

071306T4ELC

ELECTRONICS ENGINEERING LEVEL 6

ENG/OS/ET/CR/04/6/A

Apply Electrical Instrumentation

March/April 2025



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

PRACTICE

Time: 3 HOURS

INSTRUCTIONS TO CANDIDATE:

1. You are required to perform the following tasks:

TASK 1: Using the circuit diagram shown in figure 1, components and equipment provided;

- i. Identify and mount the components on the breadboard
- ii. Power the circuit
- iii. Operate switches S1 and S2 as illustrated in table 1 and fill the table indicating ON if the LED 3 (D3) lights and OFF if the LED 3 (D3) does not light
- iv. Identify the logic gate and give a comment in table 1.

TASK 2: Using the circuit diagram shown in figure 2, components and equipment provided;

- i. Identify, mount and solder the circuit components on a copper strip board
- ii. Power the circuit
- iii. Determine the value of R_2 at balance condition
- iv. Calculate the value of R_4 at balance condition
- v. Calculate the percentage error in measurement of R_4

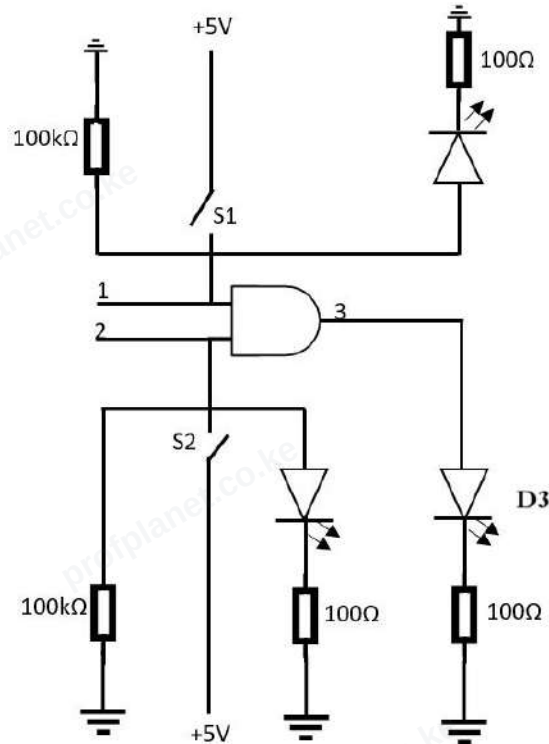


Figure 1

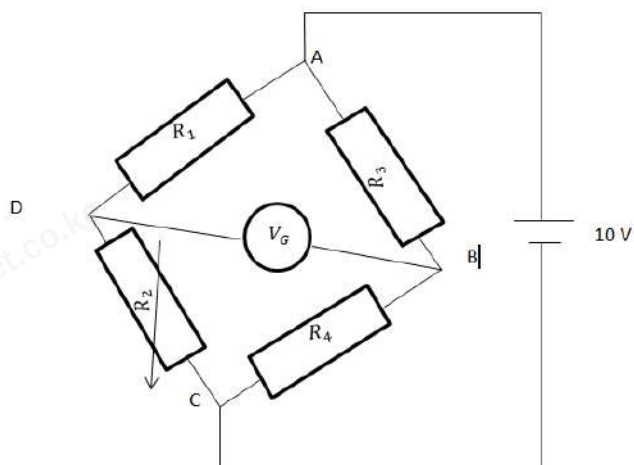


Figure 2

Table 1

S1	S2	(D3)
OFF	OFF	
OFF	ON	
ON	OFF	
ON	ON	
COMMENT :		

2. You have been provided with the following resources for the practical tasks:

S/N	ITEM	QUANTITY
1.	Galvanometer	1
2.	DC Power Supply	1
3.	AC Power Supply	1
4.	Bread board	1
5.	Jumper wires	Enough
6.	Fixed resistor 10k Ω (R1)	1
7.	Fixed resistor 1 k Ω (R3)	1
8.	Fixed resistor (R4)	1
9.	Variable resistor 100 k Ω (R2)	1
10.	Fixed resistor 100 Ω	3
11.	Fixed resistor	2
12.	Push button/t 1,S2)	2
13.	IC7408	1
14.	LEDs	3
15.	Copper strip board	1
16.	Soldering gun	1
17.	Solder wire	Enough
18.	Multimeter	1
19.	PPEs	
20.	Wire stripper	1

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