061005T4ICT

ICT TECHNICIAN LEVEL 5

IT/OS/ICT/CR/5/5

DEVELOP COMPUTER PROGRAM

NOV/DEC 2023

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

WRITTEN ASSESSMENT

Time: 3 Hours

INSTRUCTIONS TO CANDIDATE

1. This paper has THREE sections A, B and C. Attempt questions in each section as per instructions given in the section.
2. You are provided with a separate answer booklet.
3. Marks for each question are indicated in the brackets.
4. Do not write on the question paper

This paper consists of 7 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: 20 MARKS

Answer ALL questions in this section.

Each question carries one Mark.

1. Define the term computer program as used in program development.

    A. is a computer video file that demonstrates how to properly use the computer.

    B. is a computer binary file that protects the computer from cyber criminals.

    C. is a set of instructions that represents a logical solution to a problem.

    D. is a set of instructions that explains how to repair and maintain a computer.

2. .... refers to the program code that is in machine-readable (binary) form.

    A. Computer program.

    B. Source program.

    C. Television program.

    D. Object program.

3. Which is a function of the Linker, during the compilation process in programming?

    A. links and merges various executable files to make a source file.

    B. loads executable files into memory and executes them.

    C. links and merges various object files to make an executable file.

    D. loads non-executable files into memory and executes them.

4. .... is a set of steps that are followed to develop a program in any programming language.

    A. Program steps and phases development.

    B. Program phases and steps development.

    C. Program life cycle development.

    D. Program development life cycle.

5. Using a pen and paper to test the working of a program during program development is known as ....

    A. Dry run.

    B. Pen paper testing.

    C. Dry testing.

    D. Pen paper run.

6. The breaking down of a problem into smaller programs is called ....

    A. Modernization.

    B. Modularization.

    C. Modulation.

    D. Modernization.

7. Which of the following keyboard symbols shows the end of a computer program?

    A. "} ".

    B. " > ".

    C. " < ".

    D. " {".

8. Logical error is when the program...............

    A. does not run but the output is correct.

    B. runs but the output is not correct.

    C. does not run but the output is not correct

    D. runs and the output is correct.

9. Which is a server-side programming language?

    A. HTML.

    B. JavaScript.

    C. PHP.

    D. CSS.

10. These........... tags are used in HTML to include external CSS styling in an HTML document.

    A. <link>.

    B. <script>.

    C. <include>.

    D. <require>.

11. What does HTTP stand for as used in internet-based programming?

    A. Higher Text Transfer Protocol.

    B. Hyper Text Transfer Protocol.

    C. Hyper Text Transport Protocol.

    D. Higher Text Transfer Protocol.

12. Common gateway interface is a very important part of the internet technology and is used to ……….

A. process and display errors on the client.

B. process and display errors on the server.

C. communicate with other programs running on the client.

D. communicate with other programs running on the server.

13. Which of the following is the proper way to declare a variable "namba" of integer data type in C language?

A. integer Namba;

B. int Namba;

C. Namba int;

D. Namba integer;

14. Define an internet browser.

A. it is special software that is used to read HTML documents.

B. it is a special software that is used to read CSS documents.

C. it is special software that is used to read CPP documents.

D. it is a special software that is used to read C documents.

15. When developing using C language one has to include the expression "<stdio.h>" at the beginning of the program. It is a …………….

A. header file which contains instructions for the logic to be used in the program.

B. header file which contains solutions to intended problem logic.

C. header file which contains instructions for the predefined functions of the language.

D. higher-standing intelligent octave file for solving problems.

16. Which language would one use to achieve the best interactivity with a web page?

A. PHP.

B. CSS.

C. JavaScript.

D. C.

17. Machine Language is a computer programming language classified as …………….

A. High-level.

B. Low-level.

C. Medium-level.

D. Highest-level.

18. Which expression is used to interrupt the program control flow in a loop?

A. SWEEP;

B. BEND;

C. SWALLOW;

D. CONTINUE;

19. The result of this expression (5 >= 7) is ……….

A. TRUE

B. FALSE

C. - 2

D. 2

20. Logical AND in program development is also written as ……...

A. | |

B. &&

C. * |

D. ((

SECTION B: 40 MARKS

Answer ALL questions in this section.

21. When choosing a programming language for a computer program project, John considered various factors to ensure the success and efficiency of the development process. State FIVE factors he would have considered. (5 Marks)

22. Outline FOUR functions of a compiler. (4 Marks)

23. State THREE main approaches that are used in program development. (3 Marks)

24. What is the distinction between an *interpreter* and an *assembler* in computer programming? (4 Marks)

25. Creating an algorithm is a systematic process that entails creating a step-by-step approach for addressing a problem or completing a task. Identify FOUR stages required to design an algorithm. (4 Marks)

26. Explain the difference in the scope of local and global variables as they are used in programming. (4 Marks)

27. There are numerous sorts of operators in the C programming language that programmers may use to perform various operations on data. List FOUR different types of operators that a C programmer can utilize. (4 Marks)

28. In C, programmers may declare variables using a variety of basic or primitive data types. Enumerate FOUR possible forms of data. (4 Marks)

29. There are various advantages of using fourth-generation programming languages (4GLs) over first-generation programming languages (1GLs). List FOUR benefits of fourth-generation programming languages above first-generation programming languages. (4 Marks)

30. Various sorts of mistakes can occur during program development, which are the FOUR most prevalent problems that can occur in a program during program development? (4 Marks)

SECTION C: 40 MARKS

Answer any TWO questions in this section.

31.

a) To develop a computer program, Joan would need to evaluate alternative programming methodologies based on the project's unique needs. Explain FIVE programming methods she could evaluate. (10 Marks)

b) Programmers need to know the proper coding practices to ensure that their programs will be written with fewer errors. List FIVE coding techniques they can use. (10 Marks)

32.

a) A lady deposits 2,000 shillings in a Microfinance company at an interest rate of 20% per annum. At the end of each year, the interest earned is added to the deposit and the new amount becomes the deposit for that year. Write pseudocode for a program that would track the growth of the deposits over seven years. (10 Marks)

b) Write a program in C language that prompts a user to enter three integers and displays the largest of them. (10 Marks)

33.

a) Distinguish between **client** and **server** as used in computer programming. (4 Marks)

b) Outline the function of each of the HTML tags as used in web programming.

    i.   <p> (2 Marks)

    ii.   <script> (2 Marks)

    iii.   <img> (2 Marks)

c) Figure 1 shows a registration form used to register students to the College portal. Write HTML code that would display the form when run on the browser. (10 Marks)

REGISTRATION FORM		
Enter your names		
Enter your password		
Enter your address		
SAVE DATA	RESET DATA	

Figure 1

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