



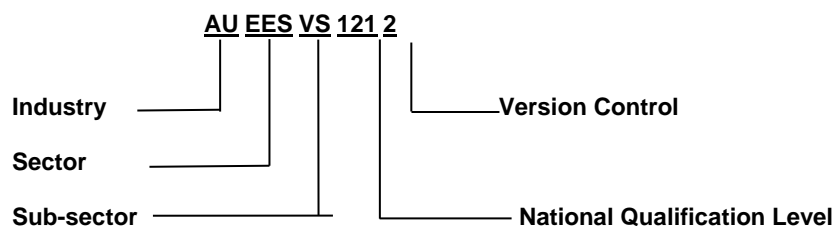
Competency Standards for Caribbean Vocational Qualifications (CVQ)

CCAUEESVS1212 CVQ Level 2 Automotive Electrical and Electronic Systems

Unit Number	Unit Title	Requirement
U98102	Follow health and safety in the automotive electrical and electronic environment	Mandatory
U98202	Perform related automotive computations (basic)	Mandatory
U98302	Use and maintain automotive tools and equipment	Mandatory
U98402	Select and use electrical and electronic measuring devices	Mandatory
U98502	Carry out minor repairs to electrical wiring, lighting and warning systems	Mandatory
U98602	Carry out basic vehicle enhancement activities	Mandatory
U98702	Carry out routine inspection and testing of electrical system components and units	Mandatory
U98802	Remove and replace light vehicle electrical units and components	Mandatory
U98902	Overhaul electrical components and units	Mandatory

To obtain a Caribbean Vocational Qualification (CVQ) all Mandatory Units must be achieved.

Legend to Unit Code



Key: AU – Automotive; EES – Electrical and Electronic Systems; VS -Vehicle Systems

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Country of Origin

Barbados

QUALIFICATION OVERVIEW

This qualification is designed for individuals who work within an automotive environment with responsibilities for the removal and replacement of electrical units and components. The competencies include inspecting, locating and correcting faults, system enhancements, installation and testing as well as routine installation and testing of new security, audio or navigation equipment.

Who is this qualification for?

The qualification is aimed at persons who will have responsibility as electrical and electronic technicians within the automotive environment. Workers at this level should have some personal autonomy and responsibility and collaborate with others to achieve work objectives.

These competencies are for persons who are likely to be in roles where, for example their duties include:

- Using a variety of automotive tools and equipment
- Using electrical and electronic measuring devices
- Carrying out repairs to electrical wiring, lighting and warning systems
- Carrying out vehicle enhancement activities
- Carrying out routine inspections of faulty electrical systems

Jobs within the occupational area:

- Auto electrical and electronic technician
- Installer of stereo systems in vehicles
- Installer of lighting systems in vehicles
- Installer of security systems in vehicles

Occupational Standards can also be used to:

- Prepare job descriptions and specifications
- Determine recruitment criteria
- Appraise staff performance objectively
- Identify skill and training gaps and needs
- Conduct labour market analyses
- Develop curriculum
- Assess the effectiveness of training programmes
- Determine compensation and rewards

The benefits of acquiring the CVQ to candidates

- Provide a basis for articulation and accreditation
- Provides a broad-based preparation for employment
- Is an alternative route to further/higher education
- Complements and has parallel standing with academic qualifications
- Provides enhanced employability and higher earning potential
- Facilitates an apprenticeship with actual work experience
- Equips candidates with the knowledge, skills and attitudes for the workplace
- Past work experience and skills can count towards achieving the CVQ
- Allows for continuity whereby if a candidate cannot complete the CVQ at a centre or school, they can continue at another approved centre
- CVQ's are recognised qualifications and facilitates free movement of labour throughout CARICOM

The benefits of the CVQ to employers

- Provides a larger cadre of skilled employees/candidates to choose from
- Reduces cost of recruiting and selecting the ideal job candidate
- Reduces cost for training workers
- Ensures higher levels of productivity

The benefits of the CVQ to the Caribbean region:

- Produces a higher skilled workforce that is ready to adapt to ever-changing global demands
- Provides greater access for persons to achieve higher qualifications
- Contributes to the region's human resource capacity development

U98102**Follow health and safety in the automotive electrical and electronic environment**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to effectively conform to occupational safety and health requirements while working with automotive electrical and electronic systems. It applies to all individuals working in the automotive service industry.

ELEMENT**PERFORMANCE CRITERIA***Candidates must be able to:*

- | | | | |
|----|----------------------------|-----|---|
| 1. | Follow safe work practices | 1.1 | Carry out work in accordance with company procedures and industry requirements. |
| | | 1.2 | Conduct housekeeping activities in accordance with company procedures. |
| | | 1.3 | Identify individual responsibilities and duties in day-to-day activities. |
| | | 1.4 | Select and use personal protective equipment according to health and safety requirements, company procedures and occupational safety and health guidelines. |
| | | 1.5 | Use and store tools, materials and equipment correctly according to manufacturer's, industry and company guidelines. |
| | | 1.6 | Use equipment and safety devices according to industry requirements and manufacturer's instructions. |
| | | 1.7 | Identify safety signs and symbols and follow as per instructions and industry requirements. |
| | | 1.8 | Use handling and lifting techniques according to health and safety requirements, company procedures and occupational safety and health guidelines. |

- 1.9 Identify workplace hazards and risks during the course of work and report to appropriate persons according to standard operating procedures.
2. Follow emergency procedures
 - 2.1 Notify relevant persons of emergencies and seek assistance from appropriate persons.
 - 2.2 Follow emergency procedures according to company requirements and report details of the emergency to appropriate persons.
 - 2.3 Complete relevant documentation and maintain records according to company requirements.

RANGE STATEMENT

All range statements must be assessed:

1. Personal protective equipment may include but not limited to:

- Goggles/eyewear
- Gloves
- Overalls/coveralls
- Boots/safety shoes
- Respirator/face masks
- Ear plugs/muffs
- Hard hat/cap

2. Hazards and risks may include but not limited to:

- Faulty tools and equipment
- Limited space
- Environmental conditions
- Trip hazards i.e. cords, signage etc.,
- Cuts
- Burns
- Electrocution

3. Appropriate persons may include but not limited to:

- Supervisor/manager
- Emergency personnel i.e. police, fire, ambulance
- Health and safety committee representative

4. Emergency procedures may include but not limited to:

- Medical
- Evacuation
- Fire

UNDERPINNING KNOWLEDGE AND SKILLS

Candidates should know and understand:

1. What are the company's health and safety requirements.
2. How to carry out work safely and in accordance with company procedures and industry requirements.
3. How to conduct housekeeping in accordance with company procedures.
4. What are the day-to-day responsibilities and duties of employees.
5. What are the company procedures for selecting and wearing personal protective equipment (PPE).
6. What are the manufacturer's, industry and company guidelines for using and storing tools, materials and equipment.
7. Why it is important to use all equipment and safety devices according to industry requirements and manufacturer's instructions and how to do so.
8. How to correctly identify and follow safety signs and symbols.
9. What are the correct health and safety requirements for handling and lifting.
10. How to identify workplace hazards and risks and to whom these should be reported.
11. What are the standard operating procedures for reporting hazards and risks.
12. Who to contact in the event of an emergency.
13. What are the company requirements for following and reporting emergencies.
14. Why it is important to complete documentation and maintain records according to company requirements and how to do so.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion
- Personal statement

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **may be used**.

U98202**Perform related automotive computations – (basic)**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to perform basic automotive computations and effectively calculate measurements of work to a required tolerance within the automotive industry.

ELEMENT**PERFORMANCE CRITERIA**

Candidates must be able to:

- | | | | |
|----|---|-----|---|
| 1. | Apply the four basic rules of calculation | 1.1 | Perform simple calculations using four basic rules: addition, subtraction, multiplication and division. |
| | | 1.2 | Perform simple calculations involving length, perimeter, angles, area and volume. |
| 2. | Perform basic calculations involving fractions and decimals | 2.1 | Perform simple calculations involving fractions and mixed numbers using the four basic rules. |
| | | 2.2 | Perform simple calculations involving decimal fractions and mixed numbers using the four basic rules. |

RANGE STATEMENT

All range statements must be assessed:

1. **Calculations** may include but not limited to:
 - Manual
 - Electronic

UNDERPINNING KNOWLEDGE AND SKILLS

Candidates should know and understand:

1. What are the four basic rules of calculation.
2. How to perform simple calculations using four basic rules: addition, subtraction, multiplication and division.
3. What are the concepts of simple calculations involving length, perimeter, angles, area and volume
4. How to perform simple calculations involving length, perimeter, angles, area and volume.
5. How to perform simple calculations involving fractions and mixed numbers using the four basic rules.
6. How to perform simple calculations involving decimal fractions and mixed numbers using the four basic rules.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Project

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **should not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

U98302

Use and maintain automotive tools and equipment

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to competently use and maintain tools and equipment used in the automotive service industry.

ELEMENT**PERFORMANCE CRITERIA**

Candidates must be able to:

- | | |
|--------------------|---|
| 1. Use hand tools | <ul style="list-style-type: none"> 1.1 Select appropriate hand tools according to task requirements. 1.2 Use hand tools to produce the desired outcomes to job specifications. 1.3 Follow safety requirements during the use of hand tools according to company and manufacturer's requirements. 1.4 Identify and remove unsafe or faulty hand tools and mark for repair according to manufacturer's and company requirements. 1.5 Undertake routine maintenance of tools, including hand sharpening, according to operational procedures, principles and techniques. 1.6 Store hand tools in an appropriate location according to company requirements and manufacturer's recommendations. |
| 2. Use power tools | <ul style="list-style-type: none"> 2.1 Select appropriate power tools according to the task requirements. 2.2 Follow the correct sequence of operations to produce the desired outcomes to job specifications. 2.3 Follow safety requirements during the use of power tools according to company and manufacturer's requirements. 2.4 Identify and remove unsafe or faulty power tools and mark for repair according to company instructions. |

- 2.5 Undertake operational maintenance of power tools following company procedures, and manufacturer's recommendations.
 - 2.6 Store power tools in an appropriate location, according to company requirements and manufacturer's recommendations.
 - 3. Use equipment
 - 3.1 Select the appropriate equipment according to task requirements.
 - 3.2 Follow safety requirements during the use of equipment, according to company and manufacturer's requirements.
 - 3.3 Identify and remove unsafe or faulty equipment and mark for repair, according to company requirements.
 - 3.4 Check equipment against manufacturer's recommendations to ensure safe operating conditions in accordance with company procedures.
 - 3.5 Store equipment in appropriate location and according to company requirements and manufacturer's recommendations.

RANGE STATEMENT

All range statements must be assessed:

1. Tools may include but not limited to:

- Hand tools (i.e., hacksaw, hammer, punch, screwdriver, socket, wrench, scraper, chisel, gouge, files of all cross sections, probe, soldering iron/gun)
- Power tools (i.e., drill, grinder, jigsaw, nibble, cutting saw, screwdriver)
- Pneumatic

3. Power tools (motor driven) may include but not limited to:

- Drill
- Grinder
- Jigsaw
- Nibbles
- Cutting saw

5. Equipment may include but not limited to:

- Special equipment for removal/adjustment
- Plastic repair
- Sealing
- Heating
- Fuel injector cleaners
- Oscilloscope
- Diagnostic tools

2. Job specifications may include but not limited to:

- Finish
- Tension
- Size
- Shape

4. Sequence of operations may include but not limited to:

- Clamping
- Alignment
- Adjustment

UNDERPINNING KNOWLEDGE AND SKILLS

Candidates should know and understand:

1. Why it is important to select the appropriate hand tools according to task requirements and how to do so.
2. How to use hand tools to produce the desired outcomes to job specifications.
3. What are the desired outcomes of job specifications i.e. finish, tension, size, shape.
4. Why it is important to follow all safety requirements when using hand and power tools and how to do so.
5. Why it is important to identify and remove unsafe or faulty hand or power tools and equipment for repair according to manufacturer's instructions and company requirements.
6. Why it is important to undertake routine maintenance of tools, including hand sharpening, according to operational procedures, principles and techniques and how to do so.
7. Why it is important to store hand tools, power tools and equipment safely in an appropriate location, according to operational procedures and manufacturer's recommendations.
8. How to select appropriate power tools according to the task requirements.
9. Why it is important to use power tools adhering to a sequence of operations to produce the desired outcomes of job specifications and how to do so.
10. How to undertake the operational maintenance of tools according to company procedures, principles and techniques.
11. How to select appropriate equipment according to the task requirements.
12. Why it is important to follow company and manufacturer's safety requirements during the use of equipment and how to do so.
13. How to identify and remove unsafe or faulty equipment and mark for repair according to manufacturer's and company instructions.
14. How to regularly check equipment against the manufacturer's recommendations to ensure safe operating conditions.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion
- Personal statement

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **should not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

U98402**Select and use electrical and electronic measuring devices**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to perform electrical and electronic measurements using appropriate measuring devices in the engineering industry.

ELEMENT**PERFORMANCE CRITERIA**

Candidates must be able to:

- | | |
|---|---|
| 1. Use electrical and electronic measuring devices to measure variables | <ul style="list-style-type: none"> 1.1 Select the appropriate measuring device or equipment and setting to achieve the required outcome. 1.2 Make appropriate connections to achieve the required outcome following manufacturing operating procedures and industry practices. 1.3 Obtain and interpret units of measurement correctly, using conversions where necessary. |
| 2. Maintain electrical and electronic devices | <ul style="list-style-type: none"> 2.1 Undertake the routine care of measuring devices or equipment according to manufacturer's specifications or company procedures. 2.3 Store measuring devices or equipment according to manufacturer's specifications and company procedures. |

RANGE STATEMENT

All range statements must be assessed:

1. Measurement or equipment device
may include but not limited to:

- Digital and analogue multi-meters
- Testers (insulation and regulator)
- Oscilloscopes
- Potentiometers
- Digital devices

2. Units of measurement may include but
not limited to:

- Voltage (AC and DC circuits up to 1000v)
- Current
- Frequency
- Resistance
- Power
- Temperature

UNDERPINNING KNOWLEDGE AND SKILLS

Candidates should know and understand:

1. Why it is important to select and use the appropriate device or equipment and setting to achieve the required outcome and how to do so.
2. Why it is important to ensure that the appropriate connections are made to achieve the required outcome according to standard operating procedures and how to do so.
3. Why it is important to obtain and interpret units of measurement correctly using conversions where necessary.
4. How to undertake the routine care and storage of devices following manufacturer's specifications or company procedures.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion
- Products of work

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **may be used**.

U98502

Carry out minor repairs to electrical wiring, lighting and warning systems

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to correctly test electrical circuits and systems to carry out minor repairs. Minor repairs include replacement of fuses, bulbs, terminals and wiring repairs.

ELEMENT**PERFORMANCE CRITERIA**

Candidates must be able to:

- | | |
|--|---|
| 1. Test systems components and identify faults | <ul style="list-style-type: none"> 1.1 Test systems components following manufacturer's specifications to avoid damage. 1.2 Access and interpret sources of information according to manufacturer's specifications. 1.3 Carry out tests using appropriate tools and techniques to determine faults. 1.4 Identify faults and determine the preferred repair action. 1.5 Carry out tests according to industry and occupational health and safety guidelines and company procedures or policies. |
| 2. Complete minor repairs to circuit wiring | <ul style="list-style-type: none"> 2.1 Complete minor repairs to circuit wiring without causing damage to any component or system. 2.2 Carry out required repairs, component replacement and adjustments using the appropriate tools, techniques and materials according to specifications. 2.3 Carry out repairs according to industry and occupational health and safety guidelines and company procedures or policies. |

3. Conduct final checks
 - 3.1 Adjust electrical wiring, lighting and warning systems and/or associated components to suit specifications and operational requirements.
 - 3.2 Check electrical wiring, lighting and warning systems and/or associated components after adjustment according to industry requirements.
4. Clean up area
 - 4.1 Remove and dispose of all waste material according to company, industry and environmental requirements.
 - 4.2 Clean area related to work activities according to company requirements.
 - 4.3 Clean, maintain and store tools and equipment according to company requirements and manufacturer's instructions.

RANGE STATEMENT

All range statements must be assessed:

1. **Sources of information** may include but not limited to:
 - Manufacturer's specifications
 - Company/industry operating procedures
 - Customer requirements
 - Component circuit schematics
2. **Tools** may include but not limited to:
 - Hand tools (testers, wrenches, crimping tools, wire strippers, hacksaws, hammers, punches, screwdrivers, sockets, scrapers, chisels, gouges, files, probes, soldering iron/gun)
 - Power tools (drills, grinders, jigsaws, nibblers, cutting saws)
 - Digital and analogue multi-meters
 - Pneumatic tools
3. **Techniques** may include but not limited to:
 - Soldering and de-soldering
 - Crimping
 - Wire connecting
4. **Faults** may include but not limited to:
 - Open and short circuits
 - Poor soldering and mechanical connections
 - Ground faults
5. **Materials** may include but not limited to:
 - Different types of solders
 - Gauge wire
 - Colour coded wires
6. **Electrical wiring, lighting and warning systems** may include but not limited to:
 - Lighting including indicators and hazard lights
 - Electric brake
 - Trailer wiring connections
 - Security systems
 - Horns
 - Indicators and hazard lights

UNDERPINNING KNOWLEDGE AND SKILLS

Candidates should know and understand:

1. Why it is important to test system components without causing damage according to manufacturers' specifications and how to do so.
2. How to access and correctly interpret sources of information according to manufacturer's specifications.
3. How to carry out tests using the appropriate tools and techniques to determine faults.
4. How to identify faults and determine the preferred repair action.
5. Why it is important to carry out tests according to industry and Occupational Health and Safety guidelines and company procedures or policies and how to do so.
6. How to complete minor repairs to circuit wiring without causing damage to any component or system.
7. How to carry out necessary repairs, component replacement and adjustments using the appropriate tools, techniques and materials according to specifications.
8. Why it is important to carry out repairs according to industry and Occupational Health and Safety guidelines and company procedures or policies and how to do so.
9. Why it is important to adjust and check electrical wiring, lighting and warning systems and/or associated components to suit specifications and operational requirements and how to do so.
10. What are the company, industry and environmental requirements for disposing of waste material.
11. Why it is important to remove and dispose of all waste material according to company, industry and environmental requirements.
12. How to clean area related to work activities.
13. Why it is important to clean, maintain and store tools and equipment according to company requirements and manufacturer's instructions and how to do so.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion
- Products of work

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **may be used**.

U98602

Carry out basic vehicle enhancement activities

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to perform a range of vehicle enhancement activities to improve the original vehicle features and specifications.

ELEMENT**PERFORMANCE CRITERIA**

Candidates must be able to:

- | | | | |
|----|---|-----|--|
| 1. | Prepare for vehicle electrical enhancement activities | 1.1 | Select and use suitable personal protective equipment and vehicle coverings when carrying out electrical enhancement activities on different systems and components. |
| | | 1.2 | Inspect for hazards according to company procedures. |
| | | 1.3 | Work in a way which minimises the risk of damage or injury to the vehicle, persons and the environment. |
| 2. | Select information | 2.1 | Select suitable sources of technical information to support vehicle enhancement activities. |
| | | 2.2 | Use technical information to support vehicle enhancement activities. |
| 3. | Use tools and equipment | 3.1 | Select the appropriate tools and equipment to carry out vehicle enhancement activities on different systems. |
| | | 3.2 | Calibrate tools and equipment and ensure functionality to meet manufacturer's specifications. |
| | | 3.3 | Use the correct tools and equipment as specified by manufacturers when carrying out vehicle enhancement activities. |
| 4. | Carry out vehicle electrical enhancement activities | 4.1 | Carry out vehicle enhancement activities following manufacturer's instructions and safety and health requirements. |

- 4.2 Carry out adjustments to components and systems to ensure correct and effective operation.
 - 4.3 Complete vehicle enhancement activities within agreed timescales according to work instructions.
- 5. Clean up area
 - 5.1 Remove and dispose of waste materials according to company, industry and environmental requirements.
 - 5.2 Clean area related to work activities according to company procedures.
 - 5.3 Clean, maintain and store tools and equipment according to company requirements and manufacturer's instructions.

RANGE STATEMENT

All range statements must be assessed:

- 1. Personal protective equipment** may include but not limited to:
 - Boots/safety shoes
 - Gloves
 - Overalls/coveralls
 - Goggles/eyewear
 - Respirator/face masks
 - Ear plugs/muffs
- 2. Systems** may include but not limited to:
 - Audio and communication
 - Alarm and security warning (immobilisation, sensor units, audible warning)
 - Lights and visual aids (reversing, driving, fog lights)
 - Safety fitments (fuel cut-off switches, engine cut-off switches)
 - Navigation systems
- 3. Technical information** may include but not limited to:
 - Data (component circuit schematics)
 - Fitting procedures
- 4. Tools and equipment** may include but not limited to:
 - Hand tools (i.e., tester, wrench, crimping tool, wire stripper, hacksaw, hammer, punch, screwdriver, socket, scrapper, chisel, gouge, file, probes, soldering iron/gun)
 - Power tools (i.e., drill, grinder, jigsaw, nibbler, cutting saw, electronic screwdriver)
 - Specialist equipment (digital multimeters, diagnostic tools)
 - Pneumatic tools

UNDERPINNING KNOWLEDGE AND SKILLS

Candidates should know and understand:

1. How to select and use suitable personal protective equipment and vehicle coverings when carrying out vehicle electrical enhancement activities on different systems and components.
2. What are the different types of Instructional, Control, Electrical (ICE) systems and components.
3. How to work in a way which minimises the risk of damage or injury to the vehicle, persons and the environment.
4. What are the sources of technical information to be used to support vehicle enhancement activities and how to select the most suitable information.
5. How to use technical information to support vehicle enhancement activities.
6. Which tools and equipment to select when carrying out vehicle enhancement activities on different systems.
7. How to calibrate tools and equipment to meet manufacturer's instructions.
8. How to use the correct tools and equipment specified by manufacturers when carrying out vehicle enhancement activities.
9. How to carry out vehicle enhancement activities following manufacturer's instructions and safety and health requirements.
10. What procedures to follow when carrying out adjustments to components and systems to ensure correct and effective operation.
11. Why it is important to complete all vehicle enhancement activities within the agreed timescales.
12. What are the company, industry and environmental requirements for removing and disposing of waste materials.
13. What are the company procedures for cleaning the area related to work activities.
14. What are the company requirements for cleaning, maintaining and storing tools and equipment and how to do so.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
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- Written evidence
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- Professional discussion
- Products of work

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(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **may be used**.

U98702

Carry out routine inspection and testing of electrical system components and units

U98702

Carry out routine inspection and testing of electrical system components and units

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to perform routine inspection and testing of electrical systems. component/unit for light motor vehicles.

ELEMENT

PERFORMANCE CRITERIA

Candidates must be able to:

- | | |
|--|--|
| 1. Undertake routine checks of electrical system, components and units | 1.1 Conduct routine checks demonstrating knowledge of the principles of electrical system components and units. |
| | 1.2 Identify the main parts of designated electrical system components following manufacturer's instructions. |
| | 1.3 Check electrical systems following and using appropriate maintenance principles, techniques and resources following manufacturer's instructions. |
| | 1.4 Identify, document and report electrical components requiring further diagnosis, repair or adjustment. |
| 2. Inspect and test electrical system | 2.1 Complete inspection and testing of the electrical system in accordance with manufacturer's specifications without causing damage to any system or component. |
| | 2.2 Access and correctly interpret information from manufacturer's specifications. |
| | 2.3 Compare actual component condition to manufacturer's specifications. |
| | 2.4 Complete appropriate workplace documentation according to company procedures. |

- 2.5 Carry out electrical system final inspection and condition identification activities according to industry regulations and guidelines.
- 3. Clean up area
 - 3.1 Remove and dispose of waste material according to company, industry and environmental requirements.
 - 3.2 Clean area related to work activities according to company procedures.
 - 3.3 Clean, maintain and store tools and equipment according to company requirements and manufacturer's instructions.

RANGE STATEMENT

All range statements must be assessed:

1. Electrical system may include but not limited to:

- Lighting
- Brake light
- Security warning (horns, indicators, alarms)

3. Inspecting and testing may include but not limited to:

- Manual
- Visual
- Electronic

2. Resources may include but not limited to:

- Hand tools (testers wrenches, crimping tools, wire strippers, hacksaws, hammers, punches, screwdrivers, sockets, scrappers, chisels, gouges, files, probes, soldering iron/gun)
- Power tools (drills, grinders, jigsaws, nibblers, cutting saws)
- Air tools
- Special tools (digital and analogue)
- Testing equipment including multi-meters and oscilloscopes

4. Information may include but not limited to:

- Manufacturer's specifications
- Company operating procedures (reporting systems)
- Industry/workplace codes of practice
- Component circuit schematics
- Customer requirements

UNDERPINNING KNOWLEDGE AND SKILLS

Candidates should know and understand:

1. What are the principles of electrical system components and units.
2. Why it is important to conduct routine checks demonstrating knowledge of the principles of electrical system components and units and how to do so.
3. How to identify the main parts of designated electrical system components and units.
4. Why it is important to check electrical systems according to appropriate maintenance principles, techniques and resources following manufacturer's instructions and how to do so.
5. How to identify, report and document electrical components requiring further diagnosis, repair or adjustment.
6. How to complete electrical system inspection and testing without causing damage to any system or component.
7. Why it is important to access and interpret information from appropriate manufacturer's specifications and how to do so.
8. How to carry out inspections of electrical systems in accordance with manufacturer's specifications.
9. How to carry out testing of electrical systems in accordance with manufacturer's specifications.
10. How to compare component condition against manufacturer's specifications.
11. Why it is important to complete appropriate company documentation and how to do so.
12. How to carry out electrical system final inspection and condition identification activities according to industry regulations/guidelines.
13. What are the company, industry and environmental requirements for removing and disposing of waste and how to do so.
14. What are the company requirements for keeping areas related to work activities clean and how to do so.
15. Why tools and equipment must be cleaned, maintained and stored correctly and how to do so.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion
- Personal statement

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **may be used**.

U98802**Remove and replace light vehicle electrical units and components**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to remove and replace motor vehicle electrical system components. It also covers the evaluation of performance of the replaced units and systems.

ELEMENT**PERFORMANCE CRITERIA**

Candidates must be able to:

- | | |
|---|---|
| 1. Prepare for removal and replacement activities | 1.1 Select and use suitable personal protective equipment and vehicle coverings when working on vehicle electrical systems and components. |
| | 1.2 Implement safety precautions when working on electrical and electronic systems |
| | 1.3 Work in a way which minimises the risk of damage or injury to the vehicle, persons and the environment. |
| 2. Use information to remove and replace motor vehicle electrical system components | 2.1 Select suitable sources of technical information and follow vehicle technical data for removal and replacement of electrical system components. |
| | 2.2 Use technical information to conduct vehicle inspection activities. |
| 3. Use tools and equipment | 3.1 Select and use appropriate tools and equipment for the removal and replacement of motor vehicle electrical system components. |
| | 3.2 Calibrate equipment to meet manufacturer's and legal requirements. |
| | 3.3 Use the tools and equipment specified by manufacturers to remove and replace motor vehicle electrical systems. |

- 4 Remove and replace vehicle electrical systems and components
 - 4.1 Remove and replace the motor vehicle faulty electrical systems and components following the manufacturer's approved removal and replacement methods.
 - 4.2 Use testing methods following manufacturer's specifications to evaluate the performance of the reassembled system.
 - 4.3 Check that the reassembled motor vehicle electrical systems perform to the vehicle operating specifications.

- 5. Clean up area
 - 5.1 Remove and dispose of waste material according to company, industry and environmental requirements.
 - 5.2 Clean area related to work activities according to company procedures.
 - 5.3 Clean, maintain and store tools and equipment according to company requirements and manufacturer's instructions.

RANGE STATEMENT

All range statements must be assessed:

1. Personal protective equipment may include but not limited to:

- Boots/safety shoes
- Gloves
- Overalls/coveralls
- Goggles/eyewear
- Respirator/face masks
- Ear plugs/muffs

3. Safety precautions may include but not limited to:

- Avoidance of short circuits and power surges
- Prevention of electric shock
- Protection of electrical and electronic components
- Protection of circuits from overload or damage

2. Electrical systems may include but not limited to:

- Engine starting systems (inertia and pre-engaged starter motor; starter ring gear; pinion starter solenoid; ignition/starter switch; starter relay (if appropriate); one way clutch
- Engine charger systems (alternator, rotor, stator, slip ring, brush assembly, three phase output, diode rectification pack, voltage regulation, phased winding connection, cooling fan, alternator drive system)
- Wipers
- Lighting (lamps – front, tail, main, dip beam, fog, spot; dip switch, directional indicators, interior lights)
- Security (alarm and anti-theft devices)
- Comfort and convenience (heated and electrically adjusted seats, heated screens, electric mirrors, heating/climate control/air conditioning, electric windows)
- Information and entertainment systems
- Monitoring and instrumentation
- Auxiliary (central/manual door locking, dead lock; demisting; door mirror, sunroof operation)

4. Technical information may include but not limited to:

- Data
- Fitting procedures
- Component circuit schematics

5. Tools and equipment may include but not limited to:

- Digital and analogue multi-meters (voltmeter, ammeter, ohmmeter)
- Hand tools (testers, wrenches, crimping tool, wire strippers, hacksaws, hammers, punches screwdrivers, sockets, scrapper, chisels, gouges, files, probes, soldering iron/gun)
- Power tools (drills, grinders, jigsaws, nibblers, cutting saws)
- Oscilloscope
- Manufacturer's dedicated test equipment
- Terminal repair kit

6. Faulty may include but not limited to:

- Loose and corroded connections
- Short/open circuit
- Excessive current consumption
- Open circuit
- Malfunction
- Poor performance
- Battery faults including flat battery
- Failure to hold charge/low state of charge
- Overheating

UNDERPINNING KNOWLEDGE AND SKILLS

Candidates should know and understand:

1. How to select and use suitable personal protective equipment and vehicle coverings when working on vehicle electrical systems and components.
2. What safety precautions should be implemented when working on electrical and electronic systems.
3. Why it is important to work in a way which minimises the risk of damage or injury to the vehicle, persons and the environment and how to do so.
4. How to select suitable sources of technical information and follow vehicle technical data for removal and replacement procedures.
5. How to use technical information to conduct vehicle inspection activities.
6. What types of tools and equipment should be selected for the removal and replacement of motor vehicle electrical system components.
7. Why it is important to calibrate equipment to meet manufacturer's and legal requirements and how to do so.
8. Why it is important to use tools and equipment in the way specified by manufacturers to remove and replace motor vehicle electrical systems and how to do so.
9. What are the types of common faults that can be found with electrical systems and components.
10. Why it is important to follow the manufacturer's approved removal and replacement methods and procedures when removing and replacing motor vehicle faulty electrical systems and components and how to do so.
11. Why it is important to use different types of testing methods following manufacturer's specifications to evaluate the performance of the reassembled system.
12. Why it is important to follow procedures when conducting checks to ensure that the reassembled motor vehicle electrical systems perform to the vehicle operating specifications and how to do so.
13. What are the company, industry and environmental requirements for removing and disposing of waste.
14. Why areas related to work activities should be kept clean.
15. Why tools and equipment must be cleaned, maintained and stored correctly.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion
- Products of work

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **may be used**.

U98902**Overhaul electrical components and units**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to repair and overhaul electrical components and units for motor vehicles.

ELEMENT**PERFORMANCE CRITERIA**

Candidates must be able to:

- | | |
|--|--|
| 1. Prepare to overhaul electrical components and units | <ul style="list-style-type: none"> 1.1 Select and use suitable personal protective equipment and vehicle coverings when overhauling vehicle electrical components and electrical units. 1.2 Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment. |
| 2. Use information to carry out electrical overhaul activities | <ul style="list-style-type: none"> 2.1 Select suitable sources of technical information to support electrical overhaul activities by reviewing the manufacturer's technical data, overhauling procedures and test procedures. 2.2 Use technical information to support electrical overhaul activities. |
| 3. Use tools and equipment | <ul style="list-style-type: none"> 3.1 Select appropriate tools and equipment to carry out electrical overhaul activities. 3.2 Check that equipment has been calibrated to meet manufacturer's specifications. 3.3 Use the tools and equipment specified by manufacturers when carrying out electrical overhaul activities. |
| 4. Overhaul electrical components | <ul style="list-style-type: none"> 4.1 Carry out the initial assessment of electrical units, accurately identifying the condition and suitability for reconditioning, repair or replacement. 4.2 Use electrical testing methods to assess the performance of the type of electrical unit being tested. |

- 4.3 Carry out all electrical overhauling activities following manufacturer's instructions and health and safety requirements.
 - 4.4 Carry out adjustments to components to ensure correct and effective operation.
 - 4.5 Check that all repaired alternators, actuators and starter motors are secure and functioning as specified by the manufacturer.
 - 4.6 Complete all the electrical overhaul activities within the agreed timescale.
5. Clean up area
- 5.1 Remove and dispose of waste material according to company, industry and environmental requirements.
 - 5.2 Clean area related to work activities according to company requirements.
 - 5.3 Clean, maintain and store tools and equipment according to company requirements and manufacturer's instructions.

RANGE STATEMENT

All range statements must be assessed:

1. Personal protective equipment may include but not limited to:

- Boots/safety shoes
- Gloves
- Overalls/coveralls
- Goggles/eyewear
- Respirator/face masks
- Ear plugs/muffs

2. Electrical components may include but not limited to:

- Rotors
- Stators
- Rectifiers
- Regulators
- Slip rings
- Bearings
- Housings
- Fans and pulleys
- Armatures
- Field windings
- Brushes and brush boxes
- Surge protection diode
- Condensers
- Contact/breaker points
- Coils

3. Electrical units may include but not limited to:

- Generators (alternators with an internal regulator, external regulator and separate regulator)
- Starters
- Motors
- Actuators
- Distributors

4. Technical information may include but not limited to:

- Data
- Fitting procedures
- Component circuit schematics

5. Tools and equipment may include but not limited to:

- Hand tools (testers, wrenches, crimping tools, wire strippers, hacksaws, hammers, punches, screwdrivers, sockets, scrapers, chisels, gouges, files, probes, soldering iron/gun)
- Power tools (drills, grinders, jigsaws, nibblers, cutting saws)
- Specialist test equipment (digital and analogue multi-meters, diagnostic tools)
- Oscilloscope

UNDERPINNING KNOWLEDGE AND SKILLS

Candidates should know and understand:

1. Why it is important to select and use personal protective equipment and vehicle coverings when overhauling vehicle electrical components and how to do so.
2. Why it is important to work in a way which minimises the risk of damage or injury to the vehicle, people and the environment and how to do so.
3. Why it is important to select and use suitable sources of technical information to support the electrical overhaul activities, such as reviewing manufacturer's technical data, overhauling procedures and test procedures and how to do so.
4. Why it is important to use technical information to support the electrical overhaul activities and how to do so.
5. What tools and equipment should be selected and used when carrying out the electrical overhaul activities.
6. Why it is important to check that equipment has been calibrated to meet manufacturer's specifications and how to do so.
7. Why it is important to select and use the correct tools and equipment specified by manufacturers when carrying out electrical overhaul activities.
8. What initial assessment and testing methods should be carried out on electrical units to accurately identify the condition and suitability for reconditioning, repair or replacement.
9. Which electrical testing methods are suitable for assessing the performance of the type of electrical unit being tested.
10. How to carry out electrical overhauling activities following manufacturers' instructions and health and safety requirements.
11. What procedures should be followed when carrying out adjustments on components to ensure correct and effective operation.
12. Why it is important to ensure that all repaired alternators, actuators and starter motors are secure and function as specified by the manufacturer's requirements and how to do so.
13. Why it is important to complete all the electrical overhaul activities within the agreed timescale.
14. What are the company, industry and environmental requirements for the removal of waste material.
15. What are the company procedures for cleaning the area related to work activities.
16. What are the company requirements for cleaning, maintaining and storing tools and equipment and how to do so.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

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Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

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Simulation **may be used**.

Assessment methods

The methods which can be used to determine competence in performance and underpinning knowledge.

Assessors

The Assessor guides and assesses the candidate. His/her role is to determine whether evidence presented by a candidate for assessment within the programme, meets the required standard of competence in the relevant unit or element. The Assessor needs to be competent to assess to national standards in the area under assessment.

Approved Centre

Organisation/Centre approved to offer full Caribbean Vocational Qualifications.

Case Studies

In situations where it is difficult for workplace assessment to take place, case studies can offer the candidate an opportunity to demonstrate potential competence.

A case study is a description of an actual or imaginary situation presented in some detail. The way the case study is presented will vary depending upon the qualification, but the most usual methods are written, taped or filmed.

The main advantage of a case study is the amount of evidence of underpinning knowledge they can generate and the specific nature of the evidence produced.

Competence

In the context of vocational qualifications, competence means: the ability to carry out prescribed activities to nationally pre-determined standards in an occupation. The definition embraces cognitive, practical and behavioural skills, underpinning knowledge and understanding and the ability to react appropriately in contingency situations.

CVQ

Caribbean Vocational Qualifications (CVQs) are work-based qualifications that assess an individual's competence in a work situation and certify that the individual can perform the work role to the standards expected in employment.

CVQs are based on national occupational standards of competence drawn up by standards-setting bodies known as Industry Lead Bodies. The standards describe the level and breadth of performance that is expected of persons working in the industry or sector which the CVQ covers.

CVQ Coordinator

The CVQ Coordinator is the centre contact within each approved Centre offering CVQs. He/she has overall responsibility for the operation and administration of the CVQ system

Element

An element is a description of an activity which a person should be able to do. It is a description of an action, behaviour or outcome which a person should be able to demonstrate.

Explanation of CVQ Levels

CVQs cover five (5) levels of competence, from entry level staff at Level 1 through to senior management at Level 5.

Level 1 - Entry Level

Recognises competence in a range of varied work activities performed in a variety of contexts. Most work activities are simple and routine. Collaboration with others through work groups or teams may often be a requirement. Substantial supervision is required especially during the early months evolving into more autonomy with time.

Level 2 - Skilled Occupations

Recognises competence in a broad range of diverse work activities performed in a variety of contexts. Some of these may be complex and non-routine and involve some responsibility and autonomy. Collaboration with others through work groups or teams and guidance of others may be required.

Level 3 - Technician and Supervisory Occupations

Recognises competence in a broad range of complex, technical or professional work activities performed in a wide variety of contexts, with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and the allocation of resources are often a requirement. The individual is capable of self-directed application, exhibits problem solving, planning, designing and supervisory capabilities.

Level 4 - Technical Specialist and Middle Management Occupations

Recognises competence involving the application of a range of fundamental principles and complex techniques across a wide and unpredictable variety of contexts. Requires very substantial personal autonomy and often significant responsibility for the work of others, the allocation of resources, as well as personal accountability for analysis, diagnosis, design, planning, execution and evaluation.

Level 5 - Chartered, Professional and Senior Management Occupations

Recognises the ability to exercise personal professional responsibility for the design, development or improvement of a product, process, system or service. Recognises technical and management competencies at the highest level and includes those who have occupied positions of the highest responsibility and made outstanding contribution to the promotion and practice of their occupation.

External Verifier

The External Verifier is trained and appointed by the TVET Council/National Training Agency and is competent to approve and ensure an approved Centre's quality of provision.

Internal Verifier

The Internal Verifier acts in a supporting role for Assessors to ensure consistent quality of assessment and competence. They need to be competent to assess to national standards in the area under assessment.

Observation

Observation of the candidate carrying out his/her job in the workplace is the assessment method recommended in the vast majority of units and elements. Observation of staff carrying out their duties is something that most supervisors and managers do every day.

Performance Criteria

Performance criteria indicate what is required for the successful achievement of an element. They are descriptions of what you would expect to see in competent performance.

Product of Work

This could be items produced during the normal course of work, which can be used for evidence purposes such as reports, menus, promotional literature, training plans, etc.

Questioning

Questioning is one of the most appropriate ways to collect evidence to assess a candidate's underpinning knowledge and understanding.

Questioning can also be used to assess a candidate in those areas of work listed in the range which cannot be assessed by observation. Guidance on when this assessment method can be used is given in the assessment guidance of each individual element.

As an assessment method, questioning ensures you have all of the evidence about a candidate's performance. It also allows you to clarify situations.

Range statements

The range puts the element of competence into context. A range statement is a description of the range of situations to which an element and its performance criteria is intended to apply.

Range statements are prescriptive therefore each category must be assessed.

Role-plays

Role-plays are simulations where the candidate is asked to act out a situation in the way he/she considers “real” people would behave. By using role-play situations to assess a candidate you are able to collect evidence and make a judgment about how the candidate is most likely to perform. This may be necessary if the range specified includes a situation in which the candidate is unlikely to find himself/herself in the normal course of their work, or where the candidate needs to develop competence, before being judged competently, for example, in a disciplinary situation,

Simulations

Where possible, assessment should always be carried out by observing **natural performance** in the workplace. **Simulated performance**, however, can be used where specified to collect evidence about an aspect of the candidate’s work which occurs infrequently or is potentially hazardous; for example, dealing with fires.

By designing the simulated situation, briefing the candidate and observing his/her performance, you will be able to elicit evidence which will help you judge how a candidate is **most likely** to perform in real life.

Supplementary evidence

Supplementary evidence can be used to confirm and support performance evidence. Types of supplementary evidence include witness testimonies, reports, journals or diaries, records of activities, personal statements, simulation (see note in glossary).

Underpinning knowledge

Underpinning knowledge indicates what knowledge is essential for a person to possess in order to successfully achieve an element and prove total competence.

Units

A unit of competence describes one or more activities which form a significant part of an individual’s work. Units are accredited separately but in combination can make up a vocational qualification. There are three categories of units:

Mandatory units - are core to a qualification and must be completed.

Optional units - candidates must choose the required number of individual units, specified in the qualification structure, to achieve the qualification.

Work-based projects

Work-based projects are a useful way for you to collect evidence to support any decision you make about a candidate's performance. They are particularly appropriate in determining the level of a candidate's underpinning knowledge and understanding where it may be insufficient to rely only on questioning observation.

A project often involves the identification of a solution to a specific problem identified by you and/or the candidate (such as looking at ways to redress a recent drop in sales), or may be a structured programme of work built around a central situation or idea (such as the introduction of a new job rostering process)