



ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification code:

LEN0112.v1

Level: 2

Credit: 90

Version: 1

Apply Building Electrician (Assistant) skills for solar PV systems

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 #

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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 AND RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF: APPLY BUILDING ELECTRICIAN (ASSISTANT) SKILLS ON SOLAR PV SYSTEMS	COMPETENT	NOT YET COMPETENT
Practical final project		✓		✓	Complete supplied project brief related to application of Building Electrician (Assistant) skills on solar PV systems: • Carry out corrective maintenance of off-grid solar system • Carrying out preventive maintenance of earth system in building • Perform tests and report results for electrical wiring in the building • Installed electrical cables and wiring accessories as per drawing		
Knowledge assessment	✓	✓			• Answer all questions the Assessment Panel will have following oral presentation of completed project brief		
Other requirements			✓		• All completed course assignments, projects and formative assessments including: - o Observations - o Demonstrations - o Questions and recorded answers • Oral presentation of project to assessment panel • Completed learner logbooks • Completed work forms/records • Completed job cards • Evidence of participating in training programmes • Documented training outcomes such as reports and portfolio writing • Measuring instrument calibration records		

2

CANDIDATE ASSESSMENT

Candidate Name..... Father Name

ALL WORK ASSESSED FOR THESE COMPETENCY STANDARDS MUST BE YOUR OWN WORK.

GUIDANCE TO CANDIDATE

To meet this standard you are required to complete the following tasks within **five hours** timeframe:

- **Carry out corrective maintenance of off-grid solar system**
- **Carrying out preventive maintenance of earth system in building**
- **Perform tests and report results for electrical wiring in the building**
- **Installed electrical cables and wiring accessories as per drawing**

ACTIVITIES	CANDIDATE RESPONSE
2. Complete project brief of applying building electrician (Assistant) skills on solar photovoltaic (PV) systems under observation by Instructor	• Carry out corrective maintenance on off-grid solar system ✓ Dismantle faulty parts or components of off-grid solar system ✓ Replace or repair faulty parts or components of off-grid solar system ✓ Perform commissioning of off-grid solar system • Carrying out preventive maintenance of earth system in the building ✓ Perform basic measurements tests for building earthing system ✓ Perform minor adjustments and calibrations of earthing system ✓ Replace worn out or damaged parts/ components of earthing system • Perform tests and report results for electrical wiring in the building ✓ Select tools and equipment for use in electrical wiring test in the building ✓ Perform basic adjustments and measurements for test equipment of building wiring ✓ Conduct electrical wiring test in the building. ✓ Prepare test results of building wiring. • Install electrical cables and wiring accessories as per Annexure-1. ✓ Select PPEs for installation of electrical wiring ✓ Perform measurements as per layout diagram of the room ✓ Fix PVC pipes as per room layout diagram ✓ Lay cables as per room layout diagram. ✓ Install other wiring accessories according to the layout diagram
3. other requirements	• Follow the occupational health and safety procedures. Note : In case of any contingencies always report to supervisor taking immediate precaution measures as per SOPs
4. Answer all questions Assessor Panel will have following project presentation	My answers to questions are correct and demonstrate my understanding of the topics and their application.

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ASSESSOR JUDGEMENT GUIDE

Candidate Name Father Name

INSTRUCTIONS FOR ASSESSMENT PANEL

THIS SECTION CONTAINS MINIMUM EVIDENCE REQUIREMENTS.

- This section contains minimum evidence requirement. Oral questioning may be used to clarify candidate understanding of the topic and its application.

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES/NO	ASSESSOR COMMENTS ON CANDIDATE PERFORMANCE
1. Completes Practical task of all course assignments	During a practical assessment under observation by an assessor the candidate correctly carried out the following task		
Carry out corrective maintenance of off-grid solar system	✓ Dismantled faulty parts or components of off-grid solar system ✓ Replaced or repair faulty parts or components of off-grid solar system ✓ Performed commissioning of off-grid solar system		
Carrying out preventive maintenance of earth system in the building	✓ Performed basic measurements tests for building earthing system ✓ Performed minor adjustments and calibrations of earthing system ✓ Replaced worn out or damaged parts/ components of earthing system		
Perform tests and report results for electrical wiring in the building	✓ Selected tools and equipment for use in electrical wiring test in the building ✓ Performed basic adjustments and measurements for test equipment of building wiring ✓ Conducted electrical wiring test in the building. ✓ Prepared test results of building wiring.		
Install electrical cables and wiring accessories as per Annexure-1.	✓ Selected PPEs for installation of electrical wiring ✓ Performed measurements as per layout diagram of the room ✓ Fixed PVC pipes as per room layout diagram ✓ Laid cables as per room layout diagram. ✓ Installed other wiring accessories according to the layout diagram		
2. Other requirements	Oral presentation of project brief and completed project work to Assessment Panel.		
3. Answer all questions Assessment Panel will have following project presentation	Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application. Assessment Panel to document all questions asked, if any, and the answers here. Use extra pages as required and attach here.		

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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

1. Context of Assessment

This task will be carried out in real time environment.

2. List of tools and equipment required

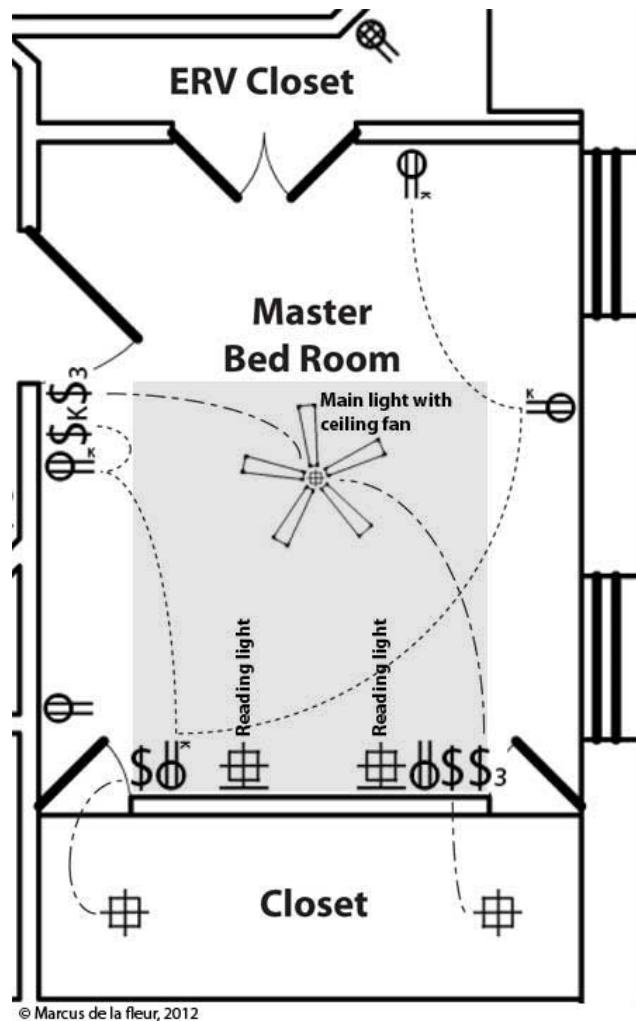
S. No	Name of Items (tools and equipment's)	Quantity
1	Safety Hamlet	5
2	Insulated Plier With Side Cutter	5
3	Insulated Long Nose Plier With Side Cutter	5
4	Insulated wire Cutter	5
5	wire stripers	5
6	insulated screw drivers	5
7	High Insulated Rubber Hand Gloves	5
8	Insulated Work Bench	5
9	Power Supply	5
10	Main Switch	5
11	Tag Off / Log Off Nos	5
12	Drawing Board	5
13	Papers for Drawing	5
14	Led Pencil	5
15	Measuring Steel Tape	5
16	Steel Rule	5
17	PVC Pipes Different Size	5
18	Insulated Plier With Side Cutter	5
19	Insulated Long Nose Plier With Side Cutter	5
20	Insulated wire Cutter	5
21	Blow Lamp	5
22	Hacksaw	5
23	Measuring Steel Tap	5
24	Steel Wire	5
25	Milled Steel Wire	5
26	Calulator	5
27	Measuring Steel Tape	5
27	Steel Rule	5
28	Drawing Board	5
29	Switch Board	5
30	Distribution Board	5
31	Steel Rule	5
32	Insulated Plier With Side Cutter	5
33	Insulated Long Nose Plier With Side Cutter	5
34	Insulated wire Cutter	5

35	Flat Screw Driver	5
36	Level tool	5
37	Hammer of 2 Kg	5
38	Tong Tester Metter	5
39	Calculator	5
40	Micrometre 0 To 1	5
41	Insulated Plier With Side Cutter	5
42	Insulated Long Nose Plier With Side Cutter	5
43	Insulated wire Cutter	5
44	Screw Driver Different Size	5
45	Micrometre 0 To 1	5
46	Calculator	5
47	Different Electrical Item	5
48	Watt meter	5
49	Micrometre/SWG Gauge	5
50	Chisel 8'	5
51	Hammer 2kg	5
52	Insulated Plier With Side Cutter	5
53	Insulated Long Nose Plier With Side Cutter	5
54	Insulated wire Cutter	5
55	Screw driver Different Size	5
56	Earth Electrode	5
57	Boring Machine	1
58	8 SWG Size Wire	5
59	Bus Bar	5
60	Screw Wrench	5
61	Spanner Set	5
62	Earth Tester Meter	5
63	Hertz Meter	5
64	Thimble Press	5
65	Charge Controller	5
66	Battery Charger	5
67	Tong Tester (Clamp-On Meter) AC/DC	5
68	Compass	5
69	Megar meter (Analogue & Digital)	2
70	PV panel 500 watts with Mount stand	5
71	Battery 100 AH	5
72	Magnetic contactor	25
73	Cam Switch (STAR-DELTA)	5
74	Overload relay	

3. List of consumable items required		
S. No	Consumable Items	Quantity
1	safety shoes	5
2	Safety Eyes Glass	5
3	safety gloves	5
4	Dungaree	5
5	Phase tester	5
6	Insulated Rubber Mat	5
7	Samad Bond	1 pack
8	Tag Off / Log Off Nos	5
9	Map OHS Precautions	1
10	Documents Related Drawing	as per requirements
11	Papers for Drawing	15
12	Led Pencil	15
13	Rubber	15
14	Permanent Marker	10
15	Tag Off / Log Off Nos	15
16	Solution Pak	1 pack
17	joints boxes	15
18	PVC Pipes Different Size	5 length
19	fan boxes	15
20	junctions boxes	15
21	Ball Point	10
22	job related documents	as per requirements
23	Papers for Drawing	15
24	Led Pencil	15
25	Rubber	15
26	switch board	15
27	Distribution Board as per Required	15
28	Drawing Map	1
29	Power Plug (Male, Female)	15
30	Plastic Board	15
31	Light Plug and Box	15
32	Main Supply Cable	2 coil
33	Phase tester	5
34	TV and Telephone Box	15
35	Paper for Documentation	15
36	Light Plug	15
37	Switch Board	15
38	TV Plug with Board	15
39	Marker	15
40	Chisel	15
41	PVC pipes	5 length
42	Switch Board with Box	15
43	PVC elbow	15
44	PVC Socket	15
45	PVC clamp	15
46	Volt Metter	15
47	Paper	15
48	Ballpoint	15
49	Cable According to Specification	different size of cables as per

		requirement
50	Cable Size Table	5
51	Insulation Tester	5
52	Distribution Board as per Required	5
53	Cable Specification Table	5
54	Nut Bolt	3 dozen different sizes
55	earth wire	as per requirements
56	Copper Bus Bar	5
57	Conduit Pipe/ PVC Pipe	5 length
58	Nut Bolt	3 dozen

Annex: 1





ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification

LEN0112.v1

Level: 2

Credit: 8

Version: 1

MAINTAIN WORKPLACE SAFETY

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgement Guide
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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 ☐

Transgender ☐

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

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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: MAINTAIN WORKPLACE SAFETY	COMPETENT	NOT YET COMPETENT
Knowledge Assessment	✓				Answer all questions in the knowledge assessment on the following topics: - Follow safe work procedures - Apply tools & equipment safety measures - Follow workplace emergency procedures		
Other Requirements	✓	✓	✓	✓	- All candidate formative assessments completed by Instructor including; - Observations - Demonstrations - Questions and recorded answers - Any work completed as module 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 knowledge assessment within 1 hour timeframe on the following topics:

- Follow safe work procedures
- Apply tools & equipment safety measures
- Follow workplace emergency procedures

ACTIVITIES	CANDIDATE RESPONSE
1. Complete knowledge assessment	• Answer all questions in the knowledge assessment on the following topics: - o Following safe work procedures when working with electricity - o Applying tools & equipment safety measures when working with electricity - o Following workplace emergency procedures for electrical accident or injury
2. Other requirements	• All candidate formative assessments completed by Instructor including; - o Observations - o Demonstrations - o Questions and recorded answers • Any work completed as module assignments • Completed learner logbooks

3

ASSESSOR JUDGEMENT GUIDE

Candidate Name:

Father Name:

INSTRUCTIONS FOR ASSESSOR

THIS SECTION CONTAINS MINIMUM EVIDENCE REQUIREMENTS.

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

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES/NO		ASSESSOR COMMENTS
1. Knowledge assessment	Candidate correctly answered all questions in the knowledge assessment on the following topics:			
	- Following safe work procedures when working with electricity - Organizing and arranging duties, tools, equipment materials and work area - Using and storing PPE - Performing tasks in a safe manner			
	- Applying tools & equipment safety measures when working with electricity - Checking earthing for safety of equipment - Storing tooling and equipment securely			
	- Following workplace emergency procedures for electrical accident or injury - Following safe workplace procedures for dealing with accidents, fires and emergencies within scope of responsibility			
2. Other requirements	- All candidate formative assessments completed by Instructor including; - Observations - Demonstrations - Questions and recorded answers - Any work completed as module assignments and projects - Completed learner logbooks			

4

LIST OF MATERIAL AND CONTEXT OF ASSESSMENT

instructions	This section contains information regarding; - Context of the assessment - List of consumable items required during the service
1. Context of Assessment	This knowledge assessment will be conducted in classroom /workshop environment

2. List of consumable items required		
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 Duct	As per requirement
69	Lamp Holders	As per requirement
70	PVC Board (Different Sizes)	As per requirement



ASSESSMENT MATERIAL EVIDENCE GUIDE	LEN0112B.v1 Apply continuing professional development																												
Qualification LEN0112.v1 Level: 2 Credit: 3 Version: 1																													
CONTENTS	1. Assessment Summary and Record 2. Candidate Assessment 3. Assessor Judgement Guide 4. List of required tools/ equipment, material and context of assessment																												
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	DD MM YYYY		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: APPLY CONTINUING PROFESSIONAL DEVELOPMENT	COMPETENT	NOT YET COMPETENT
Knowledge Assessment	✓				- Answer all questions in the knowledge assessment on the following topics: - Identify professional development needs - Develop professional knowledge, skills and attitudes - Maintain professional proficiency		
Other Requirements	✓	✓	✓	✓	- All candidate formative assessments completed by Instructor including; - Observations - Demonstrations - Questions and recorded answers - All work completed as module assignments and projects - Completed learner logbooks - Evidence of participating in training programmes - Documented training outcomes such as reports, plans and portfolio writing		

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 knowledge assessment within 1 hour timeframe on the following topics:

- o Identify professional development needs
- o Develop professional knowledge, skills and attitudes
- o Maintain professional proficiency

ACTIVITIES	CANDIDATE RESPONSE
1. Complete knowledge assessment	• Answer all questions in the knowledge assessment on the following topics: - o Identify professional development needs - o Develop professional knowledge, skills and attitudes - o Maintain professional proficiency
2. Other requirements	• All candidate formative assessments completed by Instructor including; - o Observations - o Demonstrations - o Questions and recorded answers • All work completed as module assignments and projects • Completed learner logbooks • Evidence of participating in training programmes • Documented training outcomes such as reports, plans and portfolio writing

3

ASSESSOR JUDGEMENT GUIDE

Candidate Name:

Father Name:

INSTRUCTIONS FOR ASSESSOR

THIS SECTION CONTAINS MINIMUM EVIDENCE REQUIREMENTS.

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

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES/NO	ASSESSOR COMMENTS
1. Knowledge assessment	Candidate's answers to questions are correct and demonstrate understanding of the topics and their application:		
	• Identify professional development needs		
	o Professional development needs		
	o Identifying professional development programmes		
	• Develop professional knowledge, skills and attitudes		
	o Participating in training programmes		
	o Documenting training outcome		
	• Maintain professional proficiency		
2. Other requirements	o Identifying and using self-study sources		
	o Implementing self-study plan		
	• Candidate provided all candidate formative assessments completed by Instructor including;		
	o Observations		
	o Demonstrations		
	o Questions and recorded answers		
	• All work completed as module assignments and projects		
	• Completed learner logbooks		
	• Evidence of participating in training programmes		
	• Documented training outcomes such as reports, plans and portfolio writing		

4

LIST OF MATERIAL AND CONTEXT OF ASSESSMENT

instructions	This section contains information regarding; - Context of the assessment - List of consumable items required during the service
1. Context of Assessment	This knowledge assessment will be conducted in classroom environment

2. List of consumable items required		
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



ASSESSMENT MATERIAL EVIDENCE GUIDE	LEN0112C.v1 Perform preventive maintenance as part of electrical operations																											
Qualification LEN0112.v1 Level: 2 Credit: 10 Version: 1																												
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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: PERFORM PREVENTIVE MAINTENANCE AS PART OF ELECTRICAL OPERATIONS	COMPETENT	NOT YET COMPETENT
Practical skill demonstration			✓		- Carry out preventive maintenance of single phase electrical motor 2HP - Perform measurements of basic electrical parameter of single phase motor 2HP - Perform routine inspection of single phase electrical motor 2HP		
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 and assignments - Completed learner logbooks - Completed work records		

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 6 hour on the following topics:

- **Carry out preventive maintenance of single phase electrical motor 2HP**
- **Perform measurements of basic electrical parameter of single phase motor 2HP**
- **Perform routine inspection of single phase electrical motor 2HP**

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical assessment	During a practical assessment, under observation by an assessor, I will correctly: • Carry out preventive maintenance of single phase electrical motor 2HP ✓ selection of tools and equipment for carry out preventive maintenance of single phase motor ✓ Identifying technical fault of single phase motor 2HP ✓ Carrying out procedures for routine checks voltage check ampere check, oil check, water level • Perform measurements of basic electrical parameter of single phase motor 2HP ✓ Performing basic measurements tests Load voltage ,load current ,frequency ,RPM ✓ Performing minor adjustments and calibrations of single phase motor 2HP ✓ Replacing worn out or damaged parts bearings and bushes of single phase motor 2HP ✓ Cleaning up and storing tools use in troubleshooting for single phase motor 2HP • Perform routine inspection of single phase electrical motor 2HP: ✓ Perform quality inspection (Supply check. Voltage level sequence check load current battery level ,rpm ,frequency at full load of single phase electrical motor 2 HP ✓ Cleaning up and storing tools, equipment and material use for routine inspection of single phase electrical motor 2HP
2. Complete knowledge assessment	My answers to questions are correct and demonstrate my understanding of the topics and their application:
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 • Completed work records

3

ASSESSOR JUDGEMENT GUIDE

Candidate Name:

Father Name:

INSTRUCTIONS FOR ASSESSOR

THIS SECTION CONTAINS MINIMUM EVIDENCE REQUIREMENTS.

The supplied electrical appliance requiring preventive maintenance must meet the evidence requirements of the candidate's competence in performing preventive maintenance as part of electrical operations.

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 assessment	During a practical assessment, under observation by an assessor, the candidate correctly carried out:		
2. Carried out preventive maintenance of single phase motor 2HP	✓ selected of tools and equipment for carry out preventive maintenance of single phase motor		
	✓ Identified technical fault of single phase motor 2HP		
	✓ Carried out procedures for routine checks voltage check ampere check, oil check, water level		
3. Performed measurements of basic electrical parameter of single phase motor 2HP	• Performed measurements of basic electrical parameter of single phase motor 2HP		
	✓ Performed basic measurements tests Load voltage ,load current ,frequency ,RPM		
	✓ Performed minor adjustments and calibrations of single phase motor 2HP		
	✓ Replaced worn out or damaged parts bearings and bushes of single phase motor 2HP		
Performed routine inspection of single phase motor 2HP	•		
	✓ Performed quality inspection (Supply check. Voltage level sequence check load current battery level ,rpm ,frequency at full load of single phase electrical motor 2 HP		
	✓ Cleaned up and storing tools, equipment and material use for routine inspection of single phase electrical motor 2HP		
	✓ Performed quality inspection (Supply check. Voltage level sequence check load current battery level ,rpm ,frequency at full load of single phase electrical motor 2 HP		
	Meeting set timeframe appropriate for supplied electrical appliance requiring preventive maintenance		
4. Knowledge assessment	Candidate's answers to questions are correct and demonstrate understanding of the topics and their application. <i>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attached here.</i>		

5. Other requirements	• All candidate formative assessments completed by Instructor including; ✓ Observations ✓ Demonstrations ✓ Questions and recorded answers • All work produced as module projects or assignments • Measuring instrument calibration records • Completed logbooks • Completed work records			
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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 appliances required during the assessment
1. Context of Assessment	This practical skill demonstration will be conducted in a Building Electricians' lab/workshop environment The Assessor will select the required tools, equipment and consumables from the list below for the assessment

S. No	2. List of tools, equipment and consumables	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 Duck	As per requirement
69	Lamp Holders	As per requirement
70	PVC Board (Different Sizes)	As per requirement



ASSESSMENT MATERIAL EVIDENCE GUIDE	LEN0112C.v1 Perform corrective maintenance as part of electrical operations																																															
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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: PERFORM CORRECTIVE MAINTENANCE AS PART OF ELECTRICAL OPERATIONS	COMPETENT	NOT YET COMPETENT
Practical skill demonstration			✓		- Carry out corrective maintenance of single phase electrical motor 2HP - Perform troubleshooting of single phase electrical motor 2HP - Perform inspection of single phase electrical motor 2HP		
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 and assignments - Completed learner logbooks - Completed work records		

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 set timeframe on the following topics:

- Carry out corrective maintenance of single phase electrical motor 2HP
- Perform troubleshooting of single phase electrical motor 2HP
- Perform inspection of single phase electrical motor 2HP

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical skill demonstration	During a practical assessment, under observation by an assessor, I will correctly: • Carry out preventive maintenance of single phase electrical motor 2HP ✓ selection of tools and equipment for carry out preventive maintenance of single phase motor ✓ Identifying technical fault of single phase motor 2HP ✓ Demonstration the procedures of scheduled checks voltage check ampere check, resistance check • Perform troubleshooting of single phase electrical motor 2HP ✓ Performing technical tests on load test ,on load current ,earthing test, wiring tests, power factor ✓ Performing major adjustments and calibrations of single phase motor 2HP ✓ Replacing worn out or damaged parts bearings and bushes, sockets, 2 pin plug of single phase motor 2HP ✓ Replacing worn out or damaged parts like winding of single phase motor 2HP ✓ Cleaning up and storing tools use in troubleshooting for single phase motor 2HP • Perform inspection of single phase electrical motor 2HP: ✓ Perform final quality inspection at full load of single phase electrical motor 2 HP ✓ Perform load checks all electrical parameters of single phase electrical motor 2 HP ✓ Conduct test run of single phase electrical motor 2 HP Cleaning up and storing tools, equipment and material use for inspection of single phase electrical motor 2HP
2. Complete knowledge assessment	My answers to questions are correct and demonstrate my understanding of the topics and their application:
3. Other requirements	• All candidate formative assessments completed by Instructor including; - o Observations - o Demonstrations - o Questions and recorded answers • All work produced as module projects and assignments • Completed learner logbooks • Completed work records

Candidate Name:

Father Name:

**INSTRUCTIONS
FOR
ASSESSOR**

THIS SECTION CONTAINS MINIMUM EVIDENCE REQUIREMENTS.

The supplied electrical appliance requiring corrective maintenance must meet the evidence requirements of the candidate's competence in performing corrective maintenance as part of electrical operations.

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:			
	• Carry out preventive maintenance of single phase electrical motor 2HP:			
	✓ Carry out preventive maintenance of single phase electrical motor 2HP			
	✓ selection of tools and equipment for carry out preventive maintenance of single phase motor			
	✓ Identifying technical fault of single phase motor 2HP			
	✓ Demonstration the procedures of scheduled checks voltage check ampere check, resistance check			
	• Perform troubleshooting of single phase electrical motor 2HP			
	✓ Performing technical tests on load test ,on load current ,earthing test, wiring tests, power factor			
	✓ Performing major adjustments and calibrations of single phase motor 2HP			
	✓ Replacing worn out or damaged parts bearings and bushes, sockets, 2 pin plug of single phase motor 2HP			
	✓ Replacing worn out or damaged parts like winding of single phase motor 2HP			
	✓ Cleaning up and storing tools use in troubleshooting for single phase motor 2HP			
	• Perform inspection of single phase electrical motor 2HP:			
	✓ Perform final quality inspection at full load of single phase electrical motor 2 HP			
	✓ Perform load checks all electrical parameters of single phase electrical motor 2 HP			
	✓ Conduct test run of single phase electrical motor 2 HP			
	✓ Cleaning up and storing tools, equipment and material use for inspection of single phase electrical motor 2HP			
	Meeting set timeframe appropriate for supplied electrical appliance requiring corrective maintenance			
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			

	<i>candidate answers. Use extra sheets if required and attached.</i>			
3. Other requirements	• All candidate formative assessments completed by Instructor including; - o Observations - o Demonstrations - o Questions and recorded answers • All work produced as module projects and assignments • Completed learner logbooks • Completed work records			

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 Duct	As per requirement
69	Lamp Holders	As per requirement
70	PVC Board (Different Sizes)	As per requirement



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:

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DD MM YYYY

2. DATE ENTERED INTO
DATABASE:

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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; - o Observations - o Demonstrations - o 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 inverter 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; - o Observations - o Demonstrations - o 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			
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; - o Observations - o Demonstrations - o 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 Duct	As per requirement
69	Lamp Holders	As per requirement
70	PVC Board (Different Sizes)	As per requirement



ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification

LEN0112.v1

Level: 2

Credit: 13

Version: 1

LEN0112F.v1 Maintain off-grid PV system and components

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:

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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: MAINTAIN OFF-GRID PV SYSTEM AND COMPONENTS	COMPETENT	NOT YET COMPETENT
Practical skill demonstration			✓		Maintain 2 kW battery backup solar system.		
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; - o Observations - o Demonstrations - o Questions and recorded answers All work produced as module projects and 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 3 hour:

- Maintain 2 kW battery backup solar system.

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical assessment	During a practical assessment, under observation by an assessor, I will correctly: • Maintain 2 kw battery backup solar system ✓ Select tools and equipment for Maintain and operational check of 2 kW backup solar system. ✓ Perform quality inspection (Supply check. Voltage level sequence check load current battery level, rpm, frequency at full load 2 kW battery backup solar system. ✓ Perform basic measurements tests Load voltage ,load current ,frequency ,RPM ✓ Perform minor adjustments and calibrations 2 kW battery backup solar system. ✓ Conducting visual and technical inspection of faulty solar system rating 2 kW. ✓ Repair or replace faulty component or faulty solar panels. ✓ Prepare Load management schedules ✓ Check electrical parameters (VL,VOC,ISE.), sun radiation level ✓ Cleaning up and storing tools, equipment and material use for routine inspection and maintain 2 kW battery backup solar system
3. Other requirements	All candidate formative assessments completed by Instructor including; - o Observations - o Demonstrations - o Questions and recorded answers All work produced as module projects and assignments Completed learner logbooks

3

ASSESSOR JUDGEMENT GUIDE

Candidate Name:

Father Name:

INSTRUCTIONS FOR ASSESSOR

THIS SECTION CONTAINS MINIMUM EVIDENCE REQUIREMENTS.

The supplied off-grid pv system and components requiring maintenance must meet the evidence requirements of the candidate's competence in maintaining off-grid pv system and components

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:			
2. Maintain 2 kW battery backup solar system	✓ Selected tools and equipment for Maintain and operational check of 2 kW backup solar system.			
	✓ Performed quality inspection (Supply check. Voltage level sequence check load current battery level, rpm, frequency at full load 2 kW battery backup solar system.			
	✓ Performed basic measurements tests Load voltage ,load current ,frequency ,RPM			
	✓ Performed minor adjustments and calibrations 2 kW battery backup solar system.			
	✓ Conducted visual and technical inspection of faulty solar system rating 2 kW.			
	✓ Repaired or replaced faulty component or faulty solar panels.			
	✓ Prepared Load management schedules			
	✓ Checked electrical parameters (VL,VOC,ISE,), sun radiation level			
	✓ Cleaned up and storing tools, equipment and material use for routine inspection and maintain 2 kW battery backup solar system			
	✓ Selected tools and equipment for Maintain and operational check of 2 kW backup solar system.			
	✓ Performed quality inspection (Supply check. Voltage level sequence check load current battery level, rpm, frequency at full load 2 kW battery backup solar system.			
	✓ Performed basic measurements tests Load voltage ,load current ,frequency ,RPM			
	✓ Cleaned up and storied tools, equipment and material			
	Meeting set timeframe appropriate for supplied off-grid PV system and components requiring maintenance			
3. Knowledge assessment	Candidate's answers to questions are correct and demonstrate understanding of the topics and their application. <i>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attached.</i>			
4. Other requirements	All candidate formative assessments completed by Instructor including; o Observations			

	- o Demonstrations - o Questions and recorded answers All work produced as module projects and assignments • Completed learner logbooks			
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4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

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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
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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 Duct	As per requirement
69	Lamp Holders	As per requirement
70	PVC Board (Different Sizes)	As per requirement



ASSESSMENT MATERIAL		LEN0112G.v1 Assemble electrical appliances																																														
EVIDENCE GUIDE																																																
Qualification LEN0112.v1 Level: 2 Credit: 8 Version: 1																																																
CONTENTS		1. Assessment Summary and Record 2. Candidate Assessment 3. Assessor Judgement Guide 4. List of required tools/ equipment, material and context of assessment																																														
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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: ASSEMBLE ELECTRICAL APPLIANCES	COMPETENT	NOT YET COMPETENT
Practical skill demonstration			✓		- Perform assembling of a ceiling fan 120 w and 56 inch size in a room. - Perform assembling of a single phase distribution box of a building.		
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 and assignments - Completed learner logbooks - Completed work records		

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 3 hour:

- Perform assembling of a ceiling fan 120 w and 56 inch size in a room.
- Perform assembling of a single phase distribution box of a building.

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical assessment	During a practical assessment, under observation by an assessor, I will correctly: • Perform assembling of a ceiling fan 120 w and 56 inch size in a room. ✓ Select tools and equipment for assembling of ceiling fan 120 w and 56 inch size. ✓ Arrange ceiling fan parts after assembling of a fan ✓ Tight neck of ceiling fan with fan motor ✓ Fix supporting road with neck of a ceiling fan motor ✓ Connect wiring cable with ceiling fan terminal box ✓ Perform capacitor connection with ceiling fan motor ✓ Test fan motor for clock wise rotation ✓ Fix fins of fan with ceiling fan motor ✓ Hang ceiling fan with fix ceiling point ✓ Connect cable with ceiling fan terminal box and ceiling wiring point ✓ Check ceiling fan working for quality assurance • Perform assembling of a single phase distribution box of a building. ✓ Select tools and equipment for assembling of a single phase distribution box of a building. ✓ Separate front cover of single phase distribution box with back cover box of a building ✓ Attach ampere meter voltage meter and indicator lamp on front cover. ✓ Fix main circuit breaker and branch circuit breaker in back cover box of single phase distribution box. ✓ Fix bus bar in single phase distribution box of a building ✓ Test single phase distribution box of a building with supply
3. Other requirements	• All candidate formative assessments completed by Instructor including; - o Observations - o Demonstrations - o Questions and recorded answers • All work produced as module projects and assignments • Completed learner logbooks • Completed work records

Candidate Name:

Father Name:

**INSTRUCTIONS
FOR
ASSESSOR**

THIS SECTION CONTAINS MINIMUM EVIDENCE REQUIREMENTS.

The supplied electrical appliance requiring assembly must meet the evidence requirements of the candidate's competence in assembling electrical appliances

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 assessment	During a practical assessment, under observation by an assessor, the candidate correctly carried out:			
2. Perform assembling a of ceiling fan 120 w and 56 inch size in a room	✓ Selected tools and equipment for assembling of ceiling fan 120 w and 56 inch size.			
	✓ Arranged ceiling fan parts after assembling of a fan			
	✓ Tighten neck of ceiling fan with fan motor			
	✓ Fixed supporting road with neck of a ceiling fan motor			
	✓ Connected wiring cable with ceiling fan terminal box			
	✓ Performed capacitor connection with ceiling fan motor			
	✓ Tested fan motor for clock wise rotation			
	✓ Fixed fins of fan with ceiling fan motor			
	✓ Hanged ceiling fan with fix ceiling point			
	✓ Connected cable with ceiling fan terminal box and ceiling wiring point			
	✓ Check ceiling fan working for quality assurance			
3. Performed assembling of a single phase distribution box of a building.	✓ Selected tools and equipment for assembling of a single phase distribution box of a building.			
	✓ Separated front cover of single phase distribution box with back cover box of a building			
	✓ Attached ampere meter voltage meter and indicator lamp on front cover.			
	✓ Fixed main circuit breaker and branch circuit breaker in back cover box of single phase distribution box.			
	✓ Fixed bus bar in single phase distribution box of a building			
	✓ Tested single phase distribution box of a building with supply			
	Meeting set timeframe appropriate for supplied electrical appliance requiring assembly			
4. 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			

	<i>candidate answers. Use extra sheets if required and attached.</i>			
5. Other requirements	• All candidate formative assessments completed by Instructor including; - o Observations - o Demonstrations - o Questions and recorded answers • All work produced as module projects and assignments • Completed learner logbooks • Completed work records			

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 Duct	As per requirement
69	Lamp Holders	As per requirement
70	PVC Board (Different Sizes)	As per requirement



ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification

LEN0112H.v1

Level: 2

Credit: 10

Version: 1

LEN0112H.v1 Perform installation of electrical products and appliances

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 NAVTTC

NAVTTC OFFICE ONLY

1. DATE

FORM RECEIVED:

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DD

MM

YYYY

2. DATE ENTERED INTO DATABASE:

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DD

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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: PERFORM INSTALLATION OF ELECTRICAL PRODUCTS AND APPLIANCES	COMPETENT	NOT YET COMPETENT
Practical skill demonstration			✓		- Install electrical cables and wiring accessories as per Annexure-1. - Carry out operational checks and test for installation of wiring and report		
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 and assignments - Completed learner logbooks - Completed work records		

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 set timeframe:

- **Install electrical cables and wiring accessories as per Annexure-1.**
- **Carry out operational checks and test for installation of wiring and report.**

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical assessment	During a practical assessment, under observation by an assessor, I will correctly: • Install electrical cables and wiring accessories as per Annexure-1. ✓ Select PPEs for installation of electrical wiring ✓ Perform measurements as per layout diagram of the room ✓ Fix PVC pipes as per room layout diagram ✓ Lay cables as per room layout diagram. ✓ Install other wiring accessories according to the layout diagram • Carry out operational checks and test for installation of wiring and report. ✓ Select tools and equipment for use in electrical wiring test in the building ✓ Perform basic adjustments and measurements for test equipment of building wiring ✓ Conduct electrical wiring test in the building. ✓ Carry out operational checks for on load test and off load in wiring. ✓ Prepare test results of building wiring.
2. Complete knowledge assessment	Answer all questions my assessor may have during the practical assessment
3. Other requirements	• All candidate formative assessments completed by Instructor including; - o Observations - o Demonstrations - o Questions and recorded answers • All work produced as module projects and assignments • Completed learner logbooks • Completed work records

3

ASSESSOR JUDGEMENT GUIDE

Candidate Name:

Father Name:

INSTRUCTIONS FOR ASSESSOR

THIS SECTION CONTAINS MINIMUM EVIDENCE REQUIREMENTS.

The supplied electrical appliance and products requiring installation must meet the evidence requirements of the candidate's competence in installing electrical products and appliances

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 assessment	During a practical assessment, under observation by an assessor, the candidate correctly carried out:		
Install electrical cables and wiring accessories as per Annexure-1.	✓ Selected PPEs for installation of electrical wiring		
	✓ Preformed measurements as per layout diagram of the room		
	✓ Fix PVC pipes as per room layout diagram		
	✓ Laid cables as per room layout diagram.		
	✓ Installed other wiring accessories according to the layout diagram		
	✓ Selected PPEs for installation of electrical wiring		
	✓ Preformed measurements as per layout diagram of the room		
	✓ Fixed PVC pipes as per room layout diagram		
Carry out operational checks and test for installation of wiring and report	✓ Selected tools and equipment for use in electrical wiring test in the building		
	✓ Performed basic adjustments and measurements for test equipment of building wiring		
	✓ Conducted electrical wiring test in the building.		
	✓ Carried out operational checks for on load test and off load in wiring.		
	✓ Prepared test results of building wiring.		
	✓ Selected tools and equipment for use in electrical wiring test in the building		
	✓ Performed basic adjustments and measurements for test equipment of building wiring		
	✓ Conducted electrical wiring test in the building.		
2. Knowledge assessment	Meeting set timeframe appropriate for supplied electrical appliance and products requiring installation		
	Candidate's answers to questions are correct and demonstrate understanding of the topics and their application. <i>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attached.</i>		

3. Other requirements	• All candidate formative assessments completed by Instructor including; - o Observations - o Demonstrations - o Questions and recorded answers • All work produced as module projects and assignments • Completed learner logbooks • Completed work records			
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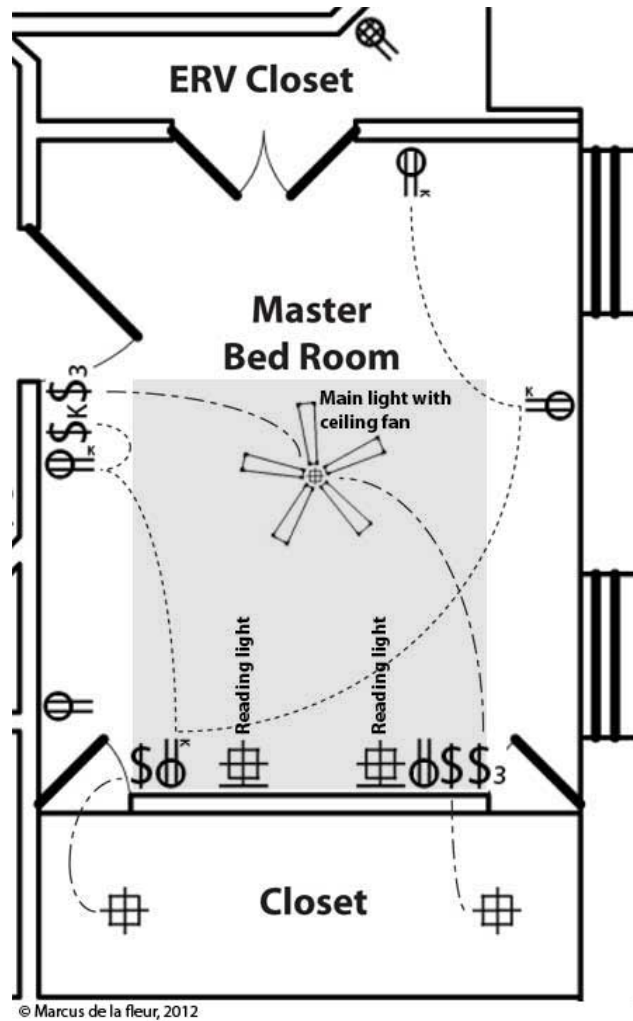
4

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 Duct	As per requirement
69	Lamp Holders	As per requirement
70	PVC Board (Different Sizes)	As per requirement





ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification

LEN0112I.v1

Level: 2

Credit: 10

Version: 1

LEN0112I.v1 Install domestic wiring

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

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DD MM YYYY

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DATABASE:

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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: INSTALL DOMESTIC WIRING	COMPETENT	NOT YET COMPETENT
Practical skill demonstration			✓		- Plan wiring layout of annex-2 - Plan wiring layout of annex-2 - Perform wiring test as per annex-2 - Install electrical appliances as per annex-2		
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 and assignments Completed learner logbooks Completed work records		

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 set timeframe:

- Plan wiring layout of annex-2
- Plan wiring layout of annex-2
- Perform wiring test as per annex-2
- Install electrical appliances as per annex-

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical assessment	During a practical assessment, under observation by an assessor, I will correctly: • Plan wiring layout of annex-2 ✓ Interpret and confirm given layout plan ✓ Identify location for installation in annex-2 ✓ Estimate material cost of annex-2 ✓ Select tools and equipment use in annex-2 • Lay cables as per annex-2 ✓ Prepare installation of cable use in annex-2 ✓ Install conduit GI pipes ,PVC pipes or ducts use in annex-2 ✓ Pull in cable according to given plan use in annex-2 ✓ Connect cables according to given layout plan use in annex-2 ✓ Connect fixtures and other accessories use in annex-2 • Performing wiring test as per annex-2 ✓ Select tools and equipment for use in electrical wiring test in the building ✓ Perform basic adjustments and measurements for test equipment of building wiring ✓ Conduct electrical wiring test in the building. ✓ Prepare test results of building wiring.
2. Complete knowledge assessment	Answer all questions my assessor may have during the practical assessment
3. Other requirements	All candidate formative assessments completed by Instructor including; - o Observations - o Demonstrations - o Questions and recorded answers All work produced as module projects and assignments Completed learner logbooks Completed work records

3

ASSESSOR JUDGEMENT GUIDE

Candidate Name:

Father Name:

INSTRUCTIONS FOR ASSESSOR

THIS SECTION CONTAINS MINIMUM EVIDENCE REQUIREMENTS.

The supplied domestic wiring set up requiring installation must meet the evidence requirements of the candidate's competence in installing domestic wiring

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 assessment	During a practical assessment, under observation by an assessor, the candidate correctly carried out:		
2. Plan wiring layout of annex-2	Interpreted and confirm given layout plan		
	Identified location for installation in annex-2		
	Estimated material cost of annex-2		
	Selected tools and equipment use in annex-2		
3. Lay cables as per annex-2	Prepared installation of cable use in annex-2		
	Installed conduit GI pipes ,PVC pipes or ducts use in annex-2		
	Pulled in cable according to given plan use in annex-2		
	Connected cables according to given layout plan use in annex-2		
4. Performing wiring test as per annex-2	Connected fixtures and other accessories use in annex-2		
	Selected tools and equipment for use in electrical wiring test in the building		
	Performed basic adjustments and measurements for test equipment of building wiring		
	Conducted electrical wiring test in the building.		
5. Knowledge assessment	Meeting set timeframe appropriate for supplied domestic wiring set up requiring installation Candidate's answers to questions are correct and demonstrate understanding of the topics and their application. <i>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attached.</i>		
6. 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 - Completed work records		

4

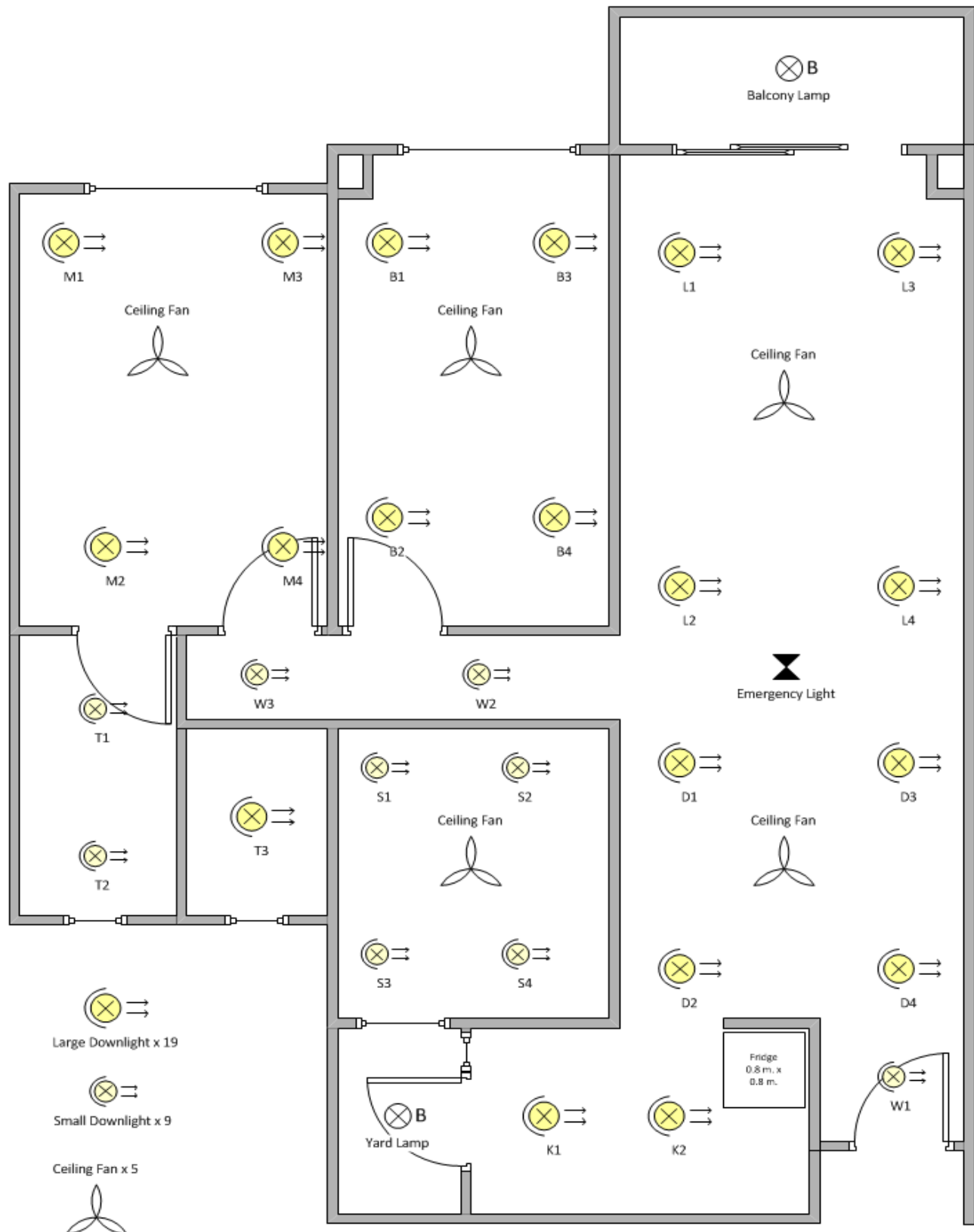
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8	AVO meter	05 each
9	Batteries	02 each
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11	Bench vice	05 each
12	Ceiling hole cutter	05 each
13	Charge controller	01 each
14	Chisel	01 each
15	Clamp on meter	05 each
16	Compass	05 each
17	Cutter	05 each
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19	Earth tester meter	02 each
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27	Hand drill machine	02 each
28	Helmet	05 each
29	Herts meter	05 each
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44	Plier set	05 each

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48	Scissor	05 each
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51	Spanner set	05 each
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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 Duct	As per requirement
69	Lamp Holders	As per requirement
70	PVC Board (Different Sizes)	As per requirement

A-17-05 – Lighting Layout





ASSESSMENT MATERIAL EVIDENCE GUIDE	LEN0112J.v1 Use and maintain electrical tools and equipment																											
Qualification LEN0112.v1 Level: 2 Credit: 8 Version: 1																												
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	<table border="0"> <tr> <td>Competent</td> <td>☐</td> <td>Not Yet Competent</td> <td>☐</td> </tr> <tr> <td>Assessment</td> <td>☐</td> <td>Re-Assessment</td> <td>☐</td> </tr> <tr> <td>Assessor Name:</td> <td colspan="2">Assessor Code</td> <td></td> </tr> <tr> <td>Assessor Signature</td> <td>Date</td> <td colspan="2"> DD MM YYYY </td> </tr> </table>	Competent	☐	Not Yet Competent	☐	Assessment	☐	Re-Assessment	☐	Assessor Name:	Assessor Code			Assessor Signature	Date	DD MM YYYY												
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CANDIDATE DETAILS	<table border="0"> <tr> <td>Candidate Name:</td> <td colspan="2"> First Name Last Name </td> </tr> <tr> <td>Father Name</td> <td colspan="2"></td> </tr> <tr> <td>Institute Name and District</td> <td colspan="2"></td> </tr> <tr> <td>CNIC/BFORM #</td> <td colspan="2"> </td> </tr> <tr> <td>OR</td> <td colspan="2"></td> </tr> <tr> <td>Registration Number:</td> <td colspan="2"></td> </tr> <tr> <td>Gender</td> <td colspan="2"> Male ☐ Female ☐ </td> </tr> <tr> <td>Candidate Consent</td> <td colspan="2"> 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. </td> </tr> <tr> <td>Candidate Signature:</td> <td colspan="2"></td> </tr> </table>	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:		
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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: USE AND MAINTAIN ELECTRICAL TOOLS AND EQUIPMENT	COMPETENT	NOT YET COMPETENT
Knowledge Assessment	✓	✓			Answer all questions of the Assessment Panel will have ask to topic related and oral presentation of completed project		
Practical activity			✓		- Use electrical tools and equipment in wiring lab - Maintain electrical tools, equipment and instruments - Calibrate measuring instruments according to WAPDA specification single phase and three phase		
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 - Completed work records - Measuring instrument calibration records		

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 set timeframe:

- **Use electrical tools and equipment in wiring lab**
- **Maintain electrical tools, equipment and instruments**
- **Calibrate measuring instruments according to WAPDA specification single phase and three phase**

ACTIVITIES	CANDIDATE RESPONSE
1. Complete project brief of applying building electrician (Assistant) skills on solar photovoltaic (PV) systems under observation by Instructor	Answer all questions in the knowledge assessment on the following topics: Use electrical tools and equipment in wiring lab • Identify and select tools, equipment and instruments use in wiring lab • Demonstrate safe use of tools, equipment and instruments use in wiring lab • Clean and store electrical tools, equipment and instruments use in wiring lab Maintain electrical tools, equipment and instruments • Check abnormality in function of electrical tools, equipment and instruments • Conform insulation of electrical tools, equipment and instruments • Apply safety measure for use electrical tools, equipment and instruments • Clean and store electrical tools, equipment and instruments Calibrate measuring instruments according to WAPDA specification single phase and three phase • Check calibration of measuring instruments volt meter ampere meter watt meter frequency meter AVO meter, Clamp meter' Zero error. • Check reading of measuring instruments volt meter ampere meter watt meter frequency meter AVO meter, Clamp meter
2. Other requirements	• All candidate formative assessments completed by Instructor including; - o Observations - o Demonstrations - o Questions and recorded answers • All work produced as module projects and assignments • Completed learner logbooks • Completed work records • Measuring instrument calibration records

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ASSESSOR JUDGEMENT GUIDE

Candidate Name:

Father Name:

INSTRUCTIONS FOR ASSESSOR

THIS SECTION CONTAINS MINIMUM EVIDENCE REQUIREMENTS.

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 assessment	During a practical assessment, under observation by an assessor, the candidate correctly carried out:		
2. Use electrical tools and equipment in wiring lab	- Identify and select tools, equipment and instruments use in wiring lab - Demonstrate safe use of tools, equipment and instruments use in wiring lab - Clean and store electrical tools, equipment and instruments use in wiring lab - Identify and select tools, equipment and instruments use in wiring lab		
3. Maintain electrical tools, equipment and instruments	- Check abnormality in function of electrical tools, equipment and instruments - Conform insulation of electrical tools, equipment and instruments - Apply safety measure for use electrical tools, equipment and instruments		
4. Calibrate measuring instruments according to WAPDA specification single phase and three phase	- Check calibration of measuring instruments volt meter ampere meter watt meter frequency meter, AVO meter, Clamp meter' Zero error. - Check reading of measuring instruments volt meter ampere meter watt meter frequency meter AVO meter, Clamp meter		
5. 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 - Completed work records - Measuring instrument calibration records		

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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

2. List of consumable items required		
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