KIRIRI WOMEN'S UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2023/2024 ACADEMIC YEAR
THIRD YEAR, FIRST SEMESTER EXAMINATION
FOR THE BACHELOR OF BUSINESS INFORMATION TECHNOLOGY
KBI 2303 – SPECIALIZED PROGRAMMING LANGUAGES

Date: 06TH December 2023
Time: 11:30AM – 1:30PM

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

QUESTION ONE (30 MARKS)

a) Explain the following data types as they are used in programming:
   i)   Computer Interface   (2 Marks)
   ii)   Programming language   (2 Marks)
   iii) encapsulations   (2 Marks)
b) Distinguish between class and objects.   (4 Marks)
c) Describe four different types of computing environments.   (8 Marks)
d) Describe the main drawbacks of machine language as it is used in programming. (6 Marks)
e) Discuss the SIX primary benefits of high-level languages.   (6 Marks)

QUESTION TWO (20 MARKS)

a) Discuss the THREE types of language translators.   (6 Marks)
b) Compare interpreters and compilers.   (6 Marks)
c) Define algorithm   (4 Marks)
d) Highlight four characteristics of a good algorithm.   (4 Marks)

QUESTION THREE (20 MARKS)

a) Differentiate between the While and the Do While loops, giving the general syntax. (4 Marks)
b) Write a C program using the while loop that displays numbers 1 to 10 on the screen. (6 Marks)
c) Highlight four disadvantages of low level programming language.   (4 Marks)
d) Highlight the main features of modular programming highlighting its key advantages. (6 Marks)

QUESTION FOUR (20 MARKS)

a) Define the term arrays and highlight its main characteristics.   (4 Marks)
b) C is both 'portable' and 'efficient'. Explain.   (6 Marks)
c) Draw a flowchart for a program that calculates the area and the perimeter of a circle then displays results on the screen.   (4 Marks)
d) Write the code for the above program (c).   (6 Marks)

QUESTION FIVE (20 MARKS)

a) Draw a flowchart for a program that will output the words adult, teen or child based on the age. If age is below 13 years**, child**, age is between 13 and 19, **teen** else **adult**. (6 Marks)

b) State any FOUR examples of syntax errors. (4 Marks)

c) Draw a flow and Write code for a program that computes the number of seconds in a year. (6 Marks)

d) Write a C program code for the above program (c). (4 Marks)