

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATION
RESIT/SUPPLEMENTARY / SPECIAL EXAMINATIONS
EXAMINATION FOR THE AWARD OF CERTIFICATE IN COMPUTER SCIENCE**

COSC 00103: INTRODUCTION TO PROGRAMMING AND ALGORITHMS

STREAMS: CERT COMP SCIENCE

TIME: 2 HOURS

DAY/DATE: TUESDAY 02/11/2021

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.

SECTION A

Question one (30 marks)

1. Declare a variable int type using C syntax (4 marks)
2. Define the Following Terms:
 - i. BASIC (2 marks)
 - ii. Programming language (2 marks)
 - iii. Algorithm (2 marks)
3. Differentiate an interpreter from a compiler (4 marks)
4. List three common resource tools to learn C (3 marks)
5. Explain the following types of program errors:
 - i. Syntax errors (2 marks)
 - ii. Semantic errors (2 marks)
 - iii. Logical errors (2 marks)
6. Why is studying programming style important (2 marks)

7. Write Syntax of a simple C++ Programme outputting the result “Hello,World!” (5 marks)

SECTION B (ANSWER ANY TWO QUESTIONS ONLY)

Question two (20 marks)

- a. Draw A flow chart to sum Two numbers entered by user (5 marks)
- b. List THREE data types supported by both C and Java programming languages (3 marks)
- c. What do the following Operators mean (4 marks)

i.&&
ii.

- d. You have two variables, a with stored value of 10 and b with stored value of 20
 Declare the variables, assign the stored values and print the values in Python Language (8 marks)

Question Three (20 marks)

- a. Assume the given marks are x for a student
 - If given marks are more than 70, then
Student is brilliant
 - If given marks are less than 30, then
Student is poor
 - If given marks are less than 70 and more than 30, then
Student is average

Write a C program with the help of **if conditional statements** to convert the above given situation into a programming code (10 marks)

- b. Draw Flow chart for above Programme (5 marks)
- c. Write Pseudocode for above FLOWCHART (5 marks)

Question Four (20 marks)

- a. What is an Algorithm? Explain Five major characteristics of a good algorithm (10 marks)
- b. Write a **do...while** loop in C for printing the words **Hello, World** Ten times (10 marks)

Question Five (20 marks)

a. What are the stages a Software Developer goes through in order to develop a successful and beneficial computer programme (10 marks)

b. There are over 250 programming languages. List & Explain FIVE major differentiation factors in programming languages. (10 marks)

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