COMPETENCY BASED CURRICULUM

FOR

ELECTRICAL ENGINEERING (POWER OPTION)

KNQF LEVEL: 6

ISCED PROGRAMME CODE: 0713 554B

TVET CDACC
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NAIROBI

POWER GENERATION

UNIT CODE: ENG/CU/PO/CR/10/6/B

Relationship to Occupational Standards
This unit addresses the unit of competency: Demonstrate understanding of power generation

Duration of Unit: 110 hours

Unit Description

This unit covers the competencies required to demonstrate understanding of power generation. Competencies includes; identifying types of generating station, demonstrate understanding of power generating station layout, demonstrate understanding in the operation of power generating station, demonstrate understanding in the operating sequence of generating station.

Summary of Learning Outcomes

1. Identify types of generating station
2. Demonstrate understanding of Power generating station layout
3. Demonstrate understanding in the operation of power generating station
4. Demonstrate understanding in the operating sequence of generating station

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods

1. Identify types of generating station	• Meaning of terms
	• Sources of energy
	• Factors consider in generating plant setup
	• Types of generating station e.g.
	  • Geothermal
	  • Hydro
	  • Wind
	  • Solar
	  • Nuclear
	  • Diesel
		• Observation
		• Oral questioning
		• Written questions

2. Demonstrate understanding of Power generating station layout	• Meaning of terms • Schematic arrangement of different power generating plants • Safety standards of different power generating plants	• Observation • Oral questioning • Written tests

Learning Outcome	Content	Suggested Assessment Methods
3. Demonstrate understanding in the operation of power generating station	• Components of various power generating station • Operation of various power generating station • Energy conversion in a power generating station • Efficiency of power station • Comparison of various types of generating station	• Observation • Oral questioning • Practical tests • Written tests
4. Demonstrate understanding in the operating sequence of generating station	• Meaning of terms • Operation sequence of a power station in various types of generating station • Grid system in power generation	• Written tests • Oral questioning

Suggested Methods of Instruction

- Demonstration by trainer
- Practice by the trainee
- Field trips
- Discussions

Recommended Resources

Test instruments

- Continuity tester (ohmmeter)
- Insulation resistance tester
- Earth loop impedance tester
- Test lamp

Materials and supplies

- Stationery
- Wiring certificates

Reference materials

- Manufacturers' manuals
- Relevant catalogues
- IEE regulations