

061006T4ICT

ICT TECHNICIAN LEVEL 6

IT/CU/ICT/CC/1/6

Apply Basic Electronics

July/August 2023



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

WRITTEN ASSESSMENT

Time: 3 Hours

INSTRUCTIONS TO CANDIDATE

1. This paper has two sections **A and B**. 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 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)

Attempt ALL questions in this section.

1. Define the term circuit as used in electronics. (2 Marks)
2. Identify THREE components of an electronic circuits (3 Marks)
3. Name THREE parameters that are measured in an electric circuit (3 Marks)
4. Differentiate between analog and digital circuit. (4 Marks)
5. Briefly explain the role of the following in an electronic circuit (8 Marks)
 - a) Inductor
 - b) Resistor
 - c) Transistor
 - d) Diode
6. State the Ohm's Law (2 Marks)
7. Distinguish between n-type and p-type semiconductor materials. (2 Marks)
8. Demonstrate with the aid of a diagram the operation of a transistor as a switch (4 Marks)
9. Explain ONE difference between a decimal and a Hexadecimal number system (2 Marks)
10. Outline THREE advantages of binary coding (3 Marks)
11. Enumerate THREE benefits of using BCD arithmetic for numerical representation (3 Marks)
12. Describe how to determine electrical resistance in a circuit. (4 Marks)