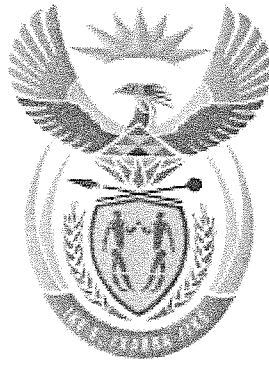
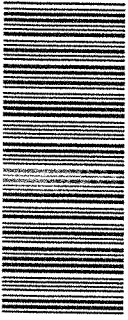


201304T243



higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T1220(E)(A10)T
APRIL EXAMINATION

NATIONAL CERTIFICATE

MOTOR TRADE THEORY N2

(1104662)

10 April 2013 (X-Paper)
09:00–12:00

Candidates will require drawing instruments.

This question paper consists of 4 pages.

**DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA
NATIONAL CERTIFICATE
MOTOR TRADE THEORY N2
TIME: 3 HOURS
MARKS: 100**

INSTRUCTIONS AND INFORMATION

1. Answer ALL the questions.
 2. Read ALL the questions carefully.
 3. Number the answers according to the numbering system used in this question paper.
 4. Write neatly and legibly.
-

QUESTION 1

- 1.1 Explain the term *engine running on*. (2)
- 1.2 Make a sectional drawing (line diagram) of a conventional ignition system and label ALL the parts. (8)
- 1.3 State the purpose and operation of the ignition coil. (4)
- 1.4 Explain the term *flat spot*, as applicable to carburettors. (2)
- 1.5 Name THREE carburettor circuits and state the purpose of each circuit. (6)
- [22]

QUESTION 2

- 2.1 Name THREE components of a suspension system and explain the function of each component. (6)
- 2.2 What is the function of a shock absorber in a motor vehicle? (2)
- 2.3 What gas is used in shock absorbers? (1)
- 2.4 Make a simple sketch of a semifloating rear axle unit. (6)
- 2.5 Name THREE types of drive axle unit that are used in motor vehicles. (3)
- [18]

QUESTION 3

- 3.1 Give the sequence of the power flow when the third gear is engaged in a four-speed synchromesh gearbox. (6)
- 3.2 Make a sketch of the cluster gear of a four-speed synchromesh gearbox, showing ALL the gears. (6)
- 3.3 Explain what is meant by a gear ratio of 0,8 : 1 and how this ratio is possible. (3)
- 3.4 State the function of the interlocking device as used in a gearbox. (3)
- 3.5 Name TWO types of gear used in gearboxes. (2)
- [20]

QUESTION 4

- 4.1 Make a simple, labelled sketch of a double-acting wheel cylinder used in the braking system. (8)
- 4.2 State TWO disadvantages of disc brakes. (2)
- 4.3 State THREE reasons for a spongy brake pedal. (3)
- 4.4 Name TWO types of disc brake callipers used in motor vehicles. (2)
- 4.5 State TWO reasons for the use of a tandem brake master cylinder. (2)
- 4.6 State THREE properties of a good brake fluid. (3)
- [20]**

QUESTION 5

- 5.1 Draw a sectional view of a modern constant velocity joint. (6)
- 5.2 Name THREE types of final drive found in motor vehicles. (3)
- 5.3 Name TWO disadvantages of the spur gear final drive. (2)
- 5.4 Explain the function of the pinion-bearing preload. (3)
- 5.5 State TWO advantages and TWO disadvantages of the torsion bar suspension system. (4)
- 5.6 What is the main function of the final drive assembly? (2)
- [20]**

TOTAL: 100