

061005T4ICT

ICT TECHNICIAN LEVEL 5

IT/OS/ICT/CR/5/5

Develop Computer Program

Nov/Dec 2024



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

WRITTEN ASSESSMENT

Time: 3 HOURS

INSTRUCTIONS TO CANDIDATE

1. Marks for each question are indicated in the brackets.
2. The paper consists of **TWO** sections: **A** and **B**.
3. Candidates are provided with a separate answer booklet
4. **DO NOT** write on this question paper.

This paper consists of FOUR (4) printed pages
Candidates should check the question paper to ascertain that all
pages are printed as indicated and that no questions are missing.

SECTION A (40 MARKS)

Answer ALL the questions in this section.

1. Define the following terms as used in computer programming: (4 marks)
 - a. Programming language
 - b. Assembler
 - c. Linker
 - d. Debugging
2. Different approaches can be used during programming. Mention FOUR programming approaches. (4 marks)
3. HTML statements are usually enclosed inside tags. Name FOUR tags used in HTML. (4 marks)
4. As a programmer, you have been asked to develop a computer program using C programming language. Outline the basic structure of a C program (4 marks)
5. Control structures are commonly used to control the flow of a program. Give FOUR control structures in C. (4 marks)
6. Programming languages can be classified based on their generation. List FOUR third generation programming languages (4 marks)
7. You have been hired to develop a computer program by a client who insists that you use C programming language. Identify FOUR factors that he might have considered in choosing this language. (4 marks)
8. During the design stage of a computer program, there are certain tools that help make the process easier. Other than pseudocodes, highlight FOUR program design tools that one can use. (4 marks)
9. Henry was asked to test a program by his supervisor. State FOUR types of testing he is likely to use. (4 marks)
10. Give FOUR advantages of using agile software development methodology. (4 marks)

SECTION B (60 MARKS)***Answer Any THREE Questions in This Section***

11. During an interview, mark was asked to develop a simple structure of a website using HTML.

- a. Describe the basic structure of an HTML document. (8 marks)
- b. Differentiate between server-side application and client-side application as used in internet programming (4 marks)
- c. Describe FOUR benefits of the common gateway interface (CGI) (8 marks)

12. Program development is a rigorous undertaking that requires one to pay attention to detail and think critically to solve a problem.

- a. Using examples, discuss FOUR datatypes used in C. (8 marks)
- b. Describe THREE advantages of pseudocode as a program design tool. (6 marks)
- c. Explain THREE types of errors that are likely to be detected during testing and debugging (6 marks)

13. The following table shows the criteria used to award grades based on marks scored by trainees in ABC College.

Marks	Grade
0 – 49	Not yet Competent
50 – 99	Competent

- a. Using a flowchart, design a program logic that would be used to prompt the trainee to enter their marks, the program should then output their grade and comments. (6 marks)
- b. Using C programming, write a program to implement the logic in (a) above using if...else statement (6 marks)
- c. Write a C program to check whether a number entered is odd or even. (4 marks)
- d. Differentiate between local and global variables as used in C programming. (4 marks)

14.

- a. Explain THREE program translators used to convert source code to executable programs. (6 marks)

- b. The following is a C program written by trainees at CBA College. Identify the errors in the program. (6 marks)

```
#include stdio
Int main ()
{
int a, b, sum

a=12, b=113, sum=0;

sum=a+b;

printf(sum of a and b is: sum)

return 0;

}
```

- c. Correct the errors identified in (b) above (8 marks)