REPUBLIC OF KENYA

NATIONAL OCCUPATIONAL STANDARDS

FOR

ELECTRICAL ENGINEERING TECHNICIAN (POWER OPTION)

KNQF LEVEL: 6

ISCED OCCUPATIONAL STANDARD CODE: 0713 554B

TVET CDACC
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PERFORM WORKSHOP PROCESSES

UNIT CODE: ENG/OS/PO/CC/02/6/B

UNIT DESCRIPTION

This unit covers the competencies required to perform workshop processes. Competencies include applying workshop Safety, use of workshop tools, instruments and equipments, preparation of workshop materials, preparation of workshop for Electrical installation practicals, Storage of Electrical tools and materials after practicals, troubleshoot and repair workshop tools and equipment.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT These describe the key outcomes which make up workplace function.	**PERFORMANCE CRITERIA** These are assessable statements which specify the required level of performance for each of the elements. ***(Bold and italicised terms are elaborated in the Range)***
1. Apply workshop safety	1.1 Proper use of PPE is adhered to as per standard operating procedure 1.2 Workshop rules are followed as per standard operating procedure 1.3 Proper use of safety equipments are followed as per the manufacturers recommendations 1.4 First Aid procedures are adhered to
2. Use workshop tools, Instruments and equipments	2.1 ***Workshop tools***, Instruments and equipments are Identified 2.2 Tools, Instruments and equipments are used as per the manufactures manuals 2.3 Calibration of workshop instruments are performed as per the standard operating procedure 2.4 Proper handling of workshop tools, Instruments and equipments should be followed 2.5 Care and Maintenance of workshop tools, Instruments and equipments should be adhered too
3 Prepare workshop tools and instruments for an Electrical installation practical e.g.	3.1 List of required tools and instruments are prepared 3.2 Issuing of required tools and instruments is performed

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	3.3 Confirmation of the issued tools and instruments is performed 3.4 Functioning of the issued tools and instruments is checked in line with the standard operating procedure 3.5 Sharpening of the cutting tools is performed
4 Prepare workshop for an Electrical practical	4.1 Practical working section is arranged as per the number of practicals to be carried out. 4.2 Power supply availability in every practical section is confirmed as per the practical to be carried out 4.3 Tools and materials required are supplied as per the practical to be carried out.
5 Store Electrical tools and materials after practicals	5.1 Tools are checked against the issuing list after practicals 5.2 Tools are stored out as per their standard operating procedure 5.3 Tools are cleaned as per the workshop standard operating procedure 5.4 Waste materials are disposed as per the EHS 5.5 Tools are stored in their respective sections as per the workshop procedures
6 Troubleshoot and repair/replace workshop tools and equipment	6.1 Faulty tools are identified as per their expected functioning 6.2 Faulty component are diagnosed as per the fault diagnosis procedures 6.3 Repair/Replace faulty components as per the expected functioning 6.4 Repaired/Replaced tool are tested as per the expected functioning.

RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variable	Range
1. Workshop tools may include but is not limited to:	• Pliers • Hacksaws • Hammer • Spirit levels • Phase Tester • Side cutters

2. Manual may include but is not limited to:	• Operational
	  ○ Installation
	  ○ Commissioning
	• Technical specification /data sheet

3. Parameters may include but is not limited to:	• Light intensity • Sound • Speed • Efficiency • Temperature • Electrical quantities e.g. Voltage, current and resistance levels • Expected output

REQUIRED KNOWLEDGE AND UNDERSTANDING

The individual needs to demonstrate knowledge and understanding of:

- Organisational and legislative requirements
- The manufacturer's manual about the operation of various workshop tools and instruments
- The legal and statutory requirements relating to electrical Workshop operation activities.
- health and safety;
- the environment (including waste disposal);
- appropriate personal and protective equipment;
- appropriate use of service manuals
- Workplace procedures for:
- Fault identification and diagnosis
- Appropriate use of tools and equipment;
- Repairing, modifying or replacing defective parts or components.
- Reporting of technical challenges
- The importance of documenting workshop practical activities and information.
- The importance of working within agreed timelines and sharing progress reports.
- The importance of reporting anticipated delays to relevant parties promptly.
- The use of technical information including:
- How to find, interpret and use sources of technical information for workshop practical activities
- The importance of using the correct sources of technical information.
- The purpose of and how to use identification codes**.**

FOUNDATION SKILLS

The individual needs to demonstrate the following foundation skills:

- Communications (verbal and written);
- Proficient in ICT;
- Time management;
- Analytical
- Faults troubleshooting;
- Problem solving;

- Planning;
- Decision making;
- First aid;
- Report writing;

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and understanding and range.

1. Critical Aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Adhered to the proper use of PPE 1.2 Observed the workshop rules 1.3 Performed the First Aid procedures in the workshop 1.4 Observed workshop procedures in the storage of tools 1.5 Safely used testing equipment and tools 1.6 Observed EHS in the waste disposal 1.7 Properly demonstrated care and maintenance of workshop tools 1.8 Obtained, recorded and interpreted test results 1.9 Identified faulty tools and instruments 1.10 Repaired/Replaced faulty tools
2. Resource Implications	***The following resources must be provided:*** 1.1 Electrical installation tool kit 1.2 Testing equipment 1.3 Measuring equipment 1.4 First Aid kit Resources the same as that of workplace are advised to be applied
3. Methods of Assessment	**Competency may be assessed through:** 1.1 Oral test 1.2 Observation 1.3 Practical demonstration
4. Context of Assessment	Competency may be assessed 4.1 On job 4.2 Off job 4.3 During Industrial Attachment

5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.