

072204T4SPV

SOLAR PV INSTALATION LEVEL 4

ENG/OS/PVI/CR/05/4

Maintain Solar PV Systems

July/August 2025



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

easyvet.com

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 performs the tasks
3. You are required to take video clips at critical points
4. Ensure the candidate has a name tag and registration code on 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
1. Observed safety awareness <ul style="list-style-type: none"> i. Worn overall/ dust coat ii. Safety shoes iii. Proper handling of tools iv. Housekeeping and waste disposal <i>(Award 1 mark each)</i> 	4		
Sub-Total 1	4		
TASK 1			
2. Drew the wiring diagram <ul style="list-style-type: none"> i. Correct sequence of the solar PV components<i>(Award 2 or 0)</i> ii. Consumer control unit <i>(Award 2 or 0)</i> iii. Lighting circuits <i>(Award 2 or 0)</i> iv. Ring circuit <i>(Award 2 or 0)</i> v. Spur <i>(Award 2 or 0)</i> 	2 2 2 2 2		
Sub-Total 2	10		
TASK 2			
3. Conducted visual inspection on the system <ul style="list-style-type: none"> i. Identified and recorded the wrong polarity at the CCU <i>(Award 2 or 0)</i> ii. Identified and recorded loose wiring connection at socket S/02 <i>(Award 2 or 0)</i> iii. Identified and recorded loose wiring connection at battery terminals <i>(Award 2 or 0)</i> 	2 2 2		

iv. Identified and recorded the short circuit connection at the junction box termination. (Award 2 or 0)	2		
v. Identified and recorded insulated wires between the charge controller and the battery (Award 2 or 0)	2		
vi. Identified and recorded open circuit at the neutral terminal of the fluorescent lamp (Award 2 or 0)	2		
Sub-Total 3	12		
TASK 3			
3. Performed earth resistance test on socket outlet. (Award 2 or 0)	2		
4. Performed polarity test of AC circuits (Award 2 or 0)	2		
5. Performed ring continuity test of socket outlets (Award 1 or 0)	2		
3. Performed insulation resistance test of the AC circuit (Award 2 or 0)	2		
4. Performed continuity test of single pole devices (Award any 2 × 1)	1		
5. Recorded test results (Award 5x1)	5		
Sub-Total 4	14		
TASK 4			
8. Repaired the installation for correct functionality	4		
i. Tightened loose connections (Award any 2 x 2)	2		

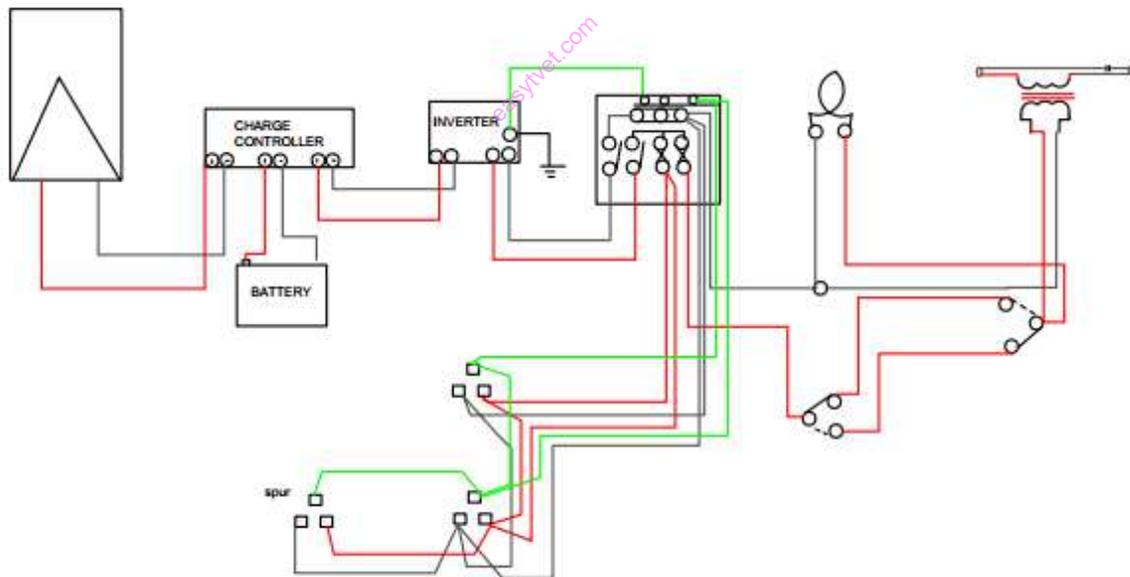
ii. Corrected color coding (Award 2 or 0)	2		
iii. Replaced poorly insulated cables (Award 2 or 0)			
iv. Corrected short circuit connection at junction point (Award 2 or 0)	2		
v. Corrected open circuit connection at junction point (Award 2 or 0)	2		
Sub-Total 5	12		
TASK 5			
Performed earth resistance test on socket outlet. (Award 2 or 0)	2		
Performed polarity test of AC circuits (Award 2 or 0)	2		
Performed ring continuity test of socket outlets (Award 1 or 0)	2		
Performed insulation resistance test of the AC circuit (Award 2 or 0)	2		
Performed continuity test of single pole devices (Award any 2 × 1)	1		
Recorded test results (Award 5x1)	5		
Sub-total 6	14		
TASK 6			
9. Recorded maintenance activities			
i. Tightened loose connections (Award any 1 or 0)	1		
ii. Corrected color coding (Award 1 or 0)	1		
iii. Replaced poorly uninsulated cables with well insulated cable (Award 1 or 0)	1		
	1		

iv. Corrected short circuit connection at junction point (<i>Award 1 or 0</i>)	1		
v. Corrected open circuit connection at junction point (<i>Award 2 or 0</i>)			
Sub-Total 7	5		
GRAND TOTAL	71		
$\frac{x}{71} \times 100$	100		
ASSESSMENT OUTCOME			
<p>The candidate was found to be:</p> <p style="text-align: center;">Competent <input type="checkbox"/> Not yet Competent <input type="checkbox"/></p> <p><i>(Please tick as appropriate)</i></p> <p><i>(The candidate is competent if the candidate obtains at least 50%)</i></p>			
Feedback from the Candidate:			
Feedback to the Candidate:			
Candidate Signature		Date:	
_____		_____	
Assessor's Signature		Date	
_____		_____	

APPENDIX: PRINT FOR ASSESSOR ONLY

INSTRUCTIONS TO ASSESSOR

1. You are required to create the following faults in the pre-installed system :
 - i. Interchange the earth and neutral poles at the consumer control unit
 - ii. Create loose wiring connections at the socket S/O2
 - iii. Create a loose connection at the battery terminals
 - iv. Short circuit live and neutral poles at the junction box termination.
 - v. Connect an uninsulated cable between the charge controller and the battery.
 - vi. Create an open circuit at the neutral terminal of the fluorescent lamp.
2. Ensure the pre-installed system is restored to its original state in case the candidates are assessed in shifts using the same pre-installed system.



Wiring diagram