



Written Assessment Evidence Guides

for

“Assistant Digger Operator”

Level-2

(Formative)

Written Assessment Guide

for

“Assistant Digger Operator”

Level-2

Demonstrate Basic Numeracy Skills
(Formative Assessment)

6th -10th September 2021



National Vocational & Technical
Training Commission

Title of Qualification: National Vocational Certificate Level 2, in (Digging Operation/Technology) "Assistant Digger Operator"	CS Code:	Level: 02	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> • Demonstrate Basic Numeracy Skill • Perform Basic Communication 	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:

Title of Qualification: National Vocational Certificate Level 2, in (Digging Operation/Technology) “Assistant Digger Operator”	CS Code:	Level: 02	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> • Demonstrate Basic Numeracy Skill • Perform Basic Communication 	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

WRITTEN ASSESSMENT

Question	Candidate's answer
1. How many inches in 4'-6"?	A. 54"
2. Calculate the volume of Cube, having $6 \times 6 \times 6$ cm dimensions?	A. 216 cm^3
3. A pond is 50 m long, 30 m wide and 2 m deep. Find the capacity of the pond in cubic meter.	A. 3000 m^3
4. Calculate the volume of cylinder, having diameter of 6 cm & height is 50 cm?	A. 1413.90 cm^3
5. Find the length of the edge of the cube, if its area is 2400 sq.cm	A. 20 cm
6. If the sidewall of a cubic structure has length 7m, then find the total surface area?	A. 294 sq. meter
7. One nanometer is equal to	A. volume of aggregates
8. Measuring cylinder is used to measure the	A. 10^{-9} m

Question	Candidate's answer
<p>9. Enlist any five Verbal communication techniques?</p>	<p>A. Active listening Clarity and conciseness Confidence Empathy Friendliness Open-mindedness Giving and soliciting feedback Confidence Respectfulness</p>

Written Assessment Guide

For

“Assistant Digger Operator”

Level-2

Identify the Electromagnetism and its application
(Formative Assessment)

6th – 10th September 2021



National Vocational & Technical
Training Commission

Title of Qualification: National Vocational Certificate Level 2, in (Digging Operation/Technology) "Assistant Digger Operator"	CS Code:	Level: 02	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Identify Electrical Circuits and Measurements Maintain Personal Health, hygiene and safety Perform 	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

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Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Title of Qualification: National Vocational Certificate Level 2, in (Digging Operation/Technology) “Assistant Digger Operator”	CS Code:	Level: 02	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Identify Electrical Circuits and Measurements Maintain Personal Health, hygiene and safety Perform 	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

WRITTEN ASSESSMENT

Question	Candidate's answer
1. Define series circuit?	A series <i>circuit</i> is defined as having only one path through which current can flow.
2. Define parallel circuit?	A <i>parallel circuit</i> is defined as one where all components are connected between the same set of electrically common points.
3. What does DMM stands for?	Digital Multimeter
4. Define current?	A flow of electricity which results from the ordered directional movement of electrically charged particles.
5. What does AC motor stands for?	Alternating Current
6. What does DC motor stands for?	Direct Current
7. What is the use of generator?	Generators are used to produce the electrical power required for automobiles, aircraft, ships, and trains.
8. What is the use of resistors?	Resistors are used to reduce current flow, adjust signal levels, to divide voltages, bias active elements, and terminate transmission lines, among other uses.
9. What does CPR stands for?	<i>Cardiopulmonary resuscitation</i>
10. What does HSE stands for?	Health, Safety and Environment.
11. Define effective communication?	Effective communication is defined as communication between two or more persons in which the intended message is properly delivered through appropriate channel.
12. Model of Communication SMCR stands for?	Sender-Message-Channel-Receiver (SMCR)

Written Assessment Guide

For

“Assistant Digger Operator”

Level-2

Perform Battery Service of Vehicle
(Formative Assessment)

6th – 10th September 2021



National Vocational & Technical
Training Commission

Title of Qualification: National Vocational Certificate Level 2, in (Digging Operation /Technology) "Assistant Digger Operator"	CS Code:	Level: 02	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> • Perform Battery Service of Vehicle • Maintain Personal Health, hygiene and safety • Perform • Basic Communication skills 	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:

Title of Qualification: National Vocational Certificate Level 2, in (Digging Operation/Technology) “Assistant Digger Operator”	CS Code:	Level: 02	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Perform Battery Service of Vehicle Maintain Personal Health, hygiene and safety Perform Basic Communication skills 	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

WRITTEN ASSESSMENT

Question	Candidate's answer
13. Enlist different types of battery	A. Dry cell and wet cell
14. What are small batteries called?	A. A button cell, watch battery, or coin battery is a small single cell battery
15. Which type of battery is used in electric vehicles?	A. A Lithium-ion (Li-ion) battery is a type of rechargeable battery used in electric vehicles
16. What is a battery?	A. Batteries are the most common power source for basic handheld devices to large scale industrial applications.
17. What chemical activities occur in batteries?	A. The battery operates through electrochemical reactions called oxidation and reduction
18. What is the difference between wet cell and dry cell battery?	A. The primary difference between a wet cell and dry cell battery is that the wet cell battery uses a liquid electrolyte, whereas a dry cell uses a paste electrolyte.
19. What is PPEs?	A. Personal protective equipment
20. What are PPEs for eye protection?	A. General Safety Glasses, Laser Safety Glasses, Chemical Splash Goggles and Impact Goggles.
21. What are 7Cs for effective communication?	A. The seven C's are: clarity, correctness, conciseness, courtesy, concreteness, consideration and completeness.
22. What are ten work ethics?	A. The ten work ethic traits: appearance, attendance, attitude, character, communication, cooperation, organizational skills, productivity, respect and teamwork

Written Assessment Guide

For

“Assistant Digger Operator”

Level-2

Maintain Diesel Engine Systems
(Formative Assessment)

6th – 10th September 2021



National Vocational & Technical
Training Commission

Title of Qualification: National Vocational Certificate Level 2, in (Digging Operation /Technology) “Assistant Digger Operator”	CS Code:	Level: 02	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> • Maintain Diesel Engine Systems • Personal Health, hygiene and safety Perform • Basic Communication skills 	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

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Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Title of Qualification: National Vocational Certificate Level 2, in (Digging Operation /Technology) “Assistant Digger Operator”	CS Code:	Level: 02	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> • Maintain Diesel Engine Systems • Personal Health, hygiene and safety Perform • Basic Communication skills 	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

WRITTEN ASSESSMENT

Question	Candidate's answer
1. Enlist different systems of diesel engine.	A. Fuel systems. Lubrication systems. Air intake systems. Exhaust systems. Cooling systems. Electrical systems.
2. What are the functions of cooling system in diesel engine?	A. Cooling the engine cylinders via water jacket, cooling the lube oil cooler, Cooling combustion air after cooler on turbo-charged engines.
3. Define cooling system in diesel engine.	A. Diesel engines are heat-generating sources. They are cooled by circulating a water-based coolant through a water jacket, which is part of the engine.
4. What is the main components of cooling system?	A. The major components of the cooling system are the water pump, freeze plugs, the thermostat, and the radiator, cooling fans, the heater core, the pressure cap, the overflow tank and the hoses.
5. Which engines are better 2 stroke or 4 stroke and write reasons?	A. 4 stroke engines as these are powerful, durable and environment friendly.
6. Define thermostat.	A. It is a device that automatically regulates a temperature.
7. Define antifreeze.	A. An antifreeze is an additive which lowers the freezing point of a water-based liquid.
8. What is the function of radiator?	A. Its primary function is to monitor and regulate a vehicle engine's temperature and prevent it from overheating.
9. What is PPEs?	A. Personal protective equipment

Question	Candidate's answer
10. What are PPEs for eye protection?	A. General Safety Glasses, Laser Safety Glasses, Chemical Splash Goggles And Impact Goggles.
11. What are 7Cs for effective communication?	A. The seven C's are: clarity, correctness, conciseness, courtesy, concreteness, consideration and completeness.
12. What are ten work ethics?	A. The ten work ethic traits: appearance, attendance, attitude, character, communication, cooperation, organizational skills, productivity, respect and teamwork
13. What is the Coefficient of friction?	B. Coefficient of friction is defined as the ratio of the force required to move tow sliding surfaces over each other, and the force holding them together
14. What is the purpose of oil filter in vehicle?	A. Vehicle oil filter removes waste. It captures harmful debris, dirt, and metal fragments in your motor oil to keep engine running smoothly.
15. What is a relief valve?	A. The oil pressure relief valve ensures the oil pressure remains constant at the bearings, no matter how fast or slow the engine runs.
16. What does an oil sump do?	A. The oil sump contains the engine oil required for lubrication. The oil is extracted from it by an oil pump and conveyed into the engine block's oil ducts via the oil filter.
17. What does an (EGR) stands for?	A. Exhaust Gas Recirculation
18. What is first law of friction?	A. The first law of friction says that the amount of friction is proportional to the normal force exerted between the surfaces.
19. What is the use of multi meter?	A. A multi meter is mainly used to measure the three basic electrical characteristics of voltage, current, and resistance
20. What is the name of device used in starting system?	A. A starter (also self-starter, cranking motor, or starter motor)
21. What are the four types of starting systems?	A. (1) Electric (2) Hydraulic (3) Air motor (4) Compressed air admission
22. What are the main components of charging system?	A. It has three main components: the alternator, the voltage regulator, and the batteries
23. What are the Solenoids?	A. These are electro-hydraulic valves
24. Define sensors?	A. It is a device to detect events or changes in its environment and send the information to other electronics
25. What is confined space?	A. It is a space with limited entry and egress and not suitable for human inhabitants

Written Assessment Guide For “Assistant Digger Operator”

Level-2

**Carryout General Maintenance
(Formative Assessment)**

6th – 10th September 2021



**National Vocational & Technical
Training Commission**

Title of Qualification: National Vocational Certificate Level 2, in (Digging Operation/Technology) "Assistant Digger Operator"	CS Code:	Level: 02	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> • Carryout General Maintenance • Personal Health, hygiene and safety Perform • Basic Communication skills 	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:

Title of Qualification: National Vocational Certificate Level 2, in (Digging Operation/Technology) “Assistant Digger Operator”	CS Code:	Level: 02	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> • Carryout General Maintenance • Personal Health, hygiene and safety Perform • Basic Communication skills 	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

WRITTEN ASSESSMENT

Question	Candidate's answer
23. What is the importance of storing tools?	A. It is used to prevent losses from damage, pilferage and deterioration in quality of materials
24. What is difference between oil and grease?	A. Greases are usually oils with thickener added while oils are usually liquids.
25. What are the types of Screwdrivers?	A. Phillips Screwdriver, Flat Head or Slotted Screwdriver, etc.
26. What is the first step if the drill bit binds in the material being drilled?	A. Release the trigger switch.
27. List 5 major potential Hazards at the Workplace?	A. Falls and Falling Objects. Chemical Exposure. Fire Hazards. Electrical Hazards. Repetitive Motion Injury
28. What is the corrective maintenance?	A. Corrective maintenance is performed to rectify and repair faulty systems and equipment.
29. What are the types of maintenance?	A. Corrective, Preventive, Risk-Based And Condition-Based Maintenance
30. When lifting heavy objects, on which body parts you should keep as much weight as possible?	A. Chest, arms, shoulders and back.
31. What is first aid?	A. Immediate care given to someone who is ill or injured.

Question	Candidate's answer
32. What are strategies to avoid conflict?	A. Avoiding Accommodating Compromising Competing Collaborating

Written Assessment Guide

For

“Assistant Digger Operator”

Level-2

Perform Basic Technical Drawing
(Formative Assessment)

6th -10th September 2021



National Vocational & Technical
Training Commission

Title of Qualification: National Vocational Certificate Level 2, in (Digging Operation/Technology) "Assistant Digger Operator"	CS Code:	Level: 02	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> • Perform Basic Technical Drawings • Personal Health, hygiene and safety Perform • Basic Communication skills 	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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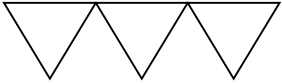


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Title of Qualification: National Vocational Certificate Level 2, in (Digging Operation/Technology) “Assistant Digger Operator”	CS Code:	Level: 02	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Perform Basic Technical Drawings Personal Health, hygiene and safety Perform Basic Communication skills 	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

WRITTEN ASSESSMENT

Question	Candidate's answer
33. Enlist any three types of dimensions in technical drawings?	A. Linear Dimensions. Radial Dimensions. Angular Dimensions. Ordinate Dimensions. Arc Length Dimensions. Baseline and Continued Dimensions.
34. Enlist the types of linear dimensions?	A. Horizontal Vertical Aligned
35. Find the name of below mention abbreviations: a. ASSY b. CM c. CL d. CHAM e. CSK	A. Assembly Centimeters Center line Chamfered Countersink
36. Following abbreviations stands for: a. CSK HD b. C'BORE or CBORE c. DIA d. DIM e. DRG f. HEX	A. a. Countersink Head b. Counter bore c. Diameter d. Dimension e. Drawing f. Hexagon

Question	Candidate's answer
37. Name this symbol 	A. Grinding
38. PPE stands for?	A. Personal Protective Equipment
39. Identify the following signs? <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  A. </div> <div style="text-align: center;">  B. </div> </div>	A. Prohibition B. Safe condition
40. Enlist any five Verbal communication techniques?	<ul style="list-style-type: none"> • Active listening • Clarity and conciseness • Confidence • Empathy • Friendliness • Open-mindedness • Giving and soliciting feedback • Confidence • Respectfulness, etc.
41. Model of Communication SMCR stands for?	A. Sender-Message-Channel-Receiver (SMCR)



Written Assessment Evidence Guides

for

“Assistant Digger Operator”

Level-2

(Summative)

Written Assessment Guide

For

“Assistant Digger Operator”

Level-2

(Summative Assessment)

6th – 10th September 2021



**National Vocational & Technical
Training Commission**

Title of Qualification: National Vocational Certificate Level 2, in (Digging Operation/Technology) "Assistant Digger Operator"	CS Code:	Level: 02	Version: 01
Competency Standard Title: A. Maintain Personal Health, hygiene and safety B. Perform basic communication skills C. Operate Computer Functions (General) D. Demonstrate Basic Numeracy skills E. Identify Electrical Circuits and Measurements F. Perform Battery Service of Vehicle G. Maintain Diesel Engine Systems H. Carryout General Maintenance I. Perform Basic Technical Drawing	Assessment Date (DD/MM/YY): Assessment Time: 30 mins.		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Title of Qualification: National Vocational Certificate Level 3, in (Digging Operation Technology) “Digger/Excavator Operator”	CS Code:	Level: 03	Version: 01
Competency Standard Title: A. Maintain Personal Health, hygiene and safety B. Perform basic communication skills C. Operate Computer Functions (General) D. Demonstrate Basic Numeracy skills E. Identify Electrical Circuits and Measurements F. Perform Battery Service of Vehicle G. Maintain Diesel Engine Systems H. Carryout General Maintenance I. Perform Basic Technical Drawing	Assessment Date (DD/MM/YY): Assessment Time: 30 mins.		

WRITTEN ASSESSMENT

Question	Candidate's answer
1. Define area.	A. Length X Width
2. Define volume.	A. Area X H
3. What are different measurement system?	A. FPS and MKS
4. What are small batteries called?	A. A button cell, watch battery, or coin battery is a small single cell battery
5. Which type of battery is used in electric vehicles?	A. A Lithium-ion (Li-ion) battery is a type of rechargeable battery used in electric vehicles
6. What is a battery?	A. Batteries are the most common power source for basic handheld devices to large scale industrial applications.
7. What are small batteries called?	A. A button cell, watch battery, or coin battery is a small single cell battery
8. What is the main components of cooling system?	A. The major components of the cooling system are the water pump, freeze plugs, the thermostat, and the radiator, cooling fans, the heater core, the pressure cap, the overflow tank and the hoses.
9. Which engine is better 2 stroke or 4 stroke?	A. 4 stroke engine

Question	Candidate's answer
10. Define thermostat.	A. The thermostat is basically a valve between the engine and the radiator . When the coolant in the engine gets too hot, this valve opens, letting it pass to the radiator where it will cool down
11. Define antifreeze.	A. An antifreeze is an additive which lowers the freezing point of a water-based liquid. An antifreeze mixture is used to achieve freezing-point depression for cold environments.
12. What is the function of radiator?	A. Its primary function is to monitor and regulate a vehicle engine's temperature and prevent it from overheating.
13. Define viscosity.	A. Viscosity is a measure of a fluid's resistance to flow. It describes the internal friction of a moving fluid.
14. What is the function of lubricating system in diesel engine?	A. Lubricating systems are systems used to assist the smooth and healthy operation of rotating machinery parts.
15. What are the parts of lubricating system in diesel engine?	A. Oil Sump. Engine oil filter. Piston cooling nozzles. Oil Pump. The Oil Galleries. Oil Cooler. The Oil pressure indicator/light.
16. What is the Coefficient of friction?	A. Coefficient of friction is defined as the ratio of the force required to move tow sliding surfaces over each other, and the force holding them together
17. Which is the purpose of oil filter in vehicle?	A. Vehicle oil filter removes waste, too. It captures harmful debris, dirt, and metal fragments in your motor oil to keep your car's engine running smoothly
18. What does an (EGR) stands for?	A. Exhaust gas recirculation
19. What is oiling and greasing?	A. Grease is a thickened oil , not a thicker oil. The thickener within a grease acts as a sponge, holding the base oil and the additives together.
20. How you identify screwdriver?	A. A screwdriver is identified by the type of screw it fits.
21. What is the first step if the drill bit binds in the material being drilled?	A. Release the trigger switch.
22. What should you do when using an electrical saw, to avoid excessive vibrations?	A. clamp or vise the material to hold in place

Question	Candidate's answer
23. What is the main differences between types of hand saws?	A. The main differences between types of hand saws relate to their teeth.
24. Define series circuit?	A. A series <i>circuit</i> is defined as having only one path through which current can flow.
25. Define parallel circuit?	A. A <i>parallel circuit</i> is defined as one where all components are connected between the same set of electrically common points.
26. What does DMM stands for?	A. Digital Multimeter
27. Define current?	A. A flow of electricity which results from the ordered directional movement of electrically charged particles.
28. What the five stages of team development?	A. Forming, Storming, Norming, Performing, And Adjourning
29. What is the importance of work ethics?	A. Increases the overall morale and enhances the performance of an organization
30. What are strategies to avoid conflict?	A. Avoiding Accommodating Compromising Competing Collaborating