

**ASSESSMENT
MATERIAL****EVIDENCE
GUIDE****Qualification**

LEN0112.v1

Level: 2**Credit: 10****Version: 1****LEN0112E.v1 Test electrical and
electronic parameters****CONTENTS**

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgement Guide
4. List of required tools/ equipment, material and context of assessment

**ASSESSMENT AND
ASSESSOR
DETAILS****Competent**☐**Not Yet Competent**☐**Assessment**☐**Re-Assessment**☐**Assessor Name:****Assessor Code****Assessor Signature****Date**

DD		MM		YYYY					

**CANDIDATE
DETAILS****Candidate Name:**

First Name

Last Name

Father Name**Institute Name and
District****CNIC/BFORM #****OR****Registration Number:****Gender**Male ☐Female ☐**Candidate Consent**

I agree to the time and date of the assessment and am aware of the requirements of the assessment. I fully understand my rights of appeal.

Candidate Signature:**ASSESSMENT
RESULTS
SUMMARY FORM**You can use this coversheet as an *Assessment Results Summary Form*. Simply post a photocopy of this completed coversheet to **NAVTTTC**

NAVTTTC OFFICE ONLY

**1. DATE
FORM
RECEIVED:**

DD		MM		YYYY					

**2. DATE ENTERED INTO
DATABASE:**

DD		MM		YYYY					

1

ASSESSMENT SUMMARY & RECORD

CANDIDATE NAME:					FATHER NAME:		
ACTIVITY		METHOD			DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	OBSERVATION	PORTFOLIOS	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: TEST ELECTRICAL AND ELECTRONIC PARAMETERS	COMPETENT	NOT YET COMPETENT
Practical skill demonstration			✓		- Perform testing of single phase wiring - Diagnose fault of 2kw off- grid without backup solar system - Remove faults in faulty solar system rating 2 kW off grid.		
Knowledge Assessment		✓			Answer any questions your assessor may have for you during the practical skill demonstration		
Other Requirements	✓	✓	✓	✓	All candidate formative assessments completed by Instructor including; - Observations - Demonstrations - Questions and recorded answers All work produced as module projects or assignments Completed learner logbooks		

2

CANDIDATE ASSESSMENT

Candidate Name:

Father Name:

ALL WORK ASSESSED IN THIS COMPETENCY STANDARD MUST BE YOUR OWN WORK.

GUIDANCE TO CANDIDATE

To meet this standard you are required to complete the following practical tasks within 5 hour on the following topics:

- **Perform testing of single phase wiring.**
- **Diagnose fault of 2kw off- grid without backup solar system**
- **Remove faults in faulty solar system rating 2 kW off grid.**

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical skill demonstration	During a practical assessment, under observation by an assessor, I will correctly: • Perform testing of single phase wiring of a room. ✓ Select testing tools for single phase wiring of a room ✓ Conduct off load test continuity test .phase sequence test, open voltage test. ✓ Conduct on load test short circuit test .earthing test ,load voltage test ✓ Compared reading as per national and international standers and safety limits. • Diagnose fault of 2kw off- grid without backup solar system. ✓ Interpreting test results ✓ Check voltage of solar array ✓ Check voltage of solar panels each ✓ Check damage and other physical damages ✓ Check DC cables continuity, breakage and joints ✓ Check invertor input and output voltage ✓ Check overload system faults ✓ Check fuses use in 2kw off- grid without backup solar system • Remove faults in faulty solar system rating 2 kW off grid. ✓ Identify faults of faulty solar system rating 2 kW off grid. ✓ Select tools and equipment for remove faulty solar system rating 2 kW off grid. ✓ Conducting visual inspection of faulty solar system rating 2 kW off grid. ✓ Repairing or replacing faulty component or faulty solar panels. ✓ Conduct technical inspection for faulty solar system rating 2 kW off grid. ✓ Carrying out operational testing on load and off load ✓ Replace damage cables of faulty solar system rating 2 kW off grid. ✓ Repair fuses of faulty solar system rating 2 kW off grid. ✓ Set the load system for faulty solar system rating 2 kW off grid. Meet set timeframe appropriate for supplied faulty solar system components or sub assembly requiring testing for electrical and electronic parameters
3. Other requirements	All candidate formative assessments completed by Instructor including; ○ Observations ○ Demonstrations ○ Questions and recorded answers All work produced as module projects or assignments Completed learner logbooks

Candidate Name:

Father Name:

**INSTRUCTIONS
FOR
ASSESSOR**

THIS SECTION CONTAINS MINIMUM EVIDENCE REQUIREMENTS.

The supplied faulty solar system components or sub assembly requiring testing for electrical and electronic parameters must meet the evidence requirements of the candidate's competence in testing for electrical and electronic parameters.

Set timeframe for practical skill demonstration must reflect the commercially viable timeframe for the tasks.

Oral questioning may be used to clarify candidate understanding of the topic and its application.

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES/NO	ASSESSOR COMMENTS
1. Completed practical skill demonstration	During a practical assessment, under observation by an assessor, the candidate correctly carried out:		
Perform testing of single phase wiring of a room.	✓ Selected testing tools for single phase wiring of a room		
	✓ Conducted off load test continuity test .phase sequence test, open voltage test.		
	✓ Conducted on load test short circuit test .earthing test ,load voltage test		
	✓ Compared reading as per national and international standers and safety limits.		
Diagnosed fault of 2kw off- grid without backup solar system	✓ Interpreted test results		
	✓ Checked voltage of solar array		
	✓ Checked voltage of solar panels each		
	✓ Checked damage and other physical damages		
	✓ Checked DC cables continuity, breakage and joints		
	✓ Checked invertor input and output voltage		
	✓ Checked overload system faults		
	✓ Checked fuses use in 2kw off- grid without backup solar system		
Remove faults in faulty solar system rating 2 kW off grid	Identified faults of faulty solar system rating 2 kW off grid.		
	Selected tools and equipment for remove faulty solar system rating 2 kW off grid.		
	Conducted visual inspection of faulty solar system rating 2 kW off grid.		
	Repaired or replaced faulty component or faulty solar panels.		
	Conducted technical inspection for faulty solar system rating 2 kW off grid.		
	Carried out operational testing on load and off load		
	Replaced damage cables of faulty solar system rating 2 kW off grid.		
	Repaired fuses of faulty solar system rating 2 kW off grid.		
	Meeting set timeframe appropriate for supplied faulty solar system components or sub assembly requiring testing for electrical and electronic parameters		
2. Knowledge assessment	Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.		

	Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attached.			
3. Other requirements	All candidate formative assessments completed by Instructor including; ○ Observations ○ Demonstrations ○ Questions and recorded answers All work produced as module projects and assignments • Completed learner logbooks			

4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

Instructions	This section contains information regarding; Context of the assessment List of required tools and equipment. List of consumable items required during the service
1. Context of Assessment	This practical skill demonstration will be conducted in a Building Electrician's lab/workshop environment The Assessor will select the required tools, equipment and consumables from the list below for the assessment

S. No	Consumable and non-consumable Items	Quantity
1	Pointer (Red , Yellow , Blue)	05 each
2	Knowledge assessment including space for answers	05 each
3	Personal protective equipment	05 each
4	Fire extinguishers	01 each
5	First aid box	01 each
6	Adjustable wrench	05 each
7	Amp meter	05 each
8	AVO meter	05 each
9	Batteries	02 each
10	Battery charger	01 each
11	Bench vice	05 each
12	Ceiling hole cutter	05 each
13	Charge controller	01 each
14	Chisel	01 each
15	Clamp on meter	05 each
16	Compass	05 each
17	Cutter	05 each
18	Drill machine	02 each
19	Earth tester meter	02 each
20	Extension board	02 each
21	File set	05 each
22	Inter changeable screw driver	05 each
23	Gloves	05 each
24	Goggles	05 each
25	Grinder	02 each
26	Hammer	05 each
27	Hand drill machine	02 each
28	Helmet	05 each
29	Herts meter	05 each
30	Hacksaw	05 each
31	Knife (cable)	05 each
32	Level	05 each
33	L-key set	05 each
34	Lock plier	05 each
35	Measuring tape	05 each
36	Mega meter (Analog & Digital)	02 each
37	Micrometre	02 each
38	Multimeter	05 each
39	Number punch	02 each
40	Phase sequence meter	02 each
41	Pipe cutter	05 each
42	Pipe vice	02 each
43	Pipe wrench	05 each
44	Plier set	05 each

45	Punching tool (Networking /Telephone)	05 each
46	Ratchet set	05 each
47	Safety boots	05 each
48	Scissor	05 each
49	Screw driver set	05 each
50	Soldering iron	05 each
51	Spanner set	05 each
52	Steel scale	05 each
53	Wire stripper	05 each
54	Grip plier	05 each
55	PVC Wire 3/.029	01 coil
56	PVC Wire 7/.029	01 coil
57	PVC Wire 7/.044	01 coil
58	PVC Wire 1/.044	01 coil
59	Magnetic conductor	10 nos
60	Over load relay (as required current rating)	10 nos
61	Circuit breaker	10 nos
62	Main switch	05 nos
63	Fuses (Different Current Ratings)	05 nos
64	PVC pipe (Different Sizes)	200 ft
65	Single pole switch	12 nos
66	Two way switch	12 nos
67	3 / 2 / pin socket	12 nos each
68	PVC Duckt	As per requirement
69	Lamp Holders	As per requirement
70	PVC Board (Different Sizes)	As per requirement