

Technical And Vocational College Date: 25.07.2025 07:38 AM

061005T4ICT

**ICT TECHNICIAN LEVEL 5** 

IT/OS/ICT/CR/05/5/A By: Technical And Vocational College

IT/OS/ICT/CR/05/5/A5.07.2025 07:38 AM

**Develop Computer Program** 

July/August 2025

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

#### WRITTEN ASSESSMENT

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**Time: 3 HOURS** 

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## INSTRUCTIONS TO CANDIDATE

- 1. The paper consists of **TWO** sections: **A** and **B**.
- 2. Answer all A and ANY THREE (3) questions in section B.

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- 3. Marks for each question are indicated in the brackPertinSted By: College
- 4. Candidates are provided with a separate answer  $b \delta \delta k \ell \ell \cdot 07.2025 07:38 \text{ AM}$
- 5. **DO NOT** write on the question paper.

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This paper consists of FOUR (4) printed pages

Candidate 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. Program development development to develop a program in a given programmin gallea of 5g u7a 2g e2.5 S tate FOUR program development stages indicating activities involved at each stage. (4 marks)
- 2. A software developer has been contracted to develop a management Information System for a Printed By: Technical And Vocational College certain of gatanizations Quantum Programming language while performing the task.

  (4 marks)

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- 3. For good programming practices, certain styles of 2 programming gramming gramming programmers in order to produce quality programs. Highlight FOUR different styles of programming that can be adopted by programmers. (4 marks)
- 4. The following is a C program code written by a student during a practical session. Identify FOUR errors in the program with a brief comment in each. (4 marks)
  - 1. #include<stdio.h>
  - 2. Void main()

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- 4. char number=0
- 5. For(i=0; i<=4; i++)
- 6. i++;

7. }

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(4 marks)

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5. During a programming session, a student created a C program that uses a function to capture Printed By: Technical And Vocational College data at a compute and a parter of the program.

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6. Study the program code and interpret it.

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- 7. An ICT student was tasked to develop a C program during a practical assessment that makes use of different data types and identifiers. Identify the most appropriate data type for each of the following variables as used in the program. (4 marks)
  - a) Gender

byteprep.de

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- b) Age
- c) Grade
- d) Salary Printed By: Technical And Vocational College
- 8. The following is  $a^{D}C^{te}s^{e^{2}}g^{f}m^{7}e^{2}n^{0}t^{2}s^{e}c^{0}d^{3}e^{8}$ . AW rite the output of the code. (3 marks)

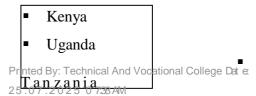
```
for (i=0; i<9; i++) \{ \\ if (i==4) \{ \\ Printed By Technical And Vocational College \\ continue; \\ Date: 25.07.2025 07:38 AM \} \\ Printed By: Technical And Vocational College Date: 25.07.2025 07:38 AM \}
```

9. A software developer has been tasked by a client to design a website for marketing purpose. The website is supposed to contain various form objects to capture different kinds of data items. One of the form objects is a text box that captures text data items such as name of a person. With relevant examples in each, highlight other FOUR form objects as applied in HTML. (4 marks)

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10. Parto garsa on moiansgo 71:20 na ganages have evolved through various stages in computing environment from low level languages to high level languages. Outline TWO characteristics of low level programming languages. (2 marks)

11. Write a HTML list tag sequence that outputs the following Technical And (1/40 graft at 1/18 s) Solege Date: 25.07.2025 07:38 AM



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## SECTION B (60 MARKS)

## Answer Any THREE Questions in This Section

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- 12. An ICT student developed a program was not executing due to occurrence of unknown errors.
  - a) Explain FOUR possible errors that are likely to be found in the program. (8 marks)
  - ProteDies: Asnothermonalesting that could be performed on the program in order

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for the program to execute successfully.

(8 marks)

c) Explain TWO types of test data that could be used during error testing in the program.

(4 marks)



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- 13. The management of a certain company wishes to acquire an automated system that could manage employees' information using a special data structure called an array.
  - a) Write a C programm the steam matrix and called as a large which captures salary for 10 employees, stores and output's employees' salaries using an appropriate control structure

(10 marks)

- b) Explain THREE benefits of using the array data structure in the program. (6 marks) Printed By: Technical And Vocational College
- c) Apart of rom arrays of escribe other TWO data structures that company could have opted to (4 marks) use.

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14. The table below was created by an ICT student during a practical assessment. Use the table to answer questions that follow:

Age	Remarks
>=18 years	YOU ARE AN ADULT
Below 18 years	YOU ARE STILL YOUNG

a) Illustrate the program logic using a flow chart.

(6 marks)

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Iba) te: E sx pp/1.22ion25ToW3O Aavdvantages of using a flow chart in the program.

(4marks)

c) Write a C program that would prompt the user to input age of an individual. The program then outputs an appropriate remark on the screen using the (if...else) control statement.

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14 A wholesaler has two categories of customers for order processing; category 'A' obtains 10% discount on all orders up to Kshs 10,000 otherwise the discount is 20% on the entire order. Printed By: Technical And Vocational College

Catego  $f_{X} = g_{0} f_{X} =$ Printed By: Technical And Vocational College the discount is 15%. Date: 25.07.2025 07:38 AM

a) Draw a decision tree for the order processing.

(12 marks)

b) Explain TWO advantages of using the decision tree in presenting the program logic. Printed By: Technical And Vocational College

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(4 marks)

c) Describe TWO application areas where decision trees are used.

(4 marks)

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