



GRETSA UNIVERSITY - THIKA

UNIVERSITY EXAMINATIONS

JANUARY – APRIL 2025 SEMESTER

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

COURSE CODE: BSCS 106

COURSE TITLE: INTRODUCTION TO PROGRAMMING

DATE: APRIL 2025

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

- a) SECTION A IS **COMPULSORY**.
- b) SECTION B: ANSWER ANY OTHER **TWO** QUESTIONS.
- c) **DO NOT** WRITE ANYTHING ON THIS QUESTION PAPER AS IT WILL BE AN EXAM IRREGULARITY.
- d) 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) Define the term preprocessor directives and state the preprocessor directive in C [3 marks]
- b) Define the term loop and write a program which will print numbers 2 to 50 using a for loop [5 marks]
- c) Identify the errors in the following code; [4 marks]

```
#includ <stdio.h>
int main ()
{
for( ; ; )
{
printf("This loop will run forever.\n")
}
return 0
}
```

- d) Discuss the following terms in relation to structured programming [5 marks]
 - i) IDE
 - ii) Variable
 - iii) Statement terminator
 - iv) %d
 - v) %f
- e) Explain the term translator and state two types of translators [2 marks]
- f) Write the general format of the IF...ELSE control structure. [3 marks]
- g) The length of a rectangle is 2 centimeters and the width is 1.25 centimeters. Use this information to answer the questions below.
 - i. Needed is the C program to compute the area and perimeter of the rectangle. [2 marks]
 - ii. Discuss the structure of the Program in (i) above. [2 marks]
- h) Using a suitable example discuss the difference between Postdecrement operator and Predecrement operator. [4 marks]

SECTION B: ANSWER ANY TWO QUESTIONS

Question Two

- a) Briefly explain five arithmetic operators used in C [5 marks]
- b) Write a C program which displays numbers 1-11 using do while statement [5 marks]
- c) Explain the different stages involved in program development [5 marks]
- d) Define the term loop and write the general syntax of a for loop [5 marks]

a)

Question three

- a) Define the purpose of the following directives in C [5 marks]
 - i. Return 0;
 - ii. Int main()
 - iii. Printf()
- b) Define the term identifier, giving rules that an identifier must conform to. [6 marks]
- c) Differentiate between the following: [4 marks]
 - i. Local and global variables
 - ii. Actual arguments and formal arguments
- d) Write a program to allow the user input any digits and give the resultant day of the week. [5 marks]

Question Four

- a) Write a C program which will display the sum and average of two numbers [5 marks]
- b) Write the general syntax of a switch statement used in C [5 marks]
- c) Define the term comment as used in C and demonstrate how to use the two types of comment formats. [5 marks]
- d) Define the term 'keywords' as used in C programming and list 4 keywords [5 marks]

Question Five

- a) Briefly explain the structure of a C program. [5 marks]
- b) List three advantages and two disadvantages of using arrays. [5 Marks]
- c) Explain pass by value and pass by reference with the necessary examples [5 marks]

- d)** Write a program to calculate the simple interest of ten investors who have deposited the same principle, given the same simple interest rate and accumulating for the same period of time using one program. [5 marks]]