

# higher education & training

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

**T1150(E)(N12)T  
NOVEMBER EXAMINATION  
NATIONAL CERTIFICATE  
MOTOR TRADE THEORY N2**

(11040662)

**12 November 2014 (Y-Paper)  
13:00–16:00**

**This question paper consists of 5 pages.**

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

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**INSTRUCTIONS AND INFORMATION**

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

- 1.1 Name FIVE basic carburetor circuits. (5)
- 1.2 List FIVE defects a mechanic needs to check for when there is a lack of fuel in a carburetor float bowl. (5)
- 1.3 The function of a fuel pump is to deliver fuel from the fuel tank to the carburetor.  
List THREE tests that are carried out on a defective fuel pump. (3)
- 1.4 Draw a neat diagram of a Venturi system of a carburetor and label the air flow, venture, vacuum, petrol nozzle, air vent and petrol bowl in the diagram. (7)  
[20]

**QUESTION 2**

- 2.1 FIGURE 1 shows an Inner Constant Velocity (CV) joint. Label items A-F in your ANSWER BOOK.

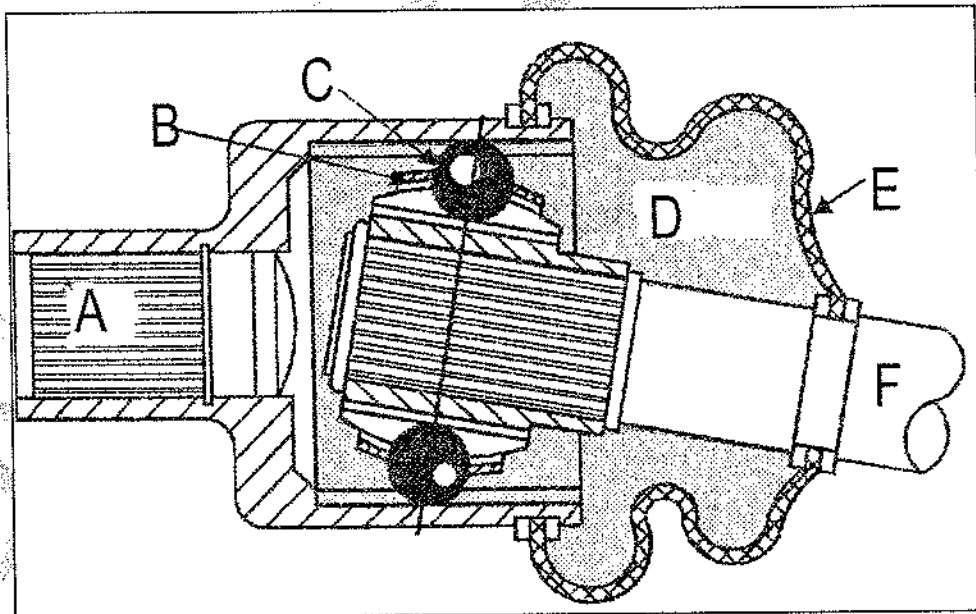


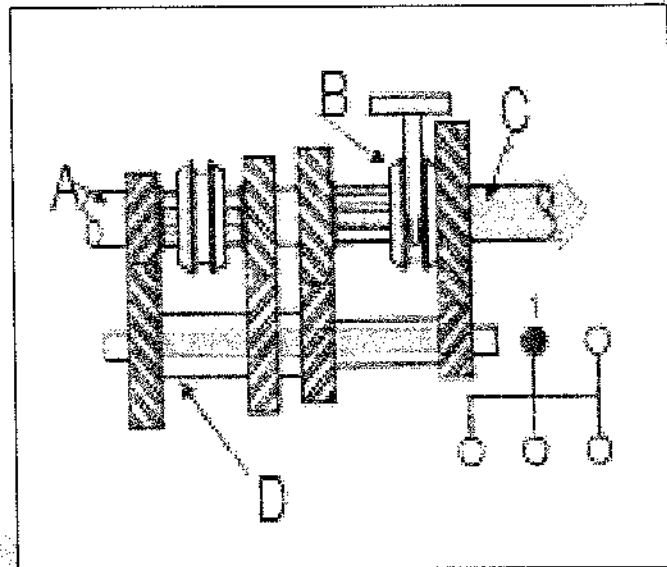
FIGURE 1

- 2.2 Name THREE types of final drives found on motor vehicles. (6)
- 2.3 During a test drive you notice that a customer's car has worn shock absorbers.  
List FOUR negative effects of worn shock absorbers on a motor vehicle. (4)

- 2.4 Explain the function of pinion-bearing preload. (3)
  - 2.5 List FOUR advantages of a torsion bar suspension system. (4)
- [20]**

**QUESTION 3**

3.1 FIGURE 2 shows a system of gears in mesh in the FIRST gear. Label items (A–D) in your ANSWER BOOK.



**FIGURE 2**

(4)

- 3.2 State the function of:
  - 3.2.1 Interlocking device (2)
  - 3.2.2 Gear selector rod (2)
  - 3.2.3 Reverse idler gear (2)
- 3.3 Name FIVE components of a suspension system. (5)
- 3.4 Define the term *unsprung mass* of a motor vehicle. (2)
- 3.5 List THREE functions of a final drive assembly. (3)

**[20]**

**QUESTION 4**

- 4.1 Explain the function of the vacuum servo unit as fitted to disc brakes. (4)
- 4.2 List FOUR disadvantages of disc brakes. (4)
- 4.3 Give TWO causes of dragging brakes. (2)
- 4.4 Explain, with the aid of a neat sketch, the self-adjusting action of disc brakes. (6)
- 4.5 Explain *self-energisation* when referring to drum brakes. (4)
- [20]

**QUESTION 5**

- 5.1 State the function of a condenser in an ignition system. (2)
- 5.2 Name the devices used to advance the ignition by stating the conditions under which each device works. (4)
- 5.3 With the aid of a simple sketch, explain the term *dwell angle*. (5)
- 5.4 State TWO functions of king pin inclination. (2)
- 5.5 Define *kerb mass* of a vehicle. (2)
- 5.6 List FIVE types of steering boxes. (5)
- [20]

**TOTAL: 100**