

071306T4ELC

ELECTRONICS ENGINEERING LEVEL 6

ENG/OS/ET/CR/02/6/A

Install Power Supply Systems

March/April 2025



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

PRACT MENT

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.			
Assessor's 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. Apply Environmental, Health, and Safety (EHS) standards Safety awareness			
i. Wore Safety boots (<i>Award 0 or 1</i>)	1		
ii. Wore Apron(<i>Award 0 or</i>	1		
iii. handled tools with care(<i>Award 0 or 1</i>)	1		
iv. Ensured clean working area and waste disposal(<i>Award 0 or 2</i>)	2		
Sub –Total 1	05		

TASK 1 – Mount the circuit on the breadboard			
2. Mounted the components as per the circuit (award 10 x 1 each)	10		
3. Properly utilized the breadboard (Award 3 marks for utilization of at least 75% of the board or 0)	3		
4. Powered the circuit and took voltage readings at testing points:			
i. TP1 (award 2 marks or 0)	2		
ii. TP2 (award 2 marks or 0)	2		
iii. TP3 (award 2 marks or 0)	2		
iv. TP4 (award 2 marks or 0)	2		
(Table 1 below gives the expected values)			
Sub-Total 2	21		
TASK 2 – Solder the n copper strip board			
5. Mounted components on the copper board as per the circuit (award 10 each component firmly mounted)	10		
6. Soldered the components correctly (award any 6 x 1 joints soldered, the joint should be smooth and shiny)	6		
7. Properly utilized copper stripboard (Award 3 marks for utilization of at least 75% of the board or 0)	3		
8. Powered the circuit and correctly measured voltages at the testing points.			
v. TP1 (award 2 marks or 0)	2		
vi. TP2 (award 2 marks or 0)	2		
vii. TP3 (award 2 marks or 0)	2		
viii. TP4 (award 2 marks or 0)	2		
(Table 1 below gives the expected values)			

Sub-Total 3	27		
TASK 3 – Observe the waveforms at different stages of the circuit on the CRO			
9. Powered the CRO and connected the probes (Award 0 or 3)	3		
10. Performed Oscilloscope set up/tuning (Award 0 or 2)	2		
11. Placed the oscilloscope probes at Test point 1 (TP1) -Transformer secondary output (Award 0 or 3 for AC sinusoidal waveform)	3		
12. Placed the oscilloscope probes at Test point 2 (TP2) -Rectifier output (Award 0 or 3 for pulsating d.c waveform)	3		
13. Placed the oscilloscope probes at 3 (TP3) -Capacitor output (Award 0 or 3 for smoothed d. waveform)	3		
14. Placed the oscilloscope probes at Test point 4 (TP4) -Regulator output (Award 0 or 3 for steady d.c output voltage waveform)	3		
Sub-Total 4	17		

GRAND TOTAL	70		
PERCENTAGE = $x/70 \times 100\%$	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	
_____		_____	

Table 1

Test points	Measured voltage on the breadboard	Measured voltage on the copper strip board
Across C1 (TP 1)	12V $\pm$ 1 a.c	12V $\pm$ 2 a.c
Across C2 (TP 2)	5.6V $\pm$ 1 d.c	5.6V $\pm$ 2 d.c
Across C3 (TP 3)	0 V d.c	0 V $\pm$ 2 d.c
Output voltage (TP 4)	5.5V $\pm$ 1 d.c	5.5V $\pm$ 2 d.c

Resultant waveforms from the experiment

