SECTION A (40 MARKS)

Answer all questions in this section

1. Describe FOUR building blocks of object-oriented programming (OOP) (4 marks)

2. Using appropriate examples explain two types of programming errors [4 Marks]

3. Develop a pseudo code and a flowchart to print the largest number among two numbers entered by the user (5 marks)

4. Identify FOUR levels of testing a computer program. (4 marks)

5. Define each of the following terms as used in programming (4 Marks)

     i.   Algorithm

     ii.   Programming language

     iii.   Interpreter

     iv.   Object code

6. List THREE program design tools. (3 Marks)

7. List FOUR different types of operators that a C programmer can utilize. (4 Marks)

8. Differentiate between black box and white box testing. (4 Marks)

9. Write a C program that uses a loop to generate and display numbers 0 to 9 (4 marks)

10. Differentiate the following as used in programming

     i.   Global variable and a local variable (2 marks)

     ii.   While loop and Do… while loop (2 marks)

SECTION B: (60 MARKS)

Attempt any THREE (3) questions in this section

QUESTION ONE

a) Design a program to calculate and output the area and perimeter of a rectangular football field using:
      i) Pseudocode (6 Marks)
      ii) A Flowchart (6 Marks)
b) Write a C program that implements the above questions (8 marks)

QUESTION TWO

a) Write a C program that prompts for the input of two integer values, determines if they are both even and if they are the program outputs "THE NUMBERS ARE EVEN" otherwise the program outputs "THE NUMBERS ARE NOT EVEN" (10 Marks)

b) Write a program in C language that prompts a user to enter three integers and displays the largest of them. (10 Marks)

QUESTION THREE

a) Describe any four types of operators in C programming (8 marks)

b) Describe any three repetitive structures used in programming (12 marks)

QUESTION FOUR

a) Explain the process or stages of program development (10marks)

b) Using SWITCH decision making statement, write a C code that prompts a user to enter two integers. The code then prompts a user to select from options 1-3 inclusively. If a user selects option 1 the code returns the sum of the two integers, if the user selects option 2 returns the product of the numbers; if the user selects option 3 it returns the sum of the squares of the numbers (10 marks)