KIRIRI WOMEN'S UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2023/2024 ACADEMIC YEAR
FIRST YEAR, FIRST SEMESTER EXAMINATION
FOR THE BACHELOR OF BUSINESS INFORMATION TECHNOLOGY
KBI 2109 – FUNDAMENTALS OF PROGRAMMING

Date: 09TH AUGUST 2023
Time: 8:30AM – 10:30AM

INSTRUCTIONS TO CANDIDATES
ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

a)   Distinguish between the following terms

    i)   Local variable and global variable   (2 Marks)

    ii)   Object code and source code   (2 Marks)

    iii) Compiler and interpreter   (2 Marks)

    iv)   Constant and variable   (2 Marks)

b)   Describe four advantages of C programming over other programming languages   (4 Marks)

c)   With exemplification, analyze three types of program errors   (6 Marks)

d)   Elucidate any two features of a good programming language   (2 Marks)

e)   Explain the phases of a typical C program   (6 Marks)

f)   Elaborate on the following terms

    i)   Top-down design and bottom-up design   (2 Marks)

    ii)   Union and structure   (2 Marks)

QUESTION TWO (20 MARKS)

a)   Discuss the steps followed in program development   (8 Marks)

b)   An IT student want to create a C program that compute the area of a circle after reading the radius

from the user

    i)   Write a pseudocode   (4 Marks)

    ii)   Draw a flow chart the student will use   (4 Marks)

    iii) Write the program   (4 Marks)

QUESTION THREE (20 MARKS)

a)   i. Describe the importance of the function prototype   (3 Marks)

       ii. Define the term recursive function   (2 Marks)

       iii. Highlight any three benefits of using a function   (3 Marks)

b)   Expound the three levels of programming languages   (6 Marks)

c)   Define the term array   (2 Marks)

d)   Enumerate four variable naming rule that are used in C programming language   (4 Marks)

QUESTION FOUR (20 MARKS)

a)   Using an example declare a pointer   (2 Marks)

b)   Illustrate the three control structures used in programming   (6 Marks)

c)   A program is required to process and award students grades for students in a class according to the following summary table.

Marks%	Grade
80 – 100	A
60 – 79	B
40 – 59	C
Below 40	Fail

Write a C program that prompts the user for the student's Marks and outputs the appropriate grade using a nested if-else statement. The else option should print an error message "Wrong Marks"

(6 Marks)

d)   There are several operators in the C language. Define an operator and discuss any three data operators

(6 Marks)

QUESTION FIVE (20 MARKS)

a)   i. Define a data type   (2 Marks)

       ii. Explain the categories of data types in C Programming Language.   (8 Marks)

b)   Discuss the two methods of including comments in your C program   (2 Marks)

c)   Describe why the function main ( ) is special in a c program   (2 Marks)

d)   Explain three classification of the programming languages   (6 Marks)