

# **PAN AFRICA CHRISTIAN UNIVERSITY**

**CERTIFICATE IN INFORMATION, COMMUNICATION AND TECHNOLOGY**

**END OF SEMESTER EXAMINATION**

**DEPARTMENT: COMPUTING AND INFORMATION TECHNOLOGY**

**COURSE CODE: CICT0113**

**COURSE TITLE: INTRODUCTION TO PROGRAMMING CONCEPTS**

**CAMPUS: ROYSAMBU**

**EXAM DATE: MONDAY 2<sup>nd</sup> DECEMBER ,2024**

**TIME: 2:00PM -5:00PM**

## **INSTRUCTIONS**

- This exam script has **TWO (2)** sections.
- Read all questions carefully before attempting.
- Answer All questions in Section **A** and any other Three questions in Section **B**.
- Write only your **student number** on the answer booklet provided.

**SECTION A**

**(Answer ALL questions in this section)**

**Question 1:**

- a) Explain the function of a semicolon in a C program? **[1 mark]**
- b) "Logic programming is based on formal mathematical logic." Justify this statement. **[3 marks]**
- c) Operators are symbols or keywords that perform operations on one or more operands. With examples, explain three types of operators used in programming. **[6 marks]**

**SECTION B**

**(Answer any THREE (3) questions in this section)**

**Question 2:**

- a) All library functions are included in different header files saved with a .h extension. State the functions of the following header files. **[4 marks]**
  - i. `stdio.h`
  - ii. `string.h`
  - iii. `math.h`
  - iv. `time.h`
- b) Develop a C program with a function that takes two parameters x and y as inputs and returns their summation. **[6 marks]**

**Question 3:**

- a) Develop a program to convert temperature from Fahrenheit to Celsius given that  $C = (\text{Fahrenheit} - 32) * 5/9$ . **[5 marks]**
- b) Identify and correct errors in each of the following statements: **[5 marks]**
- i. `Printf(Welcome);`
  - ii. `scanf("d", x);`
  - iii. `printf("Welcome")`
  - iv. `define PI 3.14159`
  - v. `Void my Function()`

**Question 4:**

Software development is a complicated process comprising many stages that requires careful planning and execution to meet the goals. Describe the steps a program has to follow in a software development life cycle. **[10 marks]**

**Question 5:**

- a) Distinguish between a flow chart and an algorithm. **[2 marks]**
- b) State the functions of the following directives. **[2 marks]**
- i. `#include`
  - ii. `#define`
- c) Using a loop structure, develop a C program that prints out the following numbers: **[6 marks]**

10, 15, 20, 25, 30

**Question 6:**

- a) Distinguish the key differences between a compiler and an interpreter. **[4 marks]**
- b) Develop a C program to print the day of the week using a switch case. **[6 marks]**

**EOF**