higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

AUTOMOTIVE REPAIR AND MAINTENANCE
NQF LEVEL 2

11 March 2020

This marking guideline consists of 5 pages.

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QUESTION 1

1.1 1.1.1 Chuck
1.1.2 Power tool
1.1.3 Safety goggles
1.1.4 Tool rest
1.1.5 Safety guard

(5 × 1) (5)

1.2 1.2.1 F
1.2.2 C
1.2.3 D
1.2.4 B
1.2.5 A

(5 × 1) (5)

1.3 1.3.1 False.
1.3.2 True
1.3.3 True
1.3.4 False
1.3.5 True
1.3.6 False
1.3.7 False
1.3.8 False
1.3.9 True
1.3.10 True

(10 × 1) (10)

1.4 1.4.1 Aluminium alloy
1.4.2 Contamination
1.4.3 Face shield
1.4.4 Specific gravity
1.4.5 Reflector

(5 × 1) (5)
[25]

QUESTION 2

2.1
- Vernier calliper
- Outside micrometer
- Outside calliper
- Steel ruler
- Tape measure

(Any applicable2 × 1) (2)

2.2
- Anvil
- Spindle

(2)

2.3 2.3.1 Yellow triangle
2.3.2 Green square
(2 × 2) (4)

2.4 A – Cylindrical roller bearing
B – Needle roller bearing
C – Tapered roller bearing (3)

2.5
- External leaking of jack
- Internal leaking of jack
- Valve not properly closed
- Faulty valve (Any applicable 2 × 1) (2)

2.6 2.6.1 Saddles
2.6.2 Swing-arms (2 × 1) (2)

2.7
- Lack of lubrication
- Excessive loads causing premature wear
- Dirt entering the rollers
- Cracks (parts failure) (Any applicable 1 × 1) (1)

[16]

QUESTION 3

3.1 3.1.1 Overhead cam engine
3.1.2 Rotary engine
3.1.3 Two-stroke engine
(3 × 1) (3)

3.2 3.2.1 Produces and supplies spark at the plug for combustion

3.2.2 Opens valves and keeps them open for the correct time

3.2.3 Cranks the engine until it starts
(3 × 2) (6)

3.3 Piston rings (1)

3.4
- Good thermal conductivity
- Corrosion resistant
- Light-weight
- Many design choices (Any applicable 3 × 1) (3)

3.5 3.5.1
- Check and correct tyre pressure
- Check tread for irregular or uneven wear
- Check tread for foreign objects (Any applicable 1 × 1) (1)

3.5.2
- Rotate the wheels regularly
- Check suspension for wear
- Check wheel alignment (Any applicable 1 × 1) (1)

3.6 A – Plies
B – Bead
C – Tread (3)
[18]

QUESTION 4

4.1 4.1.1 B
4.1.2 C
4.1.3 D
(3 × 1) (3)

4.2 While the correct amount of load is applied for a maximum of 15 seconds the battery voltage should not drop lower than 9,6 V. (3)

4.3 4.3.1 To check the state of charge of each cell in the battery
4.3.2 To check if the battery is sulphated
4.3.3 To see if there are any visible faults on the battery
4.3.4 To determine if any voltage is leaking through top of casing.
(4 × 1) (4)

4.4 Impeller-assisted system (1)

4.5 The radiator cap is made to hold up to a specified pressure. If the system pressure exceeds the specified pressure, the seal is forced open to release the pressure and will close again if the pressure is below the specified pressure (3)

4.6 PCV valve (1)

4.7
- Oil pressure gauge
- Oil light (1)

4.8 When the oil pressure increases above the specified system pressure, it forces the relief valve open against a set spring tension to release the excess oil back into the sump. The valve closes when the system pressure drops to specified pressure. (3)

4.9 If the piston compression rings or the cylinders are worn, the pressure caused by compression and combustion will pass the rings and will collect in the crankcase area. This causes excessive blow-by or crankcase pressure. (3)
[22]

QUESTION 5

5.1
- Electrolyte levels
- Brake fluid
- Clutch fluid
- Coolant level
- Windscreen water (Any applicable 5 × 1) (3)

5.2
- Oil capacity
- Tightening torques
- Ignition timing settings
- Spark plug gap (Any applicable 2 × 1) (2)

5.3
- Restore the vehicle (remove protective covers, clean vehicle).
- Clean and pack away all the tools.
- Safely dispose of waste material, fluid and parts.
- Clean the work bench and work bay (Any applicable 3 × 1) (3)

5.4
- It is part of the record keeping.
- It will state what work was done.
- It will state which parts was replaced.
- The information will justify the charges to the customer.

(Any applicable 3 × 1) (3)

5.5 Post-operational check or road test (1)

5.6
- Protects the body
- Protects clothes (2)

5.7
- Tyre pressure and tread
- Cracks in windows
- Wiper blades
- Lights
- Door handles (Any applicable 3 × 1) (3)

5.8
- Fender covers
- Steering-wheel cover
- Gear-knob cover
- Floor mats (Any applicable 2 × 1) (2)

[19]

TOTAL: 100

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