higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

MAINTENANCE MANAGEMENT: FARMING N4

19 NOVEMBER 2019

This marking guideline consists of 6 pages.

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QUESTION 1

1.1 1.1.1

- The doors should be positioned on the opposite side to the wind direction.
- This ensures that doors can be opened for good ventilation.
- Even in strong wind situations the door can be opened without having rain or dust blowing into the workshop.
- Remember that doors also act as security barriers. (Any 3 × 1)

1.1.2

- Cleaning implements or vehicles on regular intervals is also part of maintenance.
- A high pressure washer will be needed for the cleaning task.
- Working on clean implements or vehicles makes repairs easier and safer. (Any 3 × 1)

1.1.3

- Employees should be encouraged to wear safety clothing and equipment at all times.
- According to the law all workplaces should have an escape plan for emergencies.
- Employees must be informed and trained to adhere to and comply with the escape procedures.
- Training must be provided for all employees to adhere and comply with safety rules and regulations.
- Communication systems should be readily available during emergencies.
- Telephones or two-way radios are very important. (Any 3 × 1)

(3 × 3) (9)

1.2

1.2.1	M
1.2.2	K
1.2.3	F
1.2.4	L
1.2.5	C
1.2.6	A
1.2.7	N
1.2.8	J
1.2.9	H
1.2.10	G

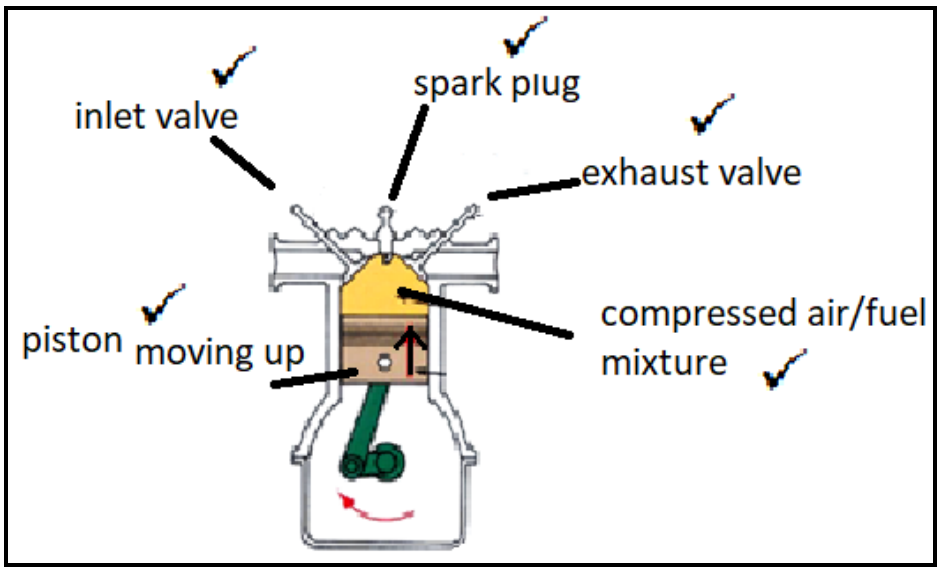
(10 × 1) (10)

1.3 The sound test (1)

[20]

QUESTION 2

2.1
- Both valves are closed.✓✓
- Piston moving upwards.✓
- Air/fuel mixture is compressed.✓✓



(5 × 2) (10)

2.2
- Radiator
- Anti-freeze
- Pressure cap
- Cross-flow radiator
- Down-flow radiator
- Viscous coupling/Fluid clutch
- Coolant
- Water pump
- Air cooled
- Water cooled
- V-belt

(Any 5 × 1) (5)

2.3
- Oil sump
- To hold the engine oil

(2)

2.4
A – Master cylinder
B – Slave cylinder
C – Clutch cover assembly
D – Release bearing
E – Fork
F – Pedal
G – Hydraulic pipe

(7)

2.5
- Lack of free pedal.
- Release mechanism binding.
- Grease or oil on clutch facings.
- Worn clutch facings.
- Weak pressure springs.
- Overloaded clutch.

(Any ONE) (1)
[25]

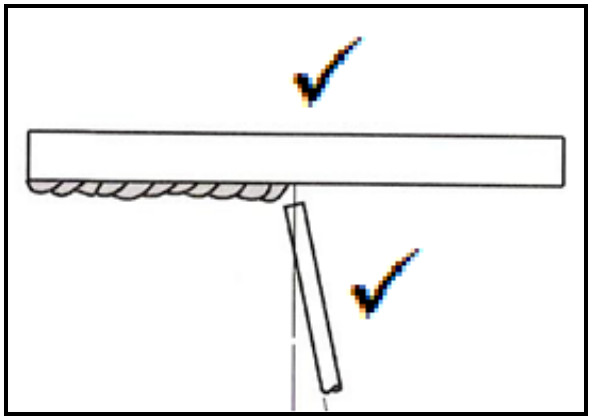
QUESTION 3

3.1
3.1.1 True
3.1.2 True
3.1.3 False
3.1.4 False
3.1.5 False
3.1.6 False
3.1.7 True
3.1.8 False
3.1.9 False
3.1.10 True

(10 × 1) **[10]**

QUESTION 4

4.1



(2)

4.2
- Switch off the machine when not in use
- Remove the used electrode from the holder
- Disconnect the earth clamp from the work
- Disconnect the earth cable from the machine
- Disconnect the electrode holder cable from the machine
- Disconnect the earth cable from the machine
- Store the cables in the store
- Unplug the welding machine, wipe it clean and store (8)

4.3 Shielded Metal Arc Welding (2)

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4.4
- Remove all oil, grease, paint, rust and rough edges from the work piece before welding.
- If required prepare the edges by bevelling for better penetration.
- Align the work piece correctly. (Any 3 × 1) (3)

[15]

QUESTION 5

5.1 $P = V \times I$✓
$P = 380 \times 22$✓
$P = 8360\ Watt$✓
$P = 8{,}36\ kW$✓ (4)

5.2 Electromagnetic induction (1)

5.3 5.3.1 

5.3.2 

(2 × 1) (2)

5.4 5.4.1 Drop
5.4.2 Low
5.4.3 High

(3 × 1) (3)

[10]

QUESTION 6

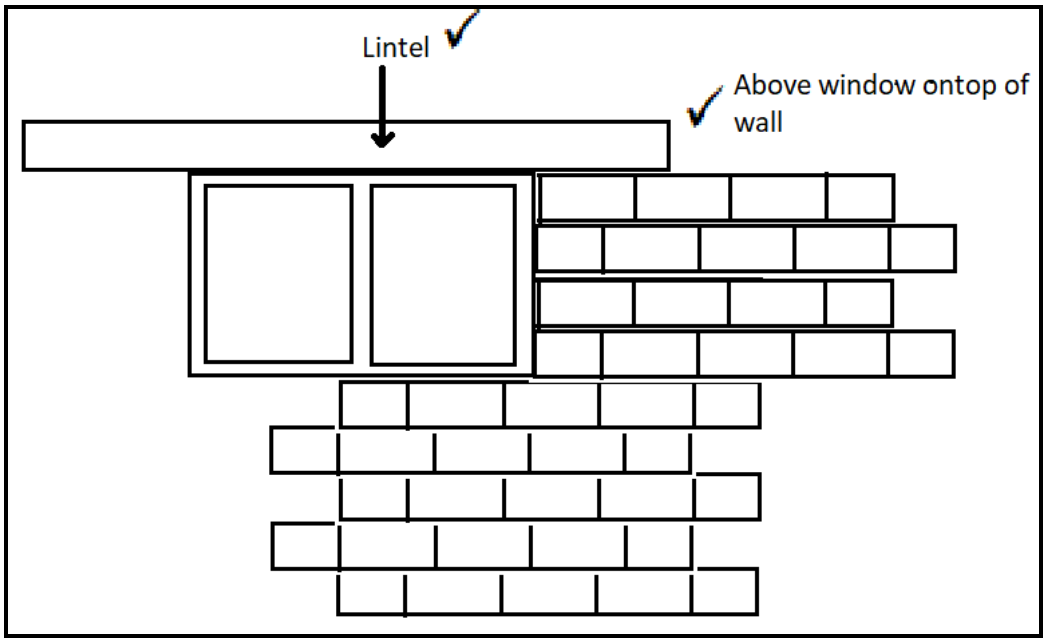
6.1
- Horizontal and vertical mortar joints must be filled completely.
- Use mortar with high moisture retentiveness (use lime in the mortar mix).
- Mortar joints must be finished off with a jointer – the half-round one is very good.
- Windows must be waterproofed by plastering or damp proofing preferably with a damp proof course below the window sill.
- Good quality external plaster or treatment of external walls with builders' lime, waterproof paints or commercial waterproofing may be used.
- In high rainfall areas, like at the coast, cavity walls may be used. (6)

6.2
- The surface must be firm and clean.
- The edges should not split or crumble when pressed with the thumb.
- Bricks must not break too much when handled or transported.
- Two bricks knocked together must produce a ringing sound, indicating no cracks. (Any 3 × 1) (3)

6.3
- Wet soil
- Soil with low bearing capacity
- Treacherous layers
- Sink holes and landslides (4)

6.4
- A lintel is a beam over an opening for a door, window or other aperture.
- It supports the masonry and any other loads, such as a roof, above the opening. (2)

6.5



(2)

6.6 It prevents that the floor from damage during the building process as it is only applied after the building process has been completed. (1)

6.7
- The fascia protects rafter ends.
- It improves the appearance of the building.
- It is used to support gutters. (Any 2 × 1) (2)

[20]

TOTAL: 100

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