

071306T4ELC

ELECTRONICS ENGINEERING LEVEL 6

ENG/OS/ET/CR/02/6

Install Power Supply Systems

July/August 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

OBSERVATION CHECKLIST

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
OBSERVED SAFETY AWARENESS:			
1. Observed EHS awareness:			
i. Safety boots (<i>Award 0 or 2</i>)	1		
ii. Apron/dust coat (<i>Award 0 or 2</i>)	1		
iii. Proper handling of tools (<i>Award 0 or 2</i>)	1		
iv. Proper handling of equipment (<i>Award 0 or 2</i>)	1		
v. Housekeeping and waste disposal (<i>Award 0 or 2</i>)	1		
Sub-total 1	5		
TASK 1: Mount and solder the components on the copper strip board			
1. Identified at least four electronic components as per the fabricated circuit. (<i>Award 0 or 2 for each</i>)	8		
2. Fixed at least four components firm and level on the strip board (<i>Award 0 or 2 for each</i>)	8		
3. Achieved quality of solder joints (shiny, smooth, clean, concave solder fillet) (<i>Award 0 or 2 for each ; 2 × 4 = 8</i>)	8		
4. Carried out correct connection on at least four components and trimmed long	4		

terminals (Award 0 or 2 for each) 5. Economy use of strip board (Award 0 or 2)	2		
Sub-total 2	30		
TASK 2: Test the working of the circuit			
1. Tested the working of the circuit when ammeter current reading is 0 mA (Award 0 or 4)	4		
2. Tested the working of the circuit when the ammeter current reading is adjusted to 5 mA (Award 0 or 4)	4		
Sub-total 3	8		
TASK 3: Observe the waveform of output voltage on CRO			
1. Observed and made sketches of the outp voltage displayed on the CRO (Award)	5		
Sub-Total 4	5		
TASK 4: Write test report and de-solder the components			
Wrote a report/observations that entailed the following:			
• Title (Award 0 or 1)	1		
• Introduction (Award 0 or 2)	2		
• Objectives (Award 0 or 1)	1		
• Observation for Input voltage , Firing pulse, Output voltage, Load current and Voltage across thyristor (Award 0 or 2 for each ; 2x5 = 10)	10		
• Conclusion (Award 0 or 1)	1		

De-soldered the components (Award 0 or 2)	2		
Sub-Total 5	17		
GRAND TOTAL	65		
Percentage = $\frac{X}{65} \times 100$	100		
ASSESSMENT OUTCOME			
The candidate was found to be: Competent ☐ Not yet Competent ☐ (Please tick as appropriate) (The candidate is competent if the candidate obtains at least 50%)			
Feedback from the Candidate:			
Feedback to the Candidate:			
Candidate Signature		Date:	
_____		_____	
Assessor's Signature		Date	
_____		_____	

APPENDIX: PRINT FOR THE ASSESSOR ONLY

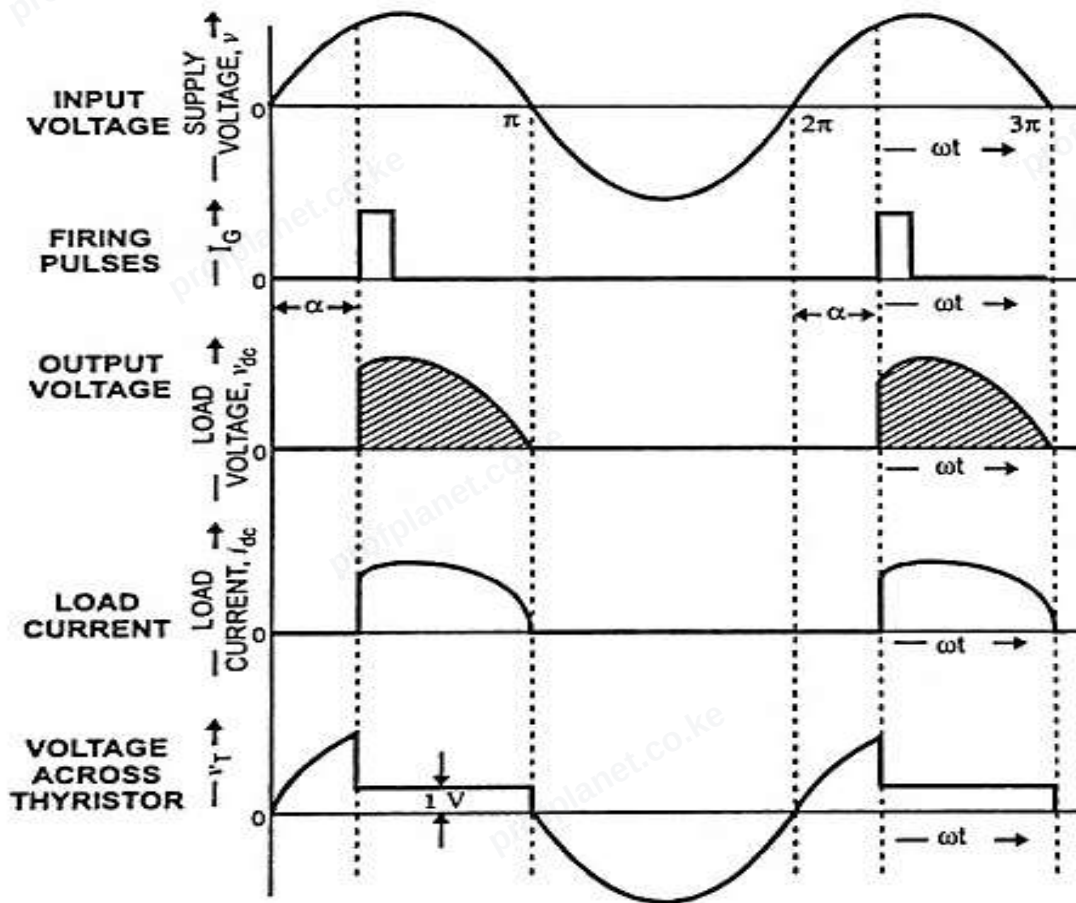


Figure 1: Expected output waveforms

OBSERVATION

When the ammeter current reads below 0 - 4 mA, there is no output voltage. At 5 mA (the rated gate current for the OE-101 thyristor), the input voltage appears across the load. The voltage across the thyristor collapses to almost zero and the full supply voltage appears across the load. From this point onwards, the load voltage follows the supply voltage. The load being purely resistive the load current is proportional to the load voltage.