



KENYATTA UNIVERSITY
EXAMINATION FOR THE DEGREE OF BACHELOR OF INFORMATION
TECHNOLOGY

SIT 106: PROGRAMMING METHODOLOGY

2ND SEMESTER 2023/2024

TIME: 2 HOURS

INSTRUCTIONS:

Answer Question ONE and any other TWO Questions from the following paper

1. (a) Define the terms:
 - (i) Modular programming
 - (ii) Assembly programming language (4 marks)
- (b) In the execution of a C++ program, errors can occur. Outline three such errors which can be encountered. (9 marks)
 - (ii) Differentiate between = and == symbols as used in C++ programming. (7 marks)
- (c) Outline five key features of the C++ programming language. (10 marks)
2. In programming, all statements are executed consecutively. Sometimes this fails to apply especially where a decision will need to be made. When this arises, loops come in handy. Answer the following questions:
 - (i) What is a loop? (2 marks)
 - (ii) Give three types of iterative loops in a C++ program. (6 marks)
 - (iii) Explain using an example the syntax of each of the identified loops. (7 marks)
3. Write C++ program that uses while loop to compute x raised to power Y (X^Y) (15 marks)
4. (a) When is the use of the "FOR" Loop in a C++ program appropriate as compared to the other loops. (4 marks)

- (b) In a programming class, students are asked to pick on any number (n) from the list of known natural numbers. The students are then tasked to write a C++ program that can prints the sum of the numbers 1 to n. Design the program that will implement this task.
5. Design an algorithm as well as flowchart for finding out largest number out of three given numbers in a C++ program. (15 marks)