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**073105T4EOP**

**ELECTRICAL OPERATION LEVEL 5**

**ENG/OS/CR/CR/06/5/A**

**Install Solar Systems**

**March/April 2025**

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

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# 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.

**This checklist consists of FIVE (5) printed pages.**

## OBSERVATION CHECKLIST

| | | | |
|---|---|---|---|
| **Candidate's Name & Registration Code** | | | |
| **Assessors Name & Registration Code** | | | |
| **Venue of Assessment** | | | |
| **Date of Assessment** | | | |
| **Items to be Evaluated:** *Please award marks as appropriate. Give a brief comment on your observation.* | **Marks Available** | **Marks Obtained** | **Comments** |
| **OBSERVATION CHECKLIST** | | | |
| 1. Adhered to safety measures<br>i. Wore safety boots ($Award\ 1\ or\ 0$)<br>ii. Wore apron($Award\ 1\ or\ 0$)<br>iii. Proper handling of tools ($Award\ 2\ or\ 0$)<br>iv. Practiced housekeeping and waste disposal (award 2 or 0) | 1<br>1<br>2<br>2 | | |
| 2. Choose cables correctly<br>• $1.5mm^2$ for lighting ($Award\ 1\ or\ 0$)<br>• $2.5mm^2$ for power circuit ($Award\ 1\ or\ 0$) | 1<br>1 | | |
| **Sub total** | **8** | | |

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| PRODUCT CHECKLIST | | | |
|---|---|---|---|
| **a) Draw the wiring diagram** | | | |
| 3. Drew wiring diagram for the;<br>• Lighting $(Award\ 2\ \times 2)$<br>• INVERTER$(Award\ 2\ or\ 0)$<br>• Charge controller $(Award\ 2\ or\ 0)$<br>• Batteries$(Award\ 1\ or\ 0)$<br>• Solar panel $(Award\ 1\ or\ 0)$<br>• Socket outlets$(Award\ 2\ or\ 0)$ | <br>4<br>2<br><br>2<br>1<br>1<br>2 | | |
| **Sub total** | **12** | | |
| **b) Mount the solar components appropriately** | | | |
| 4. Sequenced components at intake point.<br>• Solar module $(Award\ 2\ or\ 0)$<br>• Solar charge controller $(Award\ 1\ or\ 0)$<br>• Solar battery bank $(Award\ 2\ or\ 0)$<br>• Inverter $(Award\ 1\ or\ 0)$ | <br>2<br><br>1<br>2<br>1 | | |
| **Sub total** | **6** | | |
| **c) Install system** | | | |
| 5. Terminated cables (firm, folded, twisted and not nicked.<br>• C.C.U $(Award\ 3\ or\ 0)$<br>• Bulb holder $(Award\ 3\ or\ 0)$<br>• Sockets $(Award\ 2\ or\ 0)$<br>• Switches $(Award\ 3\ or\ 0)$ | <br><br>3<br>3<br>2<br>3 | | |

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| | | | |
|---|---|---|---|
| 6. Spaced cable clips uniformly. ($Award\ 2\ or\ 0$) | 2 | | |
| 7. Fixed cables on the surface:<br>• Neat horizontal runs ($Award\ 2\ or\ 0$)<br>• Neat vertical runs ($Award\ 2\ or\ 0$)<br>• Smooth 90˚ bends ($Award\ 1 \times 3$) | <br>2<br>2<br>3 | | |
| **Sub-Total** | **22** | | |
| d) **Perform Tests** | | | |
| 8. Performed testing:<br>• Continuity test ($Award\ 4\ or\ 0$)<br>• earth resistance test ($Award\ 4\ or\ 0$) | <br>4<br>4 | | |
| 9. Powered circuit for correct operation<br>• Lighting circuit ($Award\ 5 \times\ 2$)<br>• Power circuit ($Award\ 6\ or\ 0$) | <br>10<br>6 | | |
| **Sub-Total** | **24** | | |
| **TOTAL** | **72** | | |
| **GRAND TOTAL** $\left(\frac{x}{72}x100\right)$ | **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:**

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| |
|---|
| **Feedback to the Candidate:** |
| **Candidate Signature** _____ **Date:** _____ |
| **Assessor's Signature** _____ **Date** _____ |

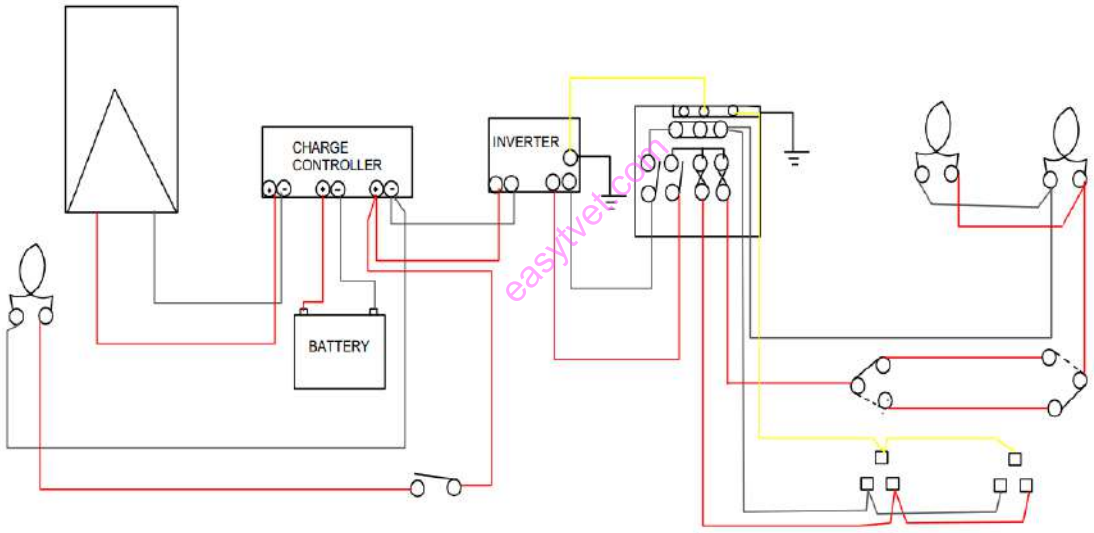



Figure 1: Wiring diagram

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