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KIRIRI WOMEN'S UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2024/2025 ACADEMIC YEAR
FIRST YEAR, FIRST SEMESTER EXAMINATION
FOR THE DIPLOMA IN BUSINESS & INFORMATION TECHNOLOGY
DIT 1002 STRUCTURED PROGRAMMING

Date: 7TH AUGUST 2024
Time: 2:30PM – 4:30PM

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

- a) Briefly explain the history of computer languages (4 Marks)
- b) Programmer is prone to errors while coding creating a software. Discuss the different types of errors that are identified in C programs (5 Marks)
- c) A programming paradigm is a fundamental style of computer programming, a way of building the structure and elements of computer programs. State the main programming paradigms (5 Marks)
- d) In this error of technology, there are variety of computer languages. Briefly describe the computer languages classifications (5 Marks)
- e) Describe the components that make-up a C programming language and give example in each (5 Marks)
- a) Structured programming frequently employs a top-down design model, in which developers break the overall program structure into separate subsections. Highlight languages categorized as structured programming languages (6 Marks)

QUESTION TWO (20 MARKS)

- a) the following program contains several errors. Identify the bugs and explain ways of debugging (8 Marks)

```
/*This is a C program, that  
contains bugs/  
#include<stdioh>  
main )  
{  
float number1, number2;  
number1=2.75  
number=0.15;  
float sum=number1+number2  
printf("Sum:\n %f", SUM);  
return ;  
}
```

- b) A constant is a value that does not change during program execution. State the basic types of constants in C programming language (6 Marks)
- c) The SDLC is a methodology that aims at producing a high-quality system that meets or exceeds

customer expectations, reaches completion within times and cost estimates, works efficiently and is inexpensive to maintain and cost-effective to enhance. Discuss the phases in SDLC (6 Marks)

QUESTION THREE (20 MARKS)

- a) Using the operator precedence, explain how the following expression would be evaluated step by step;
book = 250.0 + 600.0 * n / PAGES;
Where n = 50.0 and PAGES = 20.0 (5 Marks)
- b) Escape sequences (also called back slash codes) are character combinations that begin with a backslash symbol used to format output and represent difficult-to-type characters. State the seven-escape sequence used in C programming language (7 Marks)
- c) A variable is a memory location whose value can change during program execution. Write C program codes that calculates the area of a rectangle and demonstrates the two main categories of variables (8 Marks)

QUESTION FOUR (20 MARKS)

- a) Explain the different data types used with respective keywords in C programming language (5 Marks)
- b) Give examples in each data type mentioned above (5 Marks)
- c) Write a C program that uses direct constant;
i. Allows user to enter values and (5 Marks)
ii. Calculates the volume of a cylinder (5 Marks)

QUESTION FIVE (20 MARKS)

- a) State the six operators in C programming language that form logical expressions (6 Marks)
- b) The format specifier tells the compiler that the second argument will be receiving a different data type. Describe the various format specifiers (6 Marks)
- c) Use 'do-while' loop to create a C program that displays your first name ten times (8 Marks)