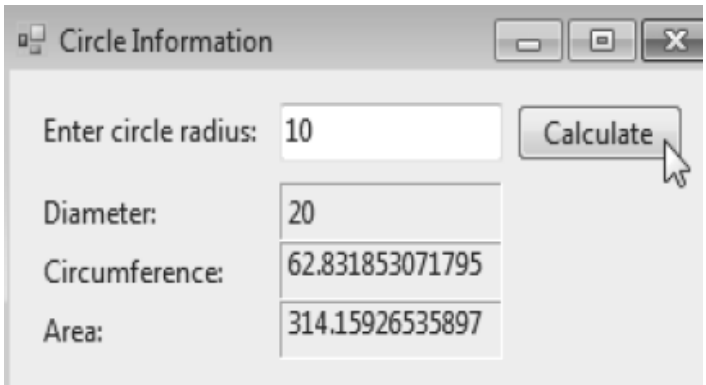
c) The figure below shows a sample of simple calculator, write a visual basic program that would produce such a calculator, with two textboxes to allow the user to input two numbers, four buttons that would enable for Addition, Subtraction, Multiplication and Division operations, the answer to any of the operations should be displayed on the label (8mrks).
NB: Simple calculator showing Division operation



Question Four (20 Marks).

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(10mrks).
Use the following formulas (r is the radius): diameter=2r, circumference =2πr; area=πr^2

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



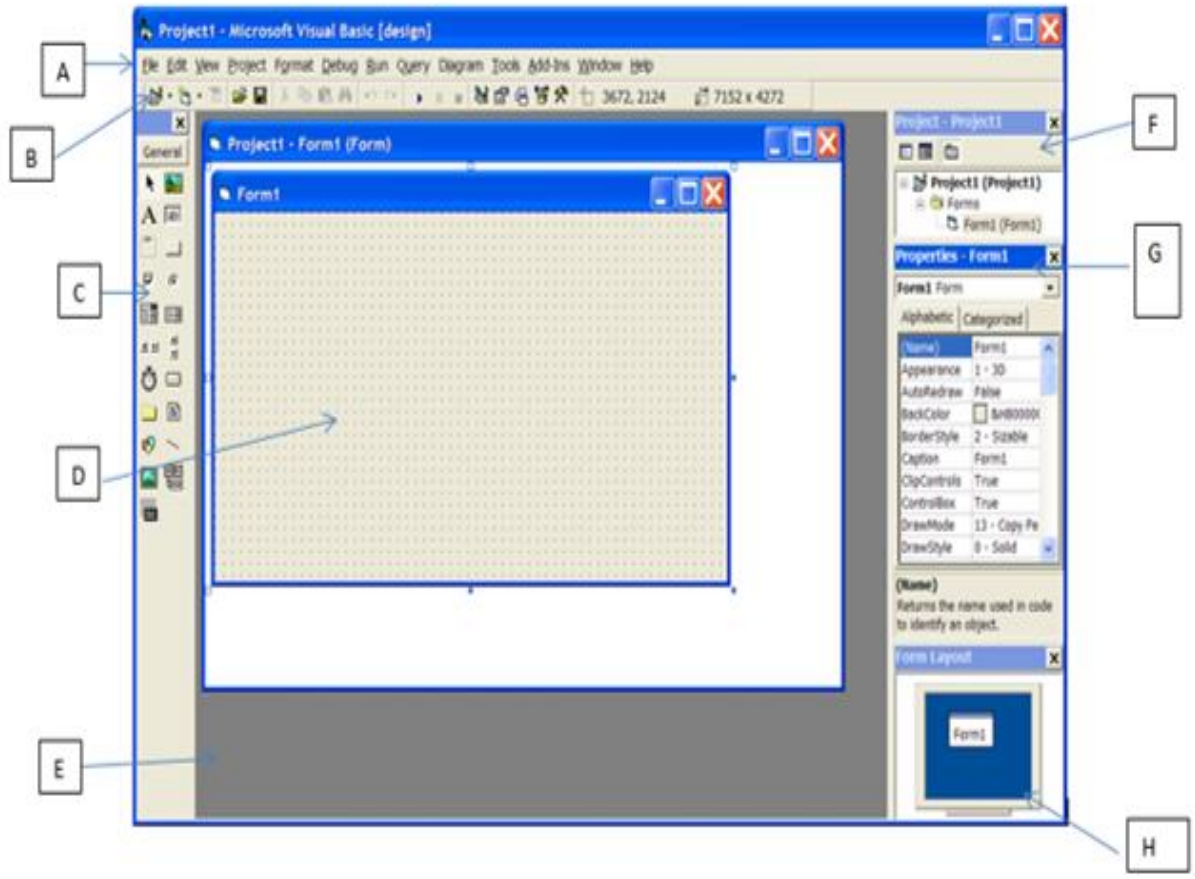
The table below shows a grading system used by a primary school to analyse students internal examination results .use it to answer the question that follows.

Average	Grade
75-100	A
65-74	B
55-64	C
45-54	D
Less than 45	F

Write a visual Basic program that accepts five values through the use of inputbox function .the program shoild then determine the average and its appropriate grade .The average and grade should be displayed on a form.use if….else if…else statement. (10mrks).

Question Five (20 Marks)

a) Identify each of the following parts of a Visual Basic Screen. (8mrks).



b) State the standard prefix for each of the following data types(5mrks).

i. Double
ii. Boolean
iii. Currency
iv. Variant
v. Byte

c) Write a visual Basic program that would accept a number through a text box.The program should then compute the square and the squareroot of the number and display the output in a label with the following description.

"The square of "n**umbe**r " is "**square** " and its squareroot is "**squareroot**".
Where the **number,square** and **squareroot** are the values derived from the code.Attach the code to a command button. (7mrks).
