GRETSA UNIVERSITY - THIKA

UNIVERSITY EXAMINATIONS

JANUARY – APRIL 2026 SEMESTER

BACHELOR OF COMPUTER SCIENCE

COURSE CODE: BSCS 106

COURSE TITLE: INTRODUCTION TO PROGRAMMING

DATE: 08 APRIL 2026 **TIME: 2 HOURS**

INSTRUCTIONS TO CANDIDATES

1. SECTION A IS **COMPULSORY.**
2. SECTION B: ANSWER ANY OTHER **TWO** QUESTIONS.
3. **DO NOT** WRITE ANYTHING ON THIS QUESTION PAPER AS IT WILL BE AN EXAM IRREGULARITY.
4. ALL ROUGH WORK SHOULD BE AT THE BACK OF YOUR ANSWER BOOKLET AND CROSSED OUT.

CAUTION: *All exam rooms are under CCTV surveillance during the examination period.*

SECTION A: COMPULSORY

Question One

a) State and explain four core concepts of programming that every programmer should understand. **[4 Marks]**

b) Define the following terms and give one example for each:**[** **[6 Marks]**

i. Program

ii. Programming Language

c) Write a simple C++ program to display the message: **[4 Marks]**

"Hello, welcome to programming!"

d) Differentiate between if, else if, and switch statements in C++. Use simple code examples to illustrate your answer **[6 Marks]**

e) Explain the purpose of the following C++ statements: **[5 Marks]**

i. #include <iostream>

ii. using namespace std;

iii. return 0;

f) What is a variable? Give an example of variable declaration and initialization in C++. **[5 Marks]**

SECTION B: ANSWER ANY THREE QUESTIONS

Question Two

a) Write a simple C++ program using a for loop to print numbers from 1 to 5. **[5 Marks]**

b) Differentiate between the following types of errors in programming **[6 Marks]**

i. Syntax errors

ii. Runtime errors

iii. Logical errors

Provide one example for each.

c) State and explain three ways of writing comments in C++. Write a simple program to demonstrate their usage. **[5 Marks]**

d) Define a data type and give four examples of data types in C++. **[4 Marks]**

Question three

a) Define the term function. Explain the syntax for declaring and calling a function in C++.

[5 Marks]

b) Write a C++ program that uses a function to find the maximum of three numbers entered by the user. **[8 Marks]**

c) Differentiate between local variables and global variables using suitable examples.

[7 Marks]

Question Four

a) Explain the concept of arrays in C++. How are arrays useful in programming? **[6 Marks]**

b) Write a C++ program that stores five student marks in an array and calculates their average.

[8 Marks]

c) Differentiate between one-dimensional and two-dimensional arrays, giving suitable examples.`

[6 Marks]

Question five

a) Explain the concept of decision-making statements in C++. Give two examples. **[5 Marks]**

b) Write a C++ program that accepts a number from the user and determines whether the number is even or odd **[8 Marks]**

c) Explain arithmetic and relational operators in C++. Give suitable examples. **[7 Marks]**