

- 7 The car requires a system of engine cooling.
- Give **three** functions of the engine cooling system. (3 marks)
 - Use a diagram to describe the operation of a simple liquid cooling system. (5 marks)
 - Explain why the engine of a driving school car could overheat during lessons and how this is counteracted by the cooling system. (2 marks)
 - Suggest reasons for the following **faults** in the cooling system:
 - engine overheating; (5 marks)
 - coolant loss. (5 marks)

END OF QUESTIONS

ASSESSMENT AND QUALIFICATIONS ALLIANCE
and
THE DRIVING INSTRUCTORS ASSOCIATION
June 2005



DIPLOMA IN DRIVING INSTRUCTION 0963/1
Module III: Vehicle Maintenance and Mechanical Principles

Wednesday 18 May 2005 9.00 am to 11.00 am

In addition to this paper you will require:

- a 12-page answer book;
- a pen, pencil and rubber;
- a ruler.

Time allowed: 2 hours

Instructions

- Answer **all** questions in the answer book provided.
- Do all rough work in the answer book. Cross through any work you do not want marked.

Information

- The maximum mark for this paper is 100.
- Mark allocations are shown in brackets.

Answer **all** questions.

- 1 There has been significant technical progress in vehicle design which has contributed to the safety and improvements of the following motor car components.

Discuss the factors involved in each of the following components:

- (a) tyres, steering and suspension; (11 marks)
- (b) brakes. (4 marks)
- 2 During normal running an engine breathes air.
- (a) Explain why the air that enters the engine must first be filtered. (4 marks)
- (b) List **three** types of air filter. (3 marks)
- (c) Describe the consequences of a dirty air filter. (3 marks)
- 3 It is important to ensure that a driving school car is well maintained.
- (a) Identify **three** reasons why a driving school should maintain its vehicles. (3 marks)
- (b) Describe the effects of 'stop-start' driving on a car's maintenance requirements. (3 marks)
- (c) What regular checks should be carried out on the dual controls? (6 marks)
- (d) The failure to maintain a vehicle according to the manufacturer's recommendations can have adverse consequences.
- State **three** likely consequences. (3 marks)
- (e) Suggest **five** basic replacement parts or tools that new drivers are advised to keep in the car. (5 marks)

- 4 The early identification of vehicle faults can prevent subsequent damage or breakdown.

Suggest reasons for the following faults:

- (a) excessive wear in the centre of a tyre; (1 mark)
- (b) there is an unusual thud or clunk on releasing the clutch pedal; (1 mark)
- (c) a spongy feel to the brakes; (1 mark)
- (d) excessive engine oil consumption; (2 marks)
- (e) activation of oil warning light when cornering; (1 mark)
- (f) noisy or difficult gear change. (4 marks)

- 5 Motor Vehicle Test Regulations require motor cars to be examined at an approved Ministry of Transport test centre.

- (a) Explain the purpose of the MOT test. (2 marks)
- (b) To which vehicles does the MOT test apply? (2 marks)
- (c) What are the major items inspected in the MOT test? (9 marks)
- (d) Give **two** methods of enforcing standards of roadworthiness. (2 marks)

- 6 The Transmission is an important system in a car.

- (a) What is its main purpose? (1 mark)
- (b) State the **three** major components of the transmission system and describe **two** purposes of each. (9 marks)

Turn over ►