

**T1140(E)(M25)T
APRIL EXAMINATION**

NATIONAL CERTIFICATE

MOTOR TRADE THEORY N2

(11040662)

**25 March 2014 (Y-Paper)
13:00–16:00**

Candidates will require drawing instruments.

This question paper consists of 5 pages.

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.
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1.5 1.5.1 State THREE causes of fouling in a spark plug.

(2 x 1) (2)

1.5.2 Give a reason for each cause mentioned in QUESTION 1.5.1.

(2 x 3) (6)

[20]

QUESTION 2

2.1 State TWO functions of a gearbox.

(2)

2.2 Explain the following regarding a synchromesh unit:

2.2.1 The function

(1)

2.2.2 The operation

(5)

2.3 State TWO main causes for gears grating in a gearbox.

(2)

2.4 Explain the disadvantage of the conventional differential.

(3)

2.5 State THREE pre-checks should be performed on a differential before stripping it.

(3)

2.6 Give the main function of the pinion gear in a differential.

(2)

[18]

QUESTION 3

3.1 Explain, with the aid of THREE separate sketches, the following wheel alignment angles:

3.1.1 Toe-in

3.1.2 Negative camber

3.1.3 Castor angle

(3 x 3) (9)



FIGURE 1

- 3.3 Give TWO reasons for the oversteering of a vehicle. (4)
- 3.4 Name the THREE adjustments that can be made to a steering box. (2)
- 3.5 Explain the function of the drag link arm that is used in suspension systems. (3)

(2)
[20]

QUESTION 4

- 4.1 FIGURE 2 shows constant velocity (CV) joints and a Hooke's joint.

State THREE advantages of constant velocity (CV) joints over Hooke's joint.

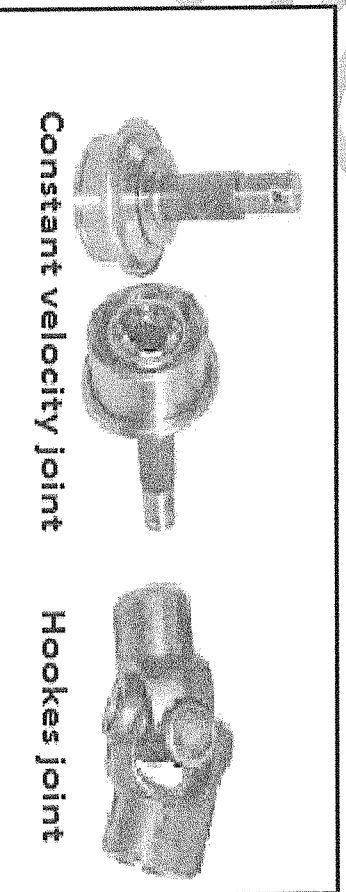


FIGURE 2

- 4.2 (3)
 - 4.2.1 What is the function of the damper unit (shock absorber)? (1)
 - 4.2.2 Name TWO types of damper units that are used in motor vehicles. (2)
- 4.3 State THREE differences between a torque tube drive and a Hotchkiss drive propeller shaft. (6)

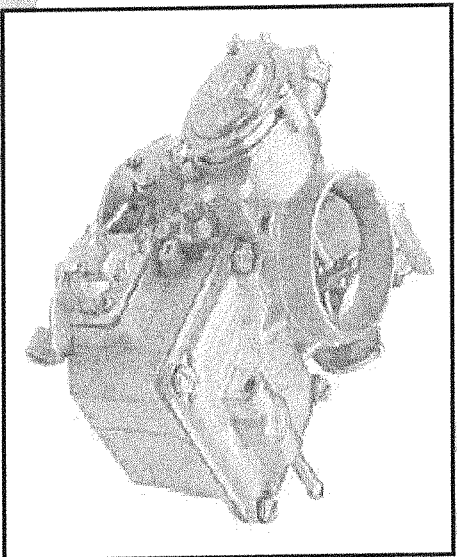


FIGURE 3

- (3)
- 5.2 State THREE adverse effects of a float setting on a carburettor that is too low. (3)
- 5.3 State THREE advantages of disc brakes.
- 5.3.1 State THREE advantages of disc brakes. (2 x 3) (6)
- 5.3.2 State THREE disadvantages of disc brakes. (2)
- 5.4 Give TWO reasons why brakes are dragging. (2)
- 5.5 Draw a neat, labelled sketch of a self-adjusting disc brake unit, showing the disc pads, disc and the piston. (4)
- 5.6 Discuss the hygroscopic property of brake fluid. (4)

(4)
[22]

TOTAL: 100