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

Date: 18TH APRIL 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 C programming language: (4 Marks)
- i) Comment
 - ii) identifiers
- b) Define the term escape sequence and indicate escape sequence used in C program with their functions (4 Marks)
- c) While coding, a programmer might make mistakes which may or may not be identified by the compiler. Discuss the different types of errors in C programming language (6 Marks)
- d) Explain the term variable and state the various types of Variables in C programming Language (4 Marks)
- e) Highlight the rules that are applied to all numeric-type constants in C programming language (3 Marks)
- f) Write a simple C program that displays your name on the screen (5 Marks)
- g) Highlight the four basic types of constants in C language, give examples (4 Marks)

QUESTION TWO (20 MARKS)

- a) A computer is a machine that doesn't understand the alphabets and numerics used by programmers while programming. Discuss the tools used to transform the instructions prepared by programmers into a form which can be interpreted and executed by the computer (8 Marks)
- b) IT student in KWUST wants to develop a program. Describe steps she should follow in program development to ensure the program is easy to read, test, debug and Modify (8 Marks)
- c) By use of examples, explain the types of data types programmer will use while coding in C program (4 Marks)

QUESTION THREE (20 MARKS)

- a) Explain components that make up a typical C program (6 Marks)
- b) Describe files used in C program and indicate the file extension of each file (4 Marks)
- c) Create a simple calculator in C language that prompts the user to enter two values and calculates the product (10 Marks)

QUESTION FOUR (20 MARKS)

- a) Write a program that helps a high school student to compute the area of a rectangle, given its dimensions. It first prompts the student for the length and width of the rectangle and then displays the area (10 Marks)
- b) Highlight the various arithmetic operators in C language (5 Marks)
- c) The four relational operators together with two equality operators are known as logical expressions. List these six operators (5 Marks)

QUESTION FIVE (20 MARKS)

- a) Write a C program that counts from one to ten, prints the values on a separate line for each, using 'for' loop (10 Marks)
- b) Explain the conditional statements used in C program, and demonstrate the syntax of each (10 Marks)