



REPUBLIC OF KENYA

COMPETENCY BASED CURRICULUM

FOR

ELECTRICAL OPERATION (POWER OPTION)

KNQF LEVEL 5

ISCED CODE: 07130554 B



TVET CDACC
P.O BOX 15745-00100
NAIROBI

ELECTRICAL MACHINE INSTALLATION

UNIT CODE: ENG/CU/PO/CR/03/5/B

Relationship to Occupational Standards

This unit addresses the unit of competency: Install Electrical machine

Duration of Unit: 70 hours

Unit Description

This unit covers the competencies required to Install Electrical Machine. Competencies include; mounting electrical machine, mounting machine control panel, laying machine cables, terminating Electrical machine installation and testing of machine installation.

Summary of Learning Outcomes

1. Mount Electrical Machine
2. Mount machine control panel
3. Lay machine cables
4. Terminate Electrical machine installation
5. Test and inspect Electrical machine installation

Learning Outcomes, Content and Suggested Assessment Methods:

Learning Outcome	Content	Suggested Assessment Methods
1. Mount Electrical Machine	<ul style="list-style-type: none">• Meaning of terms• Procedure of mounting an Electrical Machine• Factors to consider in machine mounting• Safety in design of electrical machines layout.• Machine Earthing	<ul style="list-style-type: none">• Observation• Oral questioning• Practical tests• Written tests

2. Mount control panel	<ul style="list-style-type: none"> • Meaning of terms e.g. <ul style="list-style-type: none"> • Interlocking • Control circuit • Main circuits • Components in a control panel e.g. <ul style="list-style-type: none"> • Contactors • Timers • Relays • Circuit breakers • Overload relays • Fuses • Functions of control panel components • Wiring of the control panel components • Labelling the control panel components 	<ul style="list-style-type: none"> • Observation • Oral questioning • Practical tests • Written tests
3. Lay machine cables	<ul style="list-style-type: none"> • Machine cables • Cable colour coding • Factors to consider in laying machine cables • Cable segregation • Importance cable segregation • Factors to consider in cable segregation 	<ul style="list-style-type: none"> • Observation • Oral questioning • Practical tests • Written tests
4. Terminate Electrical Machine Installation	<ul style="list-style-type: none"> • Meaning of Terms • Importance of termination • Cable lugging • Tools and components used in cable termination e.g. <ul style="list-style-type: none"> • Crimping tool • Strip Knife • Connectors • Clips 	<ul style="list-style-type: none"> • Observation • Oral questioning • Practical tests • Written tests

5. Test and Inspect Electrical machine Installation	<ul style="list-style-type: none"> • Meaning of testing • Types of tests in Electrical machine installation e.g. <ul style="list-style-type: none"> • Continuity test • Short circuit test • Insulation test • Earth continuity test • On load and offload tests • Phase sequence rotation 	<ul style="list-style-type: none"> • Written tests • Practical • Oral questioning
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Suggested Methods of Instructions

- Projects
- Demonstration by trainer
- Practice by the trainee
- Field trips
- On-job training
- Discussions

Recommended Resources

- Stationery
- Cables
- Light fittings
- Accessories
- Conduits and fittings
- Cable trays
- Cable ducts
- Trunkings
- Computers
- Drawing instruments
- Screws
- Cable Strippers
- Pliers
- Screw drivers
- Hammers
- Chisels
- Allen keys
- Electrician knives
- Crimping tools

- Bending springs
- Bending machine
- Steel tapes
- Draw wires
- Hack saws
- Drilling tools
- Stock and die
- Bench vice
- Machine vice
- PPE – hand gloves, dust coats, dust masks, helmets, ear muffs, industrial boots