

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)**

PRACTICAL ASSESSMENT

INSTRUCTIONS TO ASSESSOR

1. Assess the candidate as the practical progresses observing the critical areas
2. You are required to mark the practical as the candidate perform the tasks
3. You are required to take video clips at critical points
4. Ensure the candidate has a name tag and registration code at the back and front

Candidate's Name & Registration Code			
Assessors Name & Registration Code			
Venue of Assessment			
Date of Assessment			
Items to be Evaluated: <i>Please award marks as appropriate. Give a brief comment on your observation.</i>	Marks Available	Marks Obtained	Comments
OBSERVATION CHECKLIST			
1. Adhered to safety procedures			
i. Wore dust coat/overall	1		
ii. Wore safety boot or closed shoes,	1		
iii. Safe use of tools and equipment	1		
Sub-Total 1	3		
TASK RCUIT			
2. Identified components:			
i. Resistors (<i>award 2 or 0</i>)	2		
ii. IC (<i>award 2 or 0</i>)	2		
iii. LEDs (<i>award 2 or 0</i>)	2		
iv. Push buttons (<i>award 2 or 0</i>)	2		
3. Mounted the components on the breadboard (<i>award 1 x 11 components</i>)	11		
4. Used the bread board economically (<i>award 4 or 0</i>)	4		
5. Powered the circuit (<i>award 5 or 0</i>)	5		
6. Tested the circuit (<i>award 5 or 0</i>)	5		
7. Filled the table (<i>award 1 x 5</i>)	5		
8. Identified the logic gate and gave a			

commented (award 2 for identification and 3 for comments)	5		
Sub-Total	43		
TASK 2: BRIDGE NETWORK			
9. Identified the components			
i. Fixed resistors	3		
ii. Variable resistor	1		
10. Mounted and solder the circuit components on the copper strip board (award 1 per component x 8)	8		
11. Used the stripboard economically. (award 5 or 0)	5		
12. Powered the circuit (award 5 or 0)	5		
13. Determined the value of R_2 at balance condition (award 3 or 0) (4.56kΩ+/-	3		
14. Calculated the value of R_4 at balance condition (award 5 or 0) (456 Ω+/-	5		
15. Calculated the percentage error in measurement of R_4 (award 4 or 0) <i>Error</i> $= \frac{\text{Measured value} - \text{True value}}{\text{True value}}$ $= \pm 1\%$ the value of R_4 should NOT be revealed to the student	4		
Sub-Total	34		
GRAND TOTAL	80		

Percentage = $\frac{x}{80} \times 100$			
ASSESSMENT OUTCOME			
The candidate was found to be: Competent ☐ Not yet Competent ☐ <i>(Please tick as appropriate)</i> <i>(The candidate is competent if the candidate obtains at least 50%)</i>			
Feedback from the Candidate:			
Feedback to the Candidate:			
Candidate Signature		Date:	
_____		_____	
Assessor's Signature		Date	
_____		_____	

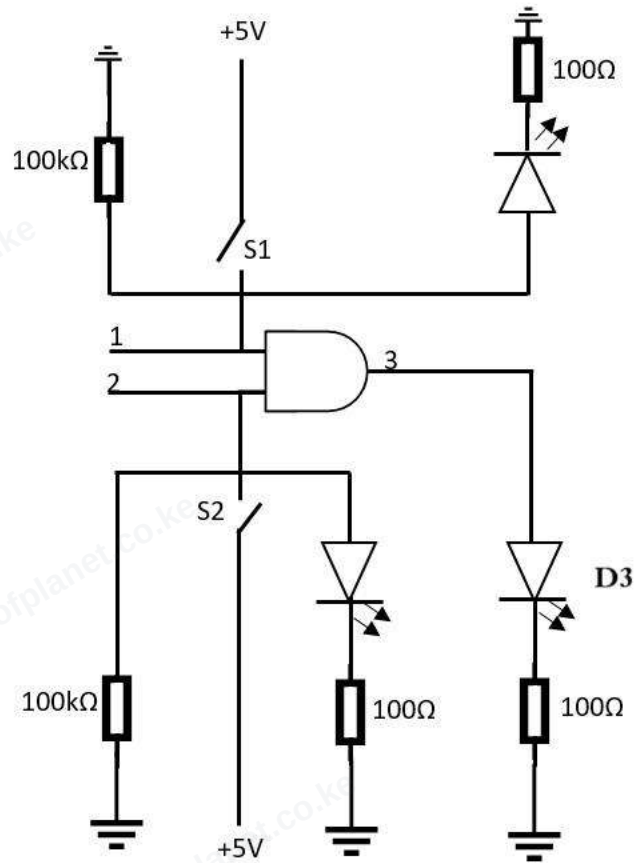


Figure 1 logic circuit

Table 1: logic circuit table

s_1	s_2	LED (D 3)
OFF	OFF	OFF
OFF	ON	OFF
ON	OFF	OFF
ON	ON	ON
COMMENT : logic is AND gate		

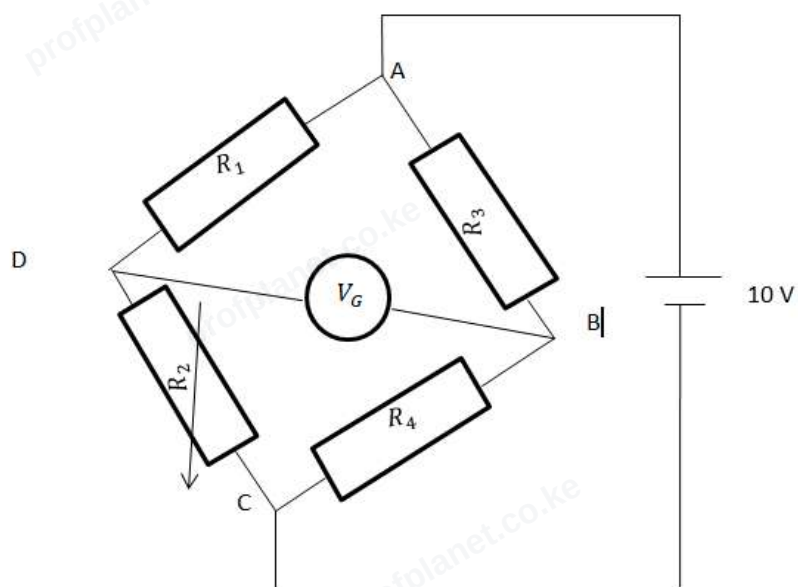


Figure 2: Bridge network

THIS IS THE LAST PRINTED PAGE