



**higher education  
& training**

Department:  
Higher Education and Training  
**REPUBLIC OF SOUTH AFRICA**

# **MARKING GUIDELINE**

**NATIONAL CERTIFICATE**

**MOTOR TRADE THEORY N1**

**13 April 2021**

**This marking guideline consists of 5 pages.**

**QUESTION 1**

1.1	1.1.1	B		
	1.1.2	C		
	1.1.3	B		
	1.1.4	A		
	1.1.5	A		
	1.1.6	A		
	1.1.7	C		
	1.1.8	B		
	1.1.9	D		
	1.1.10	D		
			(10 × 1)	(10)

1.2	1.2.1	False		
	1.2.2	True		
	1.2.3	True		
	1.2.4	False		
	1.2.5	True		
	1.2.6	True		
	1.2.7	True		
	1.2.8	True		
	1.2.9	False		
	1.2.10	True		
			(10 × 1)	(10) <b>[20]</b>

**QUESTION 2**

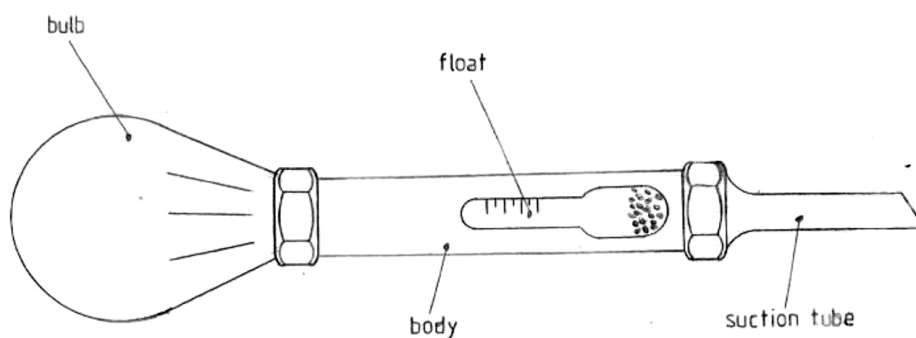
2.1	<ul style="list-style-type: none"> <li>• Congested isles and work areas.</li> <li>• Dirty and slippery floors and work surfaces.</li> <li>• Overflowing waste bins.</li> <li>• Cluttered and poorly arranged work areas.</li> <li>• Inaccessible emergency equipment and exits.</li> <li>• Overcrowded and poorly arranged storage shelves.</li> </ul>			(6)
2.2	2.2.1	Torque wrench		
	2.2.2	Flared nut spanner		
	2.2.3	Normal open-end ring spanner		
	2.2.4	Adjustable wrench/Shifting spanner		
	2.2.5	Offset spanner		
			(5 × 1)	(5)
2.3	Clean the mating surface of the head.✓ Use the straight edge and feeler gauge✓ to check the straightness of the head across its length, parallel and diagonally.✓ Also check the straightness perpendicularly.✓ Compare the reading with the manufacturer's specification.✓s			(5) <b>[16]</b>

**QUESTION 3**

- 3.1
- Correct tyre pressure improves the safe handling of the car,✓ it maximises fuel efficiency✓ and extends tyre wear.✓
  - Under-inflated tyres compromise✓ handling while over-inflated tyres make the car bumpy.✓
  - Under-inflated tyres wear on the edges✓ while over-inflated tyres wear in the centre.✓
  - Under-inflated tyres increase fuel consumption.✓
- (8)

- 3.2 The battery will, when fully charged✓ and at room temperature, supply a current of 1 A✓ for 50 hours or 10 A for 5 hours or any combination that equals to 50.✓
- (3)

3.3



(6)  
[17]

**QUESTION 4**

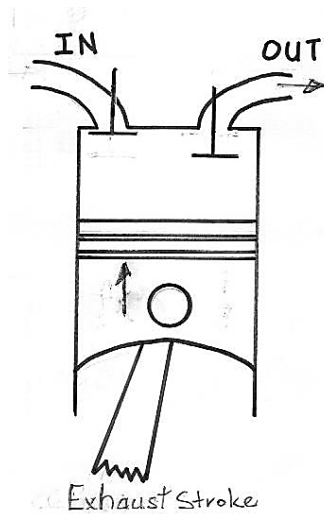
- 4.1
- Engine block
  - Cylinder head
  - Connecting rod
  - Rings
  - Sleeve
  - Piston
  - Crankshaft
  - Camshaft
  - Valve
  - Cylinder-head gasket
  - Valve spring
- (10)

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## MOTOR TRADE THEORY N1

- 4.2 During the exhaust stroke, the exhaust valve is opened ✓ while the piston is moving upwards. ✓ Exhaust gases are pushed out of the cylinder past the open exhaust valve. ✓



(3 for explanation + 2 for sketch)

(6)  
[16]

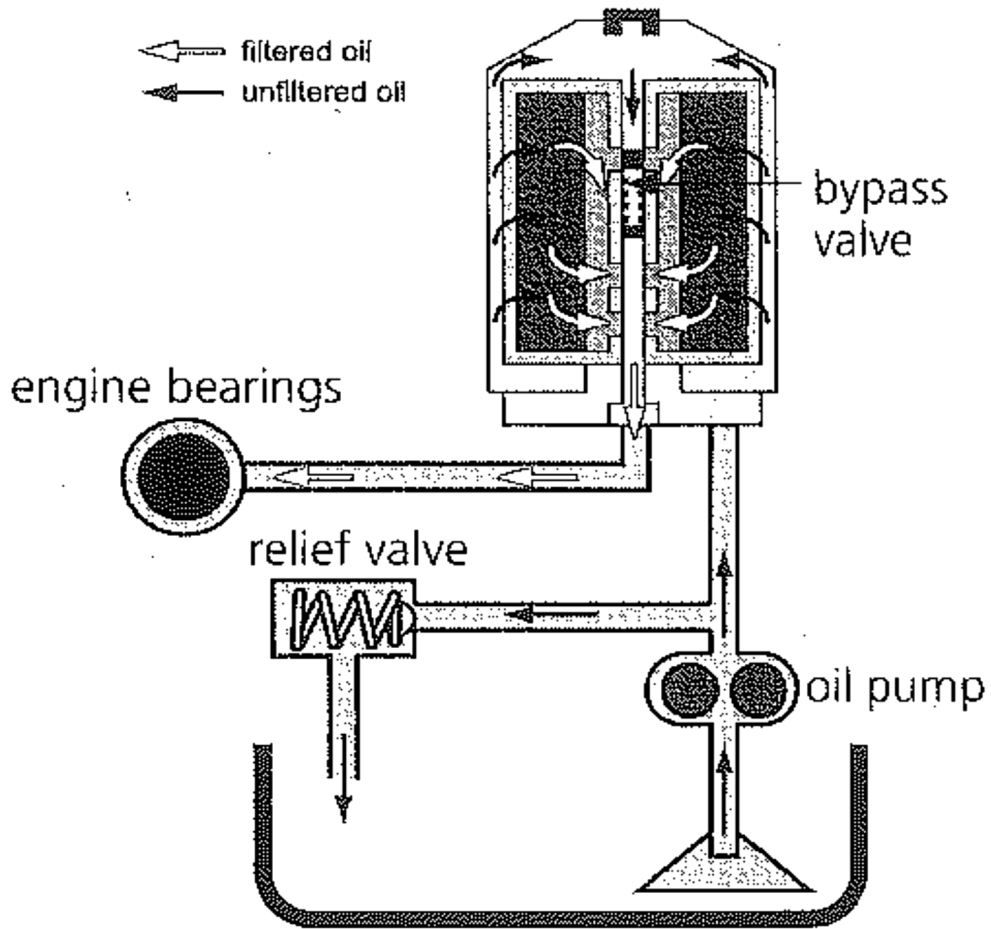
## QUESTION 5

- 5.1
- Flywheel
  - Pressure plate
  - Clutch plate
- (3)
- 5.2 The clutch operates and transmits power from one component to the other by friction. ✓ Friction is increased by the spring forces applied by the pressure plate. ✓ Power is then transferred from the flywheel ✓ and pressure plate to the clutch plate ✓ which is splined to the gearbox input shaft.
- (4)
- 5.3
- Master cylinder
  - Steel pipes
  - Rubber hoses
  - Slave cylinder
- (4)
- 5.4
- No periodic adjustment necessary
  - Higher leverage
  - Easy to route the rubber hoses to the bell housing
  - Less friction because of fewer moving parts
- (4)
- 5.5 The excess heat generated by the combustion process is absorbed into the water ✓ in the surrounding water jackets. ✓ The heat is carried by the water to the radiator ✓ where it is transferred to the atmosphere.
- (3)

[18]

**QUESTION 6**

6.1



(6)

6.2

- Worn rings
- Worn cylinders
- Worn valve guides
- Worn valve seals
- Leaking oil
- Excessive oil pressure

(6)

6.3

Oil cooler

(1)

**[13]**

**TOTAL: 100**