CHUKA   **UNIVERSITY**

SUPPLEMENTARY / SPECIAL EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF CERTIFICATE IN COMPUTER SCIENCE

COSC 00103: INTRODUCTION TOPROGRAMMING AND ALGORITHM

STREAMS: **CERT COMPSCI Y1S1**

                                                           TIME: 2 HOURS

DAY/DATE: MONDAY 16/11/2020   **11.30 A.M - 1.30 P.M.**

INSTRUCTIONS:
- Answer question **ONE** and **TWO** other questions
- 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.
- Marks are awarded for clear and concise answers.

QUESTION ONE (30 Marks)
a) Define the term Algorithm.   [2Marks]

b) Define the following terms.   [10Marks]
     i. Variables.
     ii. Identifiers.
     iii. Constants.
     iv. Keyword
     v. Translator

c) Write the meaning of the following Escape sequences.

                                                    [5Marks]

     i. \b
     ii. \n
     iii. \r
     iv. \t
     v. \v

d) List down any Three programming languages that one can use to write a computer program. [3Marks]

e)

f) Write a C statement that declares a variable named(marks) of Integer type. [2Marks]

g)

h) Write a C program that prompts for two numbers and outputs their sum. [4Marks]

i) Explain the use of the following operators. [4Marks]
      i. /
     ii. %
    iii. ++
    iv. +=

SECTION B (Answer any TWO questions)

QUESTION TWO (20 Marks)

a) Design a pseudocode and its corresponding flow chart for finding and displaying the average of two numbers [6Marks]

b) Write a C Program to find whether a given number is even or odd. [6Marks]

c) Write a C Program that prompts a user for radius, then calculates the area and circumference of a circle and outputs the results. [8Marks]

QUESTION THREE (20 Marks)
a) List and Explain Five characteristics of Algorithms. [10Marks]
b) With examples discuss the Three types of programming errors [10 Marks]

QUESTION FOUR (20 Marks)
a) Write a pseudocode to compute the area of a rectangle. [4Marks]
b) Discuss the three types of translators [6Marks]
c) Write a C program that prompts a user for the interest rate, principle, time and then computes the simple interest. [10Marks]

QUESTION FIVE (20 Marks)
a) Differentiate between compile time errors and run time errors [6Marks]

b) Discuss the main parts of a C program [7Marks]

c) List FIVE rules for naming identifiers [5Marks]

d) Define the term computer program. [2Marks]

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