



**higher education  
& training**

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

# **MARKING GUIDELINE**

**NATIONAL CERTIFICATE**

**NOVEMBER EXAMINATION**

**MOTOR TRADE THEORY N1**

**17 NOVEMBER 2016**

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

**QUESTION 1**

- |     |                                                                                                                                               |                      |          |             |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------|-------------|
| 1.1 | 1.1.1                                                                                                                                         | C                    |          |             |
|     | 1.1.2                                                                                                                                         | D                    |          |             |
|     | 1.1.3                                                                                                                                         | A                    |          |             |
|     | 1.1.4                                                                                                                                         | A                    |          |             |
|     | 1.1.5                                                                                                                                         | D                    |          |             |
|     | 1.1.6                                                                                                                                         | D                    |          |             |
|     | 1.1.7                                                                                                                                         | C                    |          |             |
|     | 1.1.8                                                                                                                                         | D                    |          |             |
|     | 1.1.9                                                                                                                                         | D                    |          |             |
|     | 1.1.10                                                                                                                                        | C                    |          |             |
|     |                                                                                                                                               |                      | (10 × 1) | (10)        |
| 1.2 | A–exhaust stroke<br>B–power stroke<br>C–spark plug<br>D–exhaust port/outlet port<br>E–crankshaft<br>F–mixture of air and fuel<br>G–inlet port |                      |          | (7)         |
| 1.3 | 1.3.1                                                                                                                                         | Diamond point chisel |          |             |
|     | 1.3.2                                                                                                                                         | Torque wrench        |          |             |
|     | 1.3.3                                                                                                                                         | Feeler gauge         |          |             |
|     |                                                                                                                                               |                      | (3 × 1)  | (3)         |
|     |                                                                                                                                               |                      |          | <b>[20]</b> |

**QUESTION 2**

- |     |                                                                                                      |                                                                                                         |         |     |
|-----|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------|-----|
| 2.1 | A–Ring gear<br>B–Flywheel<br>C–Clutch face<br>D–Attaching hole<br>E–Spigot hole<br>F–Balancing holes |                                                                                                         | (6 × 1) | (6) |
| 2.2 | 2.2.1                                                                                                | To connect the piston to the crankshaft.                                                                |         |     |
|     | 2.2.2                                                                                                | To drive air through the radiator core.                                                                 |         |     |
|     | 2.2.3                                                                                                | To maintain a minimum operating temperature.                                                            |         |     |
|     | 2.2.4                                                                                                | It circulates engine oil under pressure to the rotating bearings, the sliding pistons and the camshaft. |         |     |

2.2.5 It ignites the compressed fuel/air by an electric spark. (5 × 1) (5)

2.3

- Gear type
- Eccentric rotor
- Internal gear type
- Sliding type
- Plunger type

(Any 4 × 1) (4)

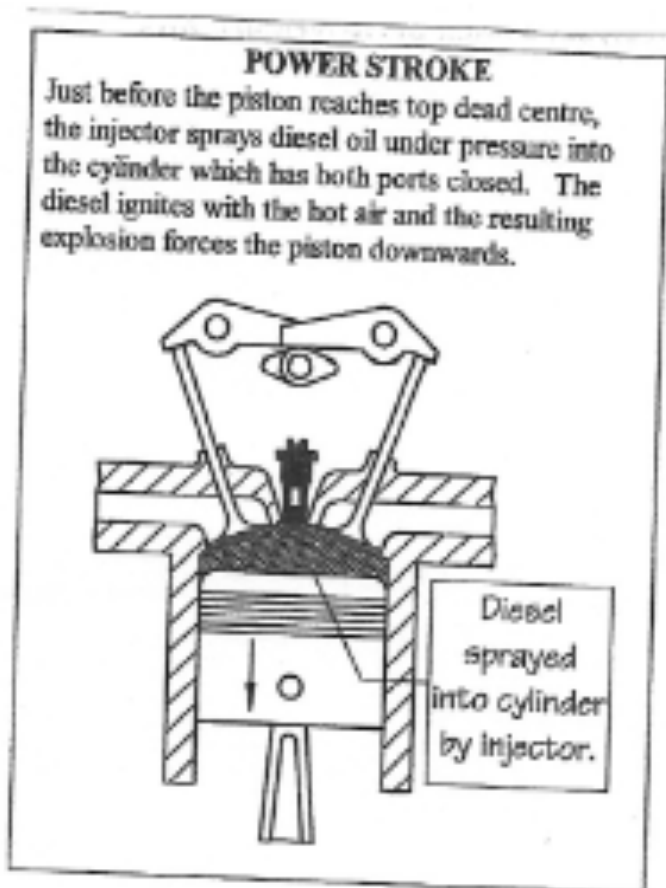
2.4

A–Outer rotor  
B–Drive shaft  
C–Inner rotor  
D–Casing  
E–Outlet

(5 × 1) (5)  
**[20]**

**QUESTION 3**

3.1



(3 marks for sketch and 4 for labels and explanation) (7)

3.2 Oil clearance is the small space/gap ✓ between moving engine parts ✓ for lubricating oil film. ✓ (3)

- 3.3
- Defective gauge
  - Worn bearings
  - Stuck regulator valve
  - Clogged pump inlet
- (Any 3 × 1) (3)
- 3.4
- A–Flywheel  
B–Clutch plate  
C–Crankshaft  
D–Pressure plate  
E–Release lever  
F–Thrust bearing  
G–Spring
- (Any 7 × 1) (7)  
**[20]**

**QUESTION 4**

- 4.1
- 4.1.1 False  
4.1.2 False  
4.1.3 True  
4.1.4 False  
4.1.5 True
- (5 × 1) (5)
- 4.2
- Unsafe actions
  - Unsafe conditions
  - Fooling about/playing around
- (3 × 1) (3)
- 4.3
- To help the engine reach its normal running temperature.
  - To maintain its running temperature whatever the weather conditions.
  - To meet the requirements of the car's interior heating conditions.
- (3)
- 4.4
- A–Radiator  
B–Drain plug  
C–Overflow bottle  
D–Top hose  
E–Cap
- (5 × 1) (5)
- 4.5
- Rust or scale
  - Stuck thermostat
  - Low coolant level
  - Slipping of fan belt
  - No fan shroud
  - Retarded ignition timing
  - Bad water pump
  - Collapsed water hose
- (Any 4 × 1) (4)  
**[20]**

**QUESTION 5**

- 5.1
- Cut slowly using full length of the blade.
  - Do not apply too much downward pressure on the blade.
  - Insert the blade with the teeth pointing to the front.
  - The blade must be properly tensioned.
  - After use, slack the blade.
  - Use the correct blade for the job.
- (Any 3 × 1) (3)
- 5.2
- Safety goggles must be used at all times.
  - A work rest must always be in place; gap between is  $\pm 2$  mm.
  - Grading wheels must be balanced.
  - Work piece should not be knocked.
  - Permanent transparent shield should be mounted above work area.
  - Sides of the grinding wheels should not be used for grinding.
  - Work piece should not be pressed too hard against the grinder.
- (Any 2 × 1) (2)
- 5.3
- Negligence of a person involved
  - Ignorance of the danger involved
  - Fooling about, playing, jokes
  - Tiredness or daydreaming
  - Failure to take adequate precaution
  - Lack of skills through inadequate training
  - Untidy or obstructed working area
- (Any 3 × 1) (3)
- 5.4
- Assures vehicle safety.
  - Ensures comfortable ride.
  - Prevents excessive heat build up.
  - Ensures full tread area of the tyre touching the road.
  - It ensures good balance of the vehicle.
- (5 × 1) (5)
- 5.5
- |       |                      |               |             |
|-------|----------------------|---------------|-------------|
| 5.5.1 | External circlip     |               |             |
| 5.5.2 | Soldering iron       |               |             |
| 5.5.3 | Taps and dies        |               |             |
| 5.5.4 | Feeler gauge         |               |             |
| 5.5.5 | Hone                 |               |             |
| 5.5.6 | Diamond-point chisel |               |             |
| 5.5.7 | Socket spanner       |               |             |
|       |                      | (7 × 1)       | (7)         |
|       |                      |               | <b>[20]</b> |
|       |                      | <b>TOTAL:</b> | <b>100</b>  |