

ELECTRICAL- ELECTRONIC ASSEMBLY

Assessment Package

National Vocational
Certificate Level 2

Version 1 - December 2014

Published by

National Vocational and Technical Training Commission
Government of Pakistan

Headquarter

Plot 38, Kirthar Road, Sector H-9/4, Islamabad, Pakistan
www.navttc.org

Responsible

Director General Skills Standard and Curricula, National Vocational and Technical Training Commission
National Deputy Head, TVET Reform Support Programme, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Layout & design

SAP Communications

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This document has been produced with the technical assistance of the TVET Reform Support Programme, which is funded by the European Union, the Embassy of the Kingdom of the Netherlands, the Federal Republic of Germany and the Royal Norwegian Embassy and has been commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ). The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in close collaboration with the National Vocational and Technical Training Commission (NAVTTTC) as well as provincial Technical Education and Vocational Training Authorities (TEVTAs), Punjab Vocational Training Council (PVTC), Qualification Awarding Bodies (QABs) and private sector organizations.

Document Version

December, 2014
Islamabad, Pakistan

ELECTRICAL- ELECTRONIC ASSEMBLY

Assessment Package

National Vocational
Certificate Level 2

Version 1 - December 2014



ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification
Electrical-Electronic Assembler
CS Code:
Level: 2
Credit: 17
Version: 1

PERFORM PREVENTIVE MAINTENANCE AS PART OF ELECTRICAL OPERATIONS

CONTENTS

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

ASSESSMENT AND ASSESSOR DETAILS

Competent **Not Yet Competent**

Assessment **Re-Assessment**

Assessor's Name _____ Assessor's Code _____

Assessor's Signature _____ Date

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DD MM YYYY

CANDIDATE DETAILS

Candidate's Name _____
First Name Last Name

Father's Name _____

Institute Name and District _____

CNIC/BFORM #

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Registration Number issued by Assessment Body _____

Gender Male Female Transgender

Candidate's 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's 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 **NAVTTCC**

NAVTTCC 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

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
	WRITTEN	ORAL	PORTFOLIO	OBSERVATION		COMPETENT	NOT YET COMPETENT
NATURE OF ACTIVITY					DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: PERFORM PREVENTIVE MAINTENANCE AS PART OF ELECTRICAL OPERATIONS		
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Perform preventive maintenance of electrical operations 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your Assessor may have during the practical assessment. 		
Other Requirements			✓		<ul style="list-style-type: none"> N/A 		

2

CANDIDATE ASSESSMENT

Candidate's Name..... Father's 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 tasks within **one hour** timeframe:

- Perform preventive maintenance of electric distribution board

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable by the candidate in order to meet this standard :

- Follow precautionary procedures as per requirements of the given tasks
- Select, use and maintain equipment/ tools as per requirement of the task
- Report to supervisor in case of any emergency after taking necessary actions
- Complete the work by following sequence of the operations
- Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
<p>1. Complete practical task of performing preventive maintenance as part of electrical operations under observation by an assessor</p>	<p>During a practical assessment, under observation by an assessor, I will correctly :</p> <ul style="list-style-type: none"> • Perform preventive maintenance of electric distribution board <ul style="list-style-type: none"> ✓ Perform visual inspection of electric distribution board for preventive maintenance ✓ Check and replace the phase indicators of electric distribution board for preventive maintenance. ✓ Measure the AC output supply using Multimeter for preventive maintenance of electric distribution board. ✓ Check the voltage on volt meter of electric distribution board and compare it with voltage measurements taken using Multimeter. ✓ Replace the faulty Voltmeters of electric distribution board for preventive maintenance. ✓ Check and replace the faulty three pole main circuit breaker of electric distribution board for preventive maintenance. ✓ Check and replace faulty two pole circuit breaker of electric distribution board for preventive maintenance. ✓ Check and tight the loose fuse holder poles of electric distribution board for preventive maintenance. ✓ Check and tight the loose joints of input and output supply lines poles of electric distribution board for preventive maintenance. ✓ Measure the output supply voltage of electric distribution board using Multimeter for preventive maintenance. • General Performance Criteria <ul style="list-style-type: none"> ✓ Follow precautionary procedures as per requirements of the given tasks ✓ Select, use and maintain equipment/ tools as per requirement of the task ✓ Report to supervisor in case of any emergency after taking necessary actions ✓ Complete the work by following sequence of the operations ✓ Perform task(s) within standard timeframe
<p>2. Other requirements</p>	<ul style="list-style-type: none"> • N/A
<p>3. Answer any questions your assessor may have during the practical assessment</p>	<p>My answers to questions are correct and demonstrate my understanding of the topics and their application.</p>

3

ASSESSOR JUDGEMENT GUIDE

Candidate's Name Father's 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. Complete practical task of performing preventive maintenance as part of electrical operations under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Perform preventive maintenance of electric distribution board	Performed visual inspection of electric distribution board for preventive maintenance			
	Checked and replaced the phase indicators of electric distribution board for preventive maintenance.			
	Measured the AC output supply using Multimeter for preventive maintenance of electric distribution board.			
	Checked the voltage on volt meter of electric distribution board and compared it with voltage measurements taken using Multimeter.			
	Replaced the faulty Voltmeters of electric distribution board for preventive maintenance.			
	Checked and replaced the faulty three pole main circuit breaker of electric distribution board for preventive maintenance.			
	Checked and replaced faulty two pole circuit breaker of electric distribution board for preventive maintenance.			
	Checked and tightened the loose fuse holder poles of electric distribution board for preventive maintenance.			
	Checked and tightened the loose joints of input and output supply lines poles of electric distribution board for preventive maintenance.			
	Measured the output supply voltage of electric distribution board using Multimeter for preventive maintenance.			
General Performance Criteria	Followed precautionary procedures as per requirements of the given tasks			
	Selected, used and maintained equipment/ tools as per requirement of the task			
	Reported to supervisor in case of any emergency after taking necessary actions			
	Completed the work by following sequence of the operations			
	Performed task(s) within standard timeframe			
2. Other requirements	N/A			

3. Answer any questions the assessor may have during the practical 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 attach.

4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	<p>This section contains information regarding;</p> <ul style="list-style-type: none"> Context of the assessment List of required tools and equipment. List of consumable items required during the service
1. Context of Assessment	This task will be performed in real time environment.

2. List of tools and equipment required (for five candidates)		
S. No	Items	Quantity
1	Screw Driver Set	05
2	Plier Combination Set	05
3	Screw Wrench	05
4	Ellen Key Set	05
5	Multimeter	05
6	Clamp-On Meter	05
7	Hammer	05
8	Hacksaw	05
9	Line Tester	05
10	Test Lamp	05
11	Series Test Board	05
12	Thimble Press	05
13	Spanner Set	05

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	Push Button	10
2	Cable 3/0.029	As per requirement
3	Electric Circuit Breaker single pole	5
4	Electric Circuit Breaker three pole	5
5	Fuse Holder	5
6	Fuse wire	As per requirement
7	Screws (Different sizes)	As per requirement
8	Insulation tape/PVC Connector	As per requirement
9	Indicators (Red, Yellow, Blue)	15
10	Volt Meters	15



ASSESSMENT MATERIAL EVIDENCE GUIDE	<h2>PERFORM CORRECTIVE MAINTENANCE AS PART OF ELECTRICAL OPERATIONS</h2>
Qualification Electrical-Electronic Assembler CS Code: Level: 2 Credit: 17 Version: 1	

CONTENTS	1. Assessment Summary and Record 2. Candidate Assessment 3. Assessor Judgment Guide 4. List of required tools/equipment, material and context of assessment
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ASSESSMENT AND ASSESSOR DETAILS	Competent <input type="checkbox"/> Not Yet Competent <input type="checkbox"/>																			
	Assessment <input type="checkbox"/> Re-Assessment <input type="checkbox"/>																			
	Assessor's Name _____ Assessor's Code _____ Assessor's Signature _____ Date _____ <table border="1" style="float: right; margin-left: 20px;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> <tr> <td align="center" colspan="2">DD</td> <td align="center" colspan="2">MM</td> <td align="center" colspan="6">YYYY</td> </tr> </table>											DD		MM		YYYY				
DD		MM		YYYY																

CANDIDATE DETAILS	Candidate's Name _____ <small style="display: flex; justify-content: space-between; width: 100%;"> First Name Last Name </small>
	Father's Name _____
	Institute Name and District _____
	CNIC/BFORM # <table border="1" style="display: inline-table; width: 150px; height: 20px; vertical-align: middle;"></table>
	Registration Number issued by Assessment Body _____
	Gender Male <input type="checkbox"/> Female <input type="checkbox"/> Transgender <input type="checkbox"/>
	Candidate's 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's Signature _____

ASSESSMENT RESULTS SUMMARY FORM	You can use this coversheet as an <i>Assessment Results Summary Form</i> . Simply post a photocopy of this completed coversheet to NAVTTCC
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NAVTTCC OFFICE ONLY	1. DATE FORM RECEIVED: <table border="1" style="display: inline-table; width: 80px; height: 20px;"></table> DD MM YYYY	2. DATE ENTERED INTO DATABASE: <table border="1" style="display: inline-table; width: 80px; height: 20px;"></table> DD MM YYYY
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1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
	WRITTEN	ORAL	PORTFOLIO	OBSERVATION		COMPETENT	NOT YET COMPETENT
NATURE OF ACTIVITY					DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: PERFORM CORRECTIVE MAINTENANCE AS PART OF ELECTRICAL OPERATIONS		
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Perform corrective maintenance as part of electrical operations 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your Assessor may have during the practical assessment. 		
Other Requirements			✓		<ul style="list-style-type: none"> N/A 		

2

CANDIDATE ASSESSMENT

Candidate's Name..... Father's 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 tasks within **one hour** timeframe:

- Perform corrective maintenance of Uninterrupted Power Supply (UPS).

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable by the candidate in order to meet this standard :

- Follow precautionary procedures as per requirements of the given tasks
- Select, use and maintain equipment/ tools as per requirement of the task
- Report to supervisor in case of any emergency after taking necessary actions
- Complete the work by following sequence of the operations
- Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
<p>1. Complete practical task of performing corrective maintenance as part of electrical operations under observation by an assessor</p>	<p>During a practical assessment, under observation by an assessor, I will correctly :</p> <ul style="list-style-type: none"> • Perform corrective maintenance of Uninterrupted Power Supply (UPS). <ul style="list-style-type: none"> ✓ Check the AC input to Uninterrupted Power Supply (UPS) and AC output from Uninterrupted Power Supply (UPS) with Multi meter ✓ Check the AC output of Uninterrupted Power Supply (UPS) while AC input is OFF with Multi meter ✓ Check and replace the faulty main power cable of Uninterrupted Power Supply (UPS). ✓ Check and replace the faulty input and output fuses of Uninterrupted Power Supply (UPS). ✓ Check and replace the Uninterrupted Power Supply (UPS) faulty digital card ✓ Check and replace the faulty module fuses of Uninterrupted Power Supply (UPS). ✓ Check and replace the faulty Field Effect Transistors (FETs) of Uninterrupted Power Supply (UPS) module/inverter circuit ✓ Conduct Open circuit, Short circuit and Short to Earth tests to verify the operation of Uninterrupted Power Supply (UPS) transformer. ✓ Replace the faulty transformer of Uninterrupted Power Supply (UPS) ✓ Check and replace the faulty ON/OFF switch of Uninterrupted Power Supply (UPS). ✓ Check and replace the faulty display indicators of Uninterrupted Power Supply (UPS). ✓ Check and clean/replace the terminals of Uninterrupted Power Supply (UPS) battery ✓ Measure the charging current of Uninterrupted Power Supply (UPS) with Clamp on meter ✓ Test the working of Uninterrupted Power Supply (UPS) after corrective maintenance • General Performance Criteria <ul style="list-style-type: none"> ✓ Follow precautionary procedures as per requirements of the given tasks ✓ Select, use and maintain equipment/ tools as per requirement of the task ✓ Report to supervisor in case of any emergency after taking necessary actions ✓ Complete the work by following sequence of the operations ✓ Perform task(s) within standard timeframe
<p>2. Other requirements</p>	<ul style="list-style-type: none"> • N/A
<p>3. Answer any questions your assessor may have during the practical assessment</p>	<p>My answers to questions are correct and demonstrate my understanding of the topics and their application.</p>

3

ASSESSOR JUDGEMENT GUIDE

Candidate's Name Father's 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. Complete practical task of performing corrective maintenance as part of electrical operations under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Perform corrective maintenance of Uninterrupted Power Supply (UPS).	Checked the AC input to Uninterrupted Power Supply (UPS) and AC output from Uninterrupted Power Supply (UPS) with Multi meter			
	Checked the AC output of Uninterrupted Power Supply (UPS) while AC input is OFF with Multi meter			
	Checked and replaced the faulty main power cable of Uninterrupted Power Supply (UPS).			
	Checked and replaced the faulty input and output fuses of Uninterrupted Power Supply (UPS).			
	Checked and replaced the Uninterrupted Power Supply (UPS) faulty digital card			
	Checked and replaced the faulty module fuses of Uninterrupted Power Supply (UPS).			
	Checked and replaced the faulty Field Effect Transistors (FETs) of Uninterrupted Power Supply (UPS) module/inverter circuit			
	Conducted Open circuit, Short circuit and Short to Earth tests to verify the operation of Uninterrupted Power Supply (UPS) transformer.			
	Replaced the faulty transformer of Uninterrupted Power Supply (UPS)			
	Checked and replaced the faulty ON/OFF switch of Uninterrupted Power Supply (UPS).			
	Checked and replaced the faulty display indicators of Uninterrupted Power Supply (UPS).			
	Checked and cleaned/replaced the terminals of Uninterrupted Power Supply (UPS) battery			
	Measured the charging current of Uninterrupted Power Supply (UPS) with Clamp on meter			
	Tested the working of Uninterrupted Power Supply (UPS) after corrective maintenance			
General Performance Criteria	Followed precautionary procedures as per requirements of the given tasks			
	Selected, used and maintained equipment/ tools as per requirement of the task			
	Reported to supervisor in case of any emergency after taking necessary actions			
	Completed the work by following sequence of the operations			
	Performed task(s) within standard timeframe			

2. Other requirements	N/A			
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3. Answer any questions the assessor may have during the practical 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 attach.

4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	<p>This section contains information regarding;</p> <ul style="list-style-type: none"> Context of the assessment List of required tools and equipment. List of consumable items required during the service
1. Context of Assessment	This task will be performed in real time environment.

2. List of tools and equipment required (for five candidates)		
S. No	Items	Quantity
1	Screw Driver Set	05
2	Plier Combination Set	05
3	Screw Wrench	05
4	Ellen Key Set	05
5	Multimeter	05
6	Clamp-On Meter	05
7	Hammer	05
8	Hacksaw	05
9	Line Tester	05
10	Test Lamp	05
11	Series Test Board	05
12	Thimble Press	05
13	Spanner Set	05
14	Soldering Iron	05
15	De-Soldering Tools	05

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	Flexible Wire	As Per Requirement
2	Power Cable	05
3	ON OFF Switch	05
4	Main Fuse	15
5	Module Fuse	20
6	Triggle Card	05
7	FET	60
8	Indicators	50
9	Battery Terminals	10
10	Soldering Wire	05
11	Solder Paste	05



ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification
Electrical-Electronic Assembler
CS Code:
Level: 2
Credit: 40
Version: 1

TEST ELECTRICAL AND ELECTRONICS PARAMETERS

CONTENTS

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

ASSESSMENT AND ASSESSOR DETAILS

Competent **Not Yet Competent**

Assessment **Re-Assessment**

Assessor's Name _____ Assessor's Code _____

Assessor's Signature _____ Date

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 DD MM YYYY

CANDIDATE DETAILS

Candidate's Name _____
First Name Last Name

Father's Name _____

Institute Name and District _____

CNIC/BFORM #

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Registration Number issued by Assessment Body _____

Gender Male Female Transgender

Candidate's 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's Signature _____

ASSESSMENT RESULTS SUMMARY FORM

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2. DATE ENTERED INTO DATABASE:

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 DD MM YYYY

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
	WRITTEN	ORAL	PORTFOLIO	OBSERVATION		COMPETENT	NOT YET COMPETENT
NATURE OF ACTIVITY					DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: TEST ELECTRICAL AND ELECTRONICS PARAMETERS		
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Test electrical and electronics parameters of appliances. 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your Assessor may have during the practical assessment. 		
Other Requirements			✓		<ul style="list-style-type: none"> N/A 		

2

CANDIDATE ASSESSMENT

Candidate's Name..... Father's 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 tasks within **45 minutes** timeframe:

- Test electrical and electronic parameters of MP5 player.

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable by the candidate in order to meet this standard :

- Follow precautionary procedures as per requirements of the given tasks
- Select, use and maintain equipment/ tools as per requirement of the task
- Report to supervisor in case of any emergency after taking necessary actions
- Complete the work by following sequence of the operations
- Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
<p>1. Complete practical task of testing electrical and electronics parameters under observation by an assessor</p>	<p>During a practical assessment, under observation by an assessor, I will correctly :</p> <ul style="list-style-type: none"> • Test electrical and electronic parameters of MP5 player <ul style="list-style-type: none"> ✓ Test the audio and video functions of MP5 player ✓ Check and repair/replace the electrical connections of MP5 player. ✓ Test the output signal of MP5 system with Oscilloscope ✓ Measure the DC voltage of MP5 audio amplifier with Multi meter ✓ Check and repair/replace the faulty audio amplifier of MP5 player ✓ Check and replace the MP5 system of MP5 player ✓ Test the working of MP5 player after repairing using output audio and video devices • General Performance Criteria <ul style="list-style-type: none"> ✓ Follow precautionary procedures as per requirements of the given tasks ✓ Select, use and maintain equipment/ tools as per requirement of the task ✓ Report to supervisor in case of any emergency after taking necessary actions ✓ Complete the work by following sequence of the operations ✓ Perform task(s) within standard timeframe
<p>2. Other requirements</p>	<ul style="list-style-type: none"> • N/A
<p>3. Answer any questions your assessor may have during the practical assessment</p>	<p>My answers to questions are correct and demonstrate my understanding of the topics and their application.</p>

3

ASSESSOR JUDGEMENT GUIDE

Candidate's Name Father's 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. Complete practical task of testing electrical and electronics parameters under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Test electrical and electronic parameters of MP5 player	Tested the audio and video functions of MP5 player			
	Checked and repaired/replaced the electrical connections of MP5 player.			
	Tested the output signal of MP5 system with Oscilloscope			
	Measured the DC voltage of MP5 audio amplifier with Multi meter			
	Checked and repaired/replaced the faulty audio amplifier of MP5 player			
	Checked and replaced the MP5 system of MP5 player			
	Tested the working of MP5 player after repairing using output audio and video devices			
General Performance Criteria	Followed precautionary procedures as per requirements of the given tasks			
	Selected, used and maintained equipment/ tools as per requirement of the task			
	Reported to supervisor in case of any emergency after taking necessary actions			
	Completed the work by following sequence of the operations			
	Performed task(s) within standard timeframe			
2. Other requirements	N/A			

3. Answer any questions the assessor may have during the practical 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 attach.

4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	<p>This section contains information regarding;</p> <ul style="list-style-type: none"> Context of the assessment List of required tools and equipment. List of consumable items required during the service
1. Context of Assessment	This task will be performed in real time environment.

2. List of tools and equipment required (for five candidates)		
S. No	Items	Quantity
1	Screw Driver Set	05
2	Plier Combination Set	05
3	Multimeter	05
4	Line Tester	05
5	Series Test Board	05
6	Soldering Iron	05
7	De-Soldering Tools	05
8	Oscilloscope	05
9	Audio Signal Generator	05
10	DC Power Supply	05

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	Flexible Wire	As Per Requirement
2	Power Cable	05
3	ON OFF Switch	05
4	Indicators	05
5	Soldering Wire	05
6	Solder Paste	05
7	Audio Amplifier	05
8	IC LA 4440	10
9	Regulator IC 5V	05
10	Buffer Amplifier	05
11	MP5 System	05
12	Transformer	05
13	Diode 2A	05
14	Capacitor 1000 μ F	05
15	Resistors (Different Values)	As Per Requirement



ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification
Electrical-Electronic Assembler
CS Code:
Level: 2
Credit: 56
Version: 1

ASSEMBLE ELECTRICAL AND ELECTRONIC CIRCUITS

CONTENTS

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

ASSESSMENT AND ASSESSOR DETAILS

Competent **Not Yet Competent**

Assessment **Re-Assessment**

Assessor's Name _____ Assessor's Code _____

Assessor's Signature _____ Date

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DD MM YYYY

CANDIDATE DETAILS

Candidate's Name _____
First Name Last Name

Father's Name _____

Institute Name and District _____

CNIC/BFORM #

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Registration Number issued by Assessment Body _____

Gender Male Female Transgender

Candidate's 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's Signature _____

ASSESSMENT RESULTS SUMMARY FORM

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NAVTTCC 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

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
	WRITTEN	ORAL	PORTFOLIO	OBSERVATION		COMPETENT	NOT YET COMPETENT
NATURE OF ACTIVITY					DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: ASSEMBLE ELECTRICAL AND ELECTRONIC CIRCUITS		
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Assemble electrical and electronic circuits. 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your Assessor may have during the practical assessment. 		
Other Requirements			✓		<ul style="list-style-type: none"> N/A 		

2

CANDIDATE ASSESSMENT

Candidate's Name..... Father's 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 tasks within **one hour and fifteen minutes** timeframe:

- Carry out assembling of DC regulated power supply (Annexure-1).

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable by the candidate in order to meet this standard :

- Follow precautionary procedures as per requirements of the given tasks
- Select, use and maintain equipment/ tools as per requirement of the task
- Report to supervisor in case of any emergency after taking necessary actions
- Complete the work by following sequence of the operations
- Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
<p>1. Complete practical task of assembling electrical and electronic circuits under observation by an assessor</p>	<p>During a practical assessment, under observation by an assessor, I will correctly :</p> <ul style="list-style-type: none"> • Carry out assembling of DC regulated power supply (Annexure-1) <ul style="list-style-type: none"> ✓ Interpret circuit diagram / layout of DC regulated power supply (Annexure-1) ✓ Prepare Printed Circuit Board (PCB) using H₂SO₄ / HNO₃ to install electronics components for the assembling of DC regulated power supply circuit ✓ Complete drilling process on Printed Circuit Board (PCB) to install electronics components for the assembling of DC regulated power supply circuit. ✓ Install components on Printed Circuit Board (PCB) as per circuit diagram for the assembling of DC regulated power supply circuit. ✓ Complete soldering process on Printed Circuit Board (PCB) and cut the extra leads of electronic components for the assembling of DC regulated power supply circuit. ✓ Connect the input and output connection wires with regulated power supply circuit using soldering iron ✓ Connect step down transformer with regulated power supply circuit using soldering iron ✓ Perform test run of regulated power supply ✓ Measure DC output voltage of regulated power supply with Multi meter • General Performance Criteria <ul style="list-style-type: none"> ✓ Follow precautionary procedures as per requirements of the given tasks ✓ Select, use and maintain equipment/ tools as per requirement of the task ✓ Report to supervisor in case of any emergency after taking necessary actions ✓ Complete the work by following sequence of the operations ✓ Perform task(s) within standard timeframe
<p>2. Other requirements</p>	<ul style="list-style-type: none"> • N/A
<p>3. Answer any questions your assessor may have during the practical assessment</p>	<p>My answers to questions are correct and demonstrate my understanding of the topics and their application.</p>

3

ASSESSOR JUDGEMENT GUIDE

Candidate's Name Father's 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. Complete practical task of assembling electrical and electronic circuits under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Carry out assembling of DC regulated power supply (Annexure-1)	Interpreted circuit diagram / layout of DC regulated power supply (Annexure-1)			
	Prepared Printed Circuit Board (PCB) using H ₂ SO ₄ / HNO ₃ to install electronics components for the assembling of DC regulated power supply circuit			
	Completed drilling process on Printed Circuit Board (PCB) to install electronics components for the assembling of DC regulated power supply circuit.			
	Installed components on Printed Circuit Board (PCB) as per circuit diagram for the assembling of DC regulated power supply circuit.			
	Completed soldering process on Printed Circuit Board (PCB) and cut the extra leads of electronic components for the assembling of DC regulated power supply circuit.			
	Connected the input and output connection wires with regulated power supply circuit using soldering iron			
	Connected step down transformer with regulated power supply circuit using soldering iron			
	Performed test run of regulated power supply			
	Measured DC output voltage of regulated power supply with Multi meter			
General Performance Criteria	Followed precautionary procedures as per requirements of the given tasks			
	Selected, used and maintained equipment/ tools as per requirement of the task			
	Reported to supervisor in case of any emergency after taking necessary actions			
	Completed the work by following sequence of the operations			
	Performed task(s) within standard timeframe			
2. Other requirements	N/A			

3. Answer any questions the assessor may have during the practical 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 attach.

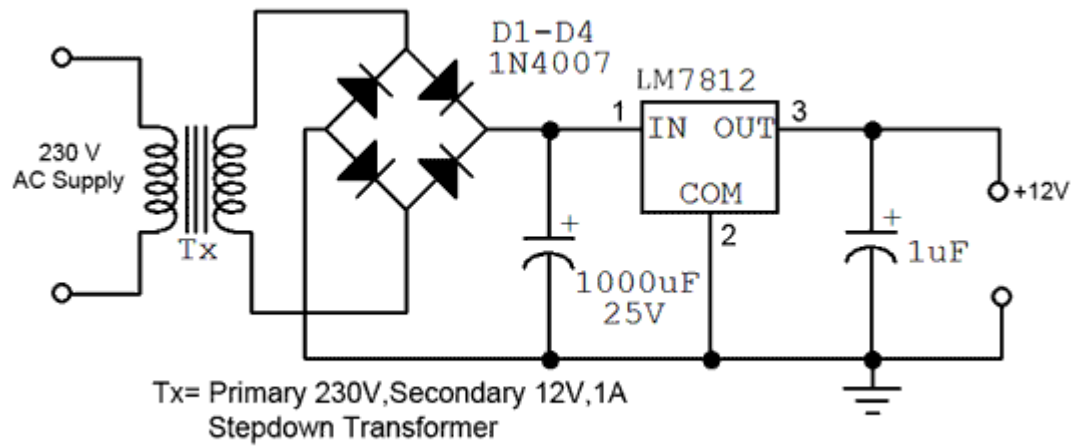
4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	<p>This section contains information regarding;</p> <ul style="list-style-type: none"> Context of the assessment List of required tools and equipment. List of consumable items required during the service
1. Context of Assessment	This task will be performed in real time environment.

2. List of tools and equipment required (for five candidates)		
S. No	Items	Quantity
1	Screw Driver Set	05
2	Plier Combination Set	05
3	Multimeter	05
4	Line Tester	05
5	Series Test Board	05
6	Soldering Iron	05
7	De-Soldering Tools	05
8	DC Power Supply	05

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	Flexible Wire	As Per Requirement
2	Power Cable	05
3	ON OFF Switch	05
4	Indicators	05
5	Soldering Wire	05
6	Solder Paste	05
7	PCB Sheet	05
8	Permanent Marker	05
9	Acid (H ₂ SO ₄ / HNO ₃)	As Per Requirement
10	Regulator IC 12 V	05
11	Transistor (Different Values)	As Per Requirement
12	Transformer	05
13	Diode 2A	As Per Requirement
14	Capacitor 1000 µF	As Per Requirement
15	Resistors (Different Values)	As Per Requirement
16	Variable Resistor 100 KΩ	05





ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification
Electrical-Electronic Assembler
CS Code:
Level: 2
Credit: 16
Version: 1

USE AND MAINTAIN ELECTRICAL TOOLS AND EQUIPMENT

CONTENTS

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

ASSESSMENT AND ASSESSOR DETAILS

Competent **Not Yet Competent**

Assessment **Re-Assessment**

Assessor's Name _____ Assessor's Code _____

Assessor's Signature _____ Date

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DD MM YYYY

CANDIDATE DETAILS

Candidate's Name _____
First Name Last Name

Father's Name _____

Institute Name and District _____

CNIC/BFORM #

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Registration Number issued by Assessment Body _____

Gender Male Female Transgender

Candidate's 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's 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 **NAVTTCC**

NAVTTCC 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

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
	WRITTEN	ORAL	PORTFOLIO	OBSERVATION		COMPETENT	NOT YET COMPETENT
NATURE OF ACTIVITY					DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: USE AND MAINTAIN ELECTRICAL TOOLS AND EQUIPMENT		
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Use and maintain electrical tools and equipment. 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your Assessor may have during the practical assessment. 		
Other Requirements			✓		<ul style="list-style-type: none"> N/A 		

2

CANDIDATE ASSESSMENT

Candidate's Name..... Father's 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 tasks within **one hour** timeframe:

- Perform maintenance of 300 watt solar energy system.

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable by the candidate in order to meet this standard :

- Follow precautionary procedures as per requirements of the given tasks
- Select, use and maintain equipment/ tools as per requirement of the task
- Report to supervisor in case of any emergency after taking necessary actions
- Complete the work by following sequence of the operations
- Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
<p>1. Complete practical task of using and maintaining electrical tools and equipment under observation by an assessor</p>	<p>During a practical assessment, under observation by an assessor, I will correctly :</p> <ul style="list-style-type: none"> • Perform maintenance of 300 watt solar energy system. <ul style="list-style-type: none"> ✓ Check and adjust the angle of solar plates for the maintenance of 300 watt solar energy system. ✓ Measure the output voltage on the terminals of solar plates using Multi meter for the maintenance of 300 watt solar energy system. ✓ Test the diodes of solar plates with Multi meter for the maintenance of 300 watt solar energy system. ✓ Check the output connections of solar energy system's charge controller for the maintenance of 300 watt solar energy system. ✓ Test and measure the output voltage of charge controller of solar energy system with Multi meter for the maintenance of 300 watt solar energy system. ✓ Test and measure the input and output voltage of inverter/UPS using Multimeter for the maintenance of 300 watt solar energy system. ✓ Check the battery connections, terminals and water level for the maintenance of 300 watt solar energy system. ✓ Measure the gravity of battery electrolyte with Hydrometer for the maintenance of 300 watt solar energy system. ✓ Measure the DC current of the battery with Clamp-on Meter for the maintenance of 300 watt solar energy system. • General Performance Criteria <ul style="list-style-type: none"> ✓ Follow precautionary procedures as per requirements of the given tasks ✓ Select, use and maintain equipment/ tools as per requirement of the task ✓ Report to supervisor in case of any emergency after taking necessary actions ✓ Complete the work by following sequence of the operations ✓ Perform task(s) within standard timeframe
<p>2. Other requirements</p>	<ul style="list-style-type: none"> • N/A
<p>3. Answer any questions your assessor may have during the practical assessment</p>	<p>My answers to questions are correct and demonstrate my understanding of the topics and their application.</p>

3

ASSESSOR JUDGEMENT GUIDE

Candidate's Name Father's 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. Complete practical task of using and maintaining electrical tools and equipment under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Perform maintenance of 300 watt solar energy system.	Checked and adjusted the angle of solar plates for the maintenance of 300 watt solar energy system.			
	Measured the output voltage on the terminals of solar plates using Multi meter for the maintenance of 300 watt solar energy system.			
	Tested the diodes of solar plates with Multi meter for the maintenance of 300 watt solar energy system.			
	Checked the output connections of solar energy system's charge controller for the maintenance of 300 watt solar energy system.			
	Tested and measured the output voltage of charge controller of solar energy system with Multi meter for the maintenance of 300 watt solar energy system.			
	Tested and measured the input and output voltage of inverter/UPS using Multimeter for the maintenance of 300 watt solar energy system.			
	Checked the battery connections, terminals and water level for the maintenance of 300 watt solar energy system.			
	Measured the gravity of battery electrolyte with Hydrometer for the maintenance of 300 watt solar energy system.			
	Measured the DC current of the battery with Clamp-on Meter for the maintenance of 300 watt solar energy system.			
General Performance Criteria	Followed precautionary procedures as per requirements of the given tasks			
	Selected, used and maintained equipment/ tools as per requirement of the task			
	Reported to supervisor in case of any emergency after taking necessary actions			
	Completed the work by following sequence of the operations			
	Performed task(s) within standard timeframe			
2. Other requirements	N/A			

3. Answer any questions the assessor may have during the practical 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 attach.

4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	<p>This section contains information regarding;</p> <ul style="list-style-type: none"> Context of the assessment List of required tools and equipment. List of consumable items required during the service
1. Context of Assessment	This task will be performed in real time environment.

2. List of tools and equipment required (for five candidates)		
S. No	Items	Quantity
1	Screw Driver Set	05
2	Plier Combination Set	05
3	Screw Wrench	05
4	Ellen Key Set	05
5	Multimeter	05
6	Clamp-On Meter	05
7	Hammer	05
8	Hacksaw	05
9	Line Tester	05
10	Test Lamp	05
11	Series Test Board	05
12	Thimble Press	05
13	Spanner Set	05
14	Thimble Press	05

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	Diode 4 A	As per requirement
2	Cable 3/0.029	As per requirement
3	Electrolyte	As per requirement
4	Fuse wire	As per requirement
5	Screws (Different sizes)	As per requirement
6	Insulation tape	As per requirement
7	DC Cable	As per requirement
8	Thimble	As per requirement
9	Silicon Strip	As per requirement
10	Compass	05
11	Hydro Meter	05



ASSESSMENT MATERIAL

EVIDENCE GUIDE

Qualification
Electrical-Electronic Assembler
CS Code:
Level: 2
Credit: 160
Version: 1

ELECTRICAL-ELECTRONIC ASSEMBLER

CONTENTS

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

ASSESSMENT AND ASSESSOR DETAILS

Competent **Not Yet Competent**

Assessment **Re-Assessment**

Assessor's Name Assessor's Code

Assessor's Signature Date

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 DD MM YYYY

CANDIDATE DETAILS

Candidate's Name
First Name Last Name

Father's Name

Institute Name and District

CNIC/BFORM #

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Registration Number issued by Assessment Body

Gender Male Female Transgender

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 DD MM YYYY

2. DATE ENTERED INTO DATABASE:

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 DD MM YYYY

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
	WRITTEN	ORAL	PORTFOLIO	OBSERVATION		COMPETENT	NOT YET COMPETENT
NATURE OF ACTIVITY					DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF QUALIFICATION: ELECTRICAL-ELECTRONIC ASSEMBLER		
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Perform as Electric-Electronic Assembler. 		
Knowledge Assessment	✓	✓			<ul style="list-style-type: none"> Answer all questions your Assessor may have during the practical assessment. 		
Other Requirements			✓		<ul style="list-style-type: none"> N/A 		

2

CANDIDATE ASSESSMENT

Candidate's Name..... Father's 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 tasks within **five hours** timeframe:

- Perform preventive maintenance of electric distribution board
- Perform corrective maintenance of Uninterrupted Power Supply (UPS).
- Test electrical and electronic parameters of MP5 player
- Carry out assembling of DC regulated power supply (Annexure-1)
- Perform maintenance of 300 watt solar energy system.

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable by the candidate in order to meet this standard :

- Follow precautionary procedures as per requirements of the given tasks
- Select, use and maintain equipment/ tools as per requirement of the task
- Report to supervisor in case of any emergency after taking necessary actions
- Complete the work by following sequence of the operations
- Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
<p>1. Complete practical task of performing as Electric-Electronic Assembler under observation by an assessor</p>	<p>During a practical assessment, under observation by an assessor, I will correctly :</p> <ul style="list-style-type: none"> • Perform preventive maintenance of electric distribution board <ul style="list-style-type: none"> ✓ Perform visual inspection of electric distribution board for preventive maintenance ✓ Check and replace the phase indicators of electric distribution board for preventive maintenance. ✓ Measure the AC output supply using Multimeter for preventive maintenance of electric distribution board. ✓ Check the voltage on volt meter of electric distribution board and compare it with voltage measurements taken using Multimeter. ✓ Replace the faulty Voltmeters of electric distribution board for preventive maintenance. ✓ Check and replace the faulty three pole main circuit breaker of electric distribution board for preventive maintenance. ✓ Check and replace faulty two pole circuit breaker of electric distribution board for preventive maintenance. ✓ Check and tight the loose fuse holder poles of electric distribution board for preventive maintenance. ✓ Check and tight the loose joints of input and output supply lines poles of electric distribution board for preventive maintenance. ✓ Measure the output supply voltage of electric distribution board using Multimeter for preventive maintenance. • Perform corrective maintenance of Uninterrupted Power Supply (UPS). <ul style="list-style-type: none"> ✓ Check the AC input to Uninterrupted Power Supply (UPS) and AC output from Uninterrupted Power Supply (UPS) with Multi meter ✓ Check the AC output of Uninterrupted Power Supply (UPS) while AC input is OFF with Multi meter ✓ Check and replace the faulty main power cable of Uninterrupted Power Supply (UPS). ✓ Check and replace the faulty input and output fuses of Uninterrupted Power Supply (UPS). ✓ Check and replace the Uninterrupted Power Supply (UPS) faulty digital card ✓ Check and replace the faulty module fuses of Uninterrupted Power Supply (UPS). ✓ Check and replace the faulty Field Effect Transistors (FETs) of Uninterrupted Power Supply (UPS) module/inverter circuit ✓ Conduct Open circuit, Short circuit and Short to Earth tests to verify the operation of

	<ul style="list-style-type: none"> ✓ Uninterrupted Power Supply (UPS) transformer. ✓ Replace the faulty transformer of Uninterrupted Power Supply (UPS) ✓ Check and replace the faulty ON/OFF switch of Uninterrupted Power Supply (UPS). ✓ Check and replace the faulty display indicators of Uninterrupted Power Supply (UPS). ✓ Check and clean/replace the terminals of Uninterrupted Power Supply (UPS) battery ✓ Measure the charging current of Uninterrupted Power Supply (UPS) with Clamp on meter ✓ Test the working of Uninterrupted Power Supply (UPS) after corrective maintenance • Test electrical and electronic parameters of MP5 player <ul style="list-style-type: none"> ✓ Test the audio and video functions of MP5 player ✓ Check and repair/replace the electrical connections of MP5 player. ✓ Test the output signal of MP5 system with Oscilloscope ✓ Measure the DC voltage of MP5 audio amplifier with Multi meter ✓ Check and repair/replace the faulty audio amplifier of MP5 player ✓ Check and replace the MP5 system of MP5 player ✓ Test the working of MP5 player after repairing using output audio and video devices • Carry out assembling of DC regulated power supply (Annexure-1) <ul style="list-style-type: none"> ✓ Interpret circuit diagram / layout of DC regulated power supply (Annexure-1) ✓ Prepare Printed Circuit Board (PCB) using H₂SO₄ / HNO₃ to install electronics components for the assembling of DC regulated power supply circuit ✓ Complete drilling process on Printed Circuit Board (PCB) to install electronics components for the assembling of DC regulated power supply circuit. ✓ Install components on Printed Circuit Board (PCB) as per circuit diagram for the assembling of DC regulated power supply circuit. ✓ Complete soldering process on Printed Circuit Board (PCB) and cut the extra leads of electronic components for the assembling of DC regulated power supply circuit. ✓ Connect the input and output connection wires with regulated power supply circuit using soldering iron ✓ Connect step down transformer with regulated power supply circuit using soldering iron ✓ Perform test run of regulated power supply ✓ Measure DC output voltage of regulated power supply with Multi meter • Perform maintenance of 300 watt solar energy system. <ul style="list-style-type: none"> ✓ Check and adjust the angle of solar plates for the maintenance of 300 watt solar energy system. ✓ Measure the output voltage on the terminals of solar plates using Multi meter for the maintenance of 300 watt solar energy system. ✓ Test the diodes of solar plates with Multi meter for the maintenance of 300 watt solar energy system. ✓ Check the output connections of solar energy system's charge controller for the maintenance of 300 watt solar energy system. ✓ Test and measure the output voltage of charge controller of solar energy system with Multi meter for the maintenance of 300 watt solar energy system. ✓ Test and measure the input and output voltage of inverter/UPS using Multimeter for the maintenance of 300 watt solar energy system. ✓ Check the battery connections, terminals and water level for the maintenance of 300 watt solar energy system. ✓ Measure the gravity of battery electrolyte with Hydrometer for the maintenance of 300 watt solar energy system. ✓ Measure the DC current of the battery with Clamp-on Meter for the maintenance of 300 watt solar energy system. • General Performance Criteria <ul style="list-style-type: none"> ✓ Follow precautionary procedures as per requirements of the given tasks ✓ Select, use and maintain equipment/ tools as per requirement of the task ✓ Report to supervisor in case of any emergency after taking necessary actions ✓ Complete the work by following sequence of the operations ✓ Perform task(s) within standard timeframe
2. Other requirements	<ul style="list-style-type: none"> • N/A
3. Answer any questions your assessor may have during the practical assessment	My answers to questions are correct and demonstrate my understanding of the topics and their application.

3

ASSESSOR JUDGEMENT GUIDE

Candidate's Name Father's 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. Complete practical task of performing as Electric-Electronic Assembler under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Perform preventive maintenance of electric distribution board	Performed visual inspection of electric distribution board for preventive maintenance			
	Checked and replaced the phase indicators of electric distribution board for preventive maintenance.			
	Measured the AC output supply using Multimeter for preventive maintenance of electric distribution board.			
	Checked the voltage on volt meter of electric distribution board and compared it with voltage measurements taken using Multimeter.			
	Replaced the faulty Voltmeters of electric distribution board for preventive maintenance.			
	Checked and replaced the faulty three pole main circuit breaker of electric distribution board for preventive maintenance.			
	Checked and replaced faulty two pole circuit breaker of electric distribution board for preventive maintenance.			
	Checked and tightened the loose fuse holder poles of electric distribution board for preventive maintenance.			
	Checked and tightened the loose joints of input and output supply lines poles of electric distribution board for preventive maintenance.			
	Measured the output supply voltage of electric distribution board using Multimeter for preventive maintenance.			
Perform corrective maintenance of Uninterrupted Power Supply (UPS).	Checked the AC input to Uninterrupted Power Supply (UPS) and AC output from Uninterrupted Power Supply (UPS) with Multi meter			
	Checked the AC output of Uninterrupted Power Supply (UPS) while AC input is OFF with Multi meter			
	Checked and replaced the faulty main power cable of Uninterrupted Power Supply (UPS).			
	Checked and replaced the faulty input and output fuses of Uninterrupted Power Supply (UPS).			
	Checked and replaced the Uninterrupted Power Supply (UPS) faulty digital card			
	Checked and replaced the faulty module fuses of Uninterrupted Power Supply (UPS).			
	Checked and replaced the faulty Field Effect Transistors (FETs) of Uninterrupted Power Supply (UPS) module/inverter circuit			
	Conducted Open circuit, Short circuit and Short to Earth tests to verify the operation of Uninterrupted Power Supply (UPS) transformer.			
	Replaced the faulty transformer of Uninterrupted Power Supply (UPS)			

	Checked and replaced the faulty ON/OFF switch of Uninterrupted Power Supply (UPS).			
	Checked and replaced the faulty display indicators of Uninterrupted Power Supply (UPS).			
	Checked and cleaned/replaced the terminals of Uninterrupted Power Supply (UPS) battery			
	Measured the charging current of Uninterrupted Power Supply (UPS) with Clamp on meter			
	Tested the working of Uninterrupted Power Supply (UPS) after corrective maintenance			
Test electrical and electronic parameters of MP5 player	Tested the audio and video functions of MP5 player			
	Checked and repaired/replaced the electrical connections of MP5 player.			
	Tested the output signal of MP5 system with Oscilloscope			
	Measured the DC voltage of MP5 audio amplifier with Multi meter			
	Checked and repaired/replaced the faulty audio amplifier of MP5 player			
	Checked and replaced the MP5 system of MP5 player			
	Tested the working of MP5 player after repairing using output audio and video devices			
Carry out assembling of DC regulated power supply (Annexure-1)	Interpreted circuit diagram / layout of DC regulated power supply (Annexure-1)			
	Prepared Printed Circuit Board (PCB) using H2SO4 / HNO3 to install electronics components for the assembling of DC regulated power supply circuit			
	Completed drilling process on Printed Circuit Board (PCB) to install electronics components for the assembling of DC regulated power supply circuit.			
	Installed components on Printed Circuit Board (PCB) as per circuit diagram for the assembling of DC regulated power supply circuit.			
	Completed soldering process on Printed Circuit Board (PCB) and cut the extra leads of electronic components for the assembling of DC regulated power supply circuit.			
	Connected the input and output connection wires with regulated power supply circuit using soldering iron			
	Connected step down transformer with regulated power supply circuit using soldering iron			
	Performed test run of regulated power supply			
	Measured DC output voltage of regulated power supply with Multi meter			
Perform maintenance of 300 watt solar energy system.	Checked and adjusted the angle of solar plates for the maintenance of 300 watt solar energy system.			
	Measured the output voltage on the terminals of solar plates using Multi meter for the maintenance of 300 watt solar energy system.			
	Tested the diodes of solar plates with Multi meter for the maintenance of 300 watt solar energy system.			
	Checked the output connections of solar energy system's charge controller for the maintenance of 300 watt solar energy system.			
	Tested and measured the output voltage of charge controller of solar energy system with Multi meter for the maintenance of 300 watt solar energy system.			
	Tested and measured the input and output voltage of inverter/UPS using Multimeter for the maintenance of 300 watt solar energy system.			
	Checked the battery connections, terminals and water level for the maintenance of 300 watt solar energy system.			
	Measured the gravity of battery electrolyte with Hydrometer for the maintenance of 300 watt solar energy system.			

	Measured the DC current of the battery with Clamp-on Meter for the maintenance of 300 watt solar energy system.			
General Performance Criteria	Followed precautionary procedures as per requirements of the given tasks			
	Selected, used and maintained equipment/ tools as per requirement of the task			
	Reported to supervisor in case of any emergency after taking necessary actions			
	Completed the work by following sequence of the operations			
	Performed task(s) within standard timeframe			
2. Other requirements	N/A			

3. Answer any questions the assessor may have during the practical 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 attach.

4

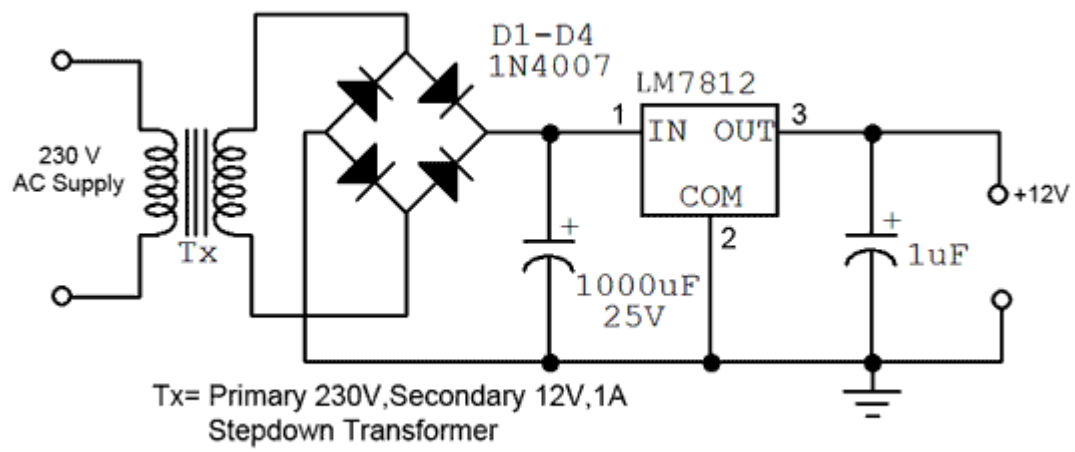
LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS	<p>This section contains information regarding;</p> <ul style="list-style-type: none"> Context of the assessment List of required tools and equipment. List of consumable items required during the service
1. Context of Assessment	This task will be performed in real time environment.

2. List of tools and equipment required (for five candidates)		
S. No	Items	Quantity
1	Screw Driver Set	05
2	Plier Combination Set	05
3	Screw Wrench	05
4	Ellen Key Set	05
5	Multimeter	05
6	Clamp-On Meter	05
7	Hammer	05
8	Hacksaw	05
9	Line Tester	05
10	Test Lamp	05
11	Series Test Board	05
12	Thimble Press	05
13	Spanner Set	05
14	Soldering Iron	05
15	De-Soldering Tools	05
16	Oscilloscope	05
17	Audio Signal Generator	05
18	DC Power Supply	05

3. List of consumable items required (for five candidates)		
S. No	Items	Quantity
1	Cable 3/0.029	As per requirement
2	Electric Circuit Breaker single pole	5
3	Electric Circuit Breaker three pole	5
4	Fuse Holder	5
5	Fuse wire	As per requirement
6	Screws (Different sizes)	As per requirement
7	Insulation tape	As per requirement
8	Indicators (Red, Yellow, Blue)	15
9	Volt Meters	15
10	Flexible Wire	As Per Requirement
11	Power Cable	15
12	ON OFF Switch	10
13	Main Fuse	15
14	Module Fuse	20
15	Triggle Card	05
16	FETs	60
17	LEDs (Different Colors)	As Per Requirement

18	Battery Terminals	20
19	Soldering Wire	As Per Requirement
20	Solder Paste	As Per Requirement
21	IC LA 4440	10
22	Regulator IC 5V, 12V	10
23	Buffer Amplifier	05
24	MP5 System	05
25	Transformer	10
26	Diode 2A, 4A	40
27	Capacitor 1000 μ F	20
28	Resistors (Different Values)	As Per Requirement
29	Audio Amplifier	05
30	PCB Sheet	05
31	Permanent Marker	05
32	Acid (H_2SO_4 / HNO_3)	As Per Requirement
33	Transistor (Different Values)	As Per Requirement
34	Variable Resistor 100 K Ω	05
35	Electrolyte	As per requirement
36	DC Cable	As per requirement
37	Thimble	As per requirement
38	Silicon Strip	As per requirement
39	Compass	05
40	Hydro Meter	05




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