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KIRIRI WOMEN'S UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2023/2024 ACADEMIC YEAR
FOR THE CERTIFICATE IN INFORMATION TECHNOLOGY
CIT 1002- STRUCTURED PROGRAMMING

Date: 08TH AUGUST 2023
Time: 8:30AM – 10:30AM

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

- a) Define the following terms as used in structured programming: (5 Marks)
 - i) Computer language
 - ii) Algorithm
 - iii) Software
 - iv) Keyword
 - v) Case sensitive
- b) Constants can be used in C expressions in two ways. State the two ways and give example of each (4 Marks)
- c) A variable is an identifier that is used to represent some specified type of information within a designated portion of the program. Describe types of variables (5 Marks)
- d) State and discuss the files used in C program (4 Marks)
- e) Define the term escape sequence and highlight various escape sequence with their meaning (6 Marks)
- f) While programming, a programmer may encounter different errors. Describe the types of errors and give example of each (6 Marks)

QUESTION TWO (20 MARKS)

- a) Various tools are used to transform the instructions prepared by programmers into a form which can be interpreted & executed by the computer. Identify and discuss the various tools to achieve this purpose (8 Marks)
- b) Identify and state the relational operators used in C programming language (4 Marks)
- c) Discuss the different elements that make up the following simple program (8 Marks)

```
/*My simple sample  
first C program*/  
#include<stdio.h>  
main()  
{  
printf("This is a C program \n");  
return 0;  
}
```

QUESTION THREE (20 MARKS)

- a) C supports five basic data types. Giving examples of each, discuss the data types along with the C keywords that represent them (10 Marks)
- b) Write a C program that creates variables of types **char**, **float**, and **double** assigns each a value and outputs these values to the screen. (10 Marks)

QUESTION FOUR (20 MARKS)

- a) A student is unable to calculate the area of a rectangle. Write a C program that computes the area of a rectangle, given its dimensions. It first prompts the user for the length and width of the rectangle and then displays the area. (10 Marks)
- b) Logical expression contains four relational and two equality operators. Highlight the six logical expression (6 Marks)
- c) There are five arithmetic operators in C programming language. Discuss (4 Marks)

QUESTION FIVE (20 MARKS)

- a) A constant is a value that does not change during program execution. State with examples, four basic types of constants in C (8 Marks)
- b) The order of executing the various operations makes a significant difference in the result. C assigns each operator a precedence level. Explain the rules that apply (4 Marks)
- c) Discuss the order of executing the following expression in C. (8 Marks)
bread = 250.0 + 600.0 * y / wheat;

Where y = 50.0 and wheat= 20.0.