
THERE ARE NO QUESTIONS PRINTED ON THIS PAGE

MIDDLESEX UNIVERSITY
and
THE DRIVING INSTRUCTORS ASSOCIATION
May 2009

DIPLOMA IN DRIVING INSTRUCTION (3009)
Module III: Vehicle Maintenance and Mechanical Principles

Wednesday 6 May 2009 9.30 am to 11.30 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 A driving instructor should always present the car in a professional manner.
- (a) List **five** vehicle checks instructors should carry out daily. (5 marks)
- (b) List **ten** additional vehicle checks instructors should carry out weekly. (10 marks)
- (c) Suggest **five** vehicle checks which should be carried out before and while driving in snow. (5 marks)
- 2 There are many features inside a vehicle which are designed to protect the occupants from impact.
- Discuss how these devices work and how they should make motor vehicles safer for vehicle occupants. (15 marks)
- 3 There have been many innovations and developments with motor vehicle fuel systems.
- (a) What are the ignition differences between petrol and diesel? (1 mark)
- (b) Explain the likely result if a driver puts petrol into a diesel engine or diesel into a petrol engine. (2 marks)
- (c) Discuss the advantages and disadvantages of Liquid Petroleum Gas (LPG) powered category B vehicles. (7 marks)
- 4 The engine lubrication system should be carefully maintained according to the manufacturer's recommendations.
- (a) Discuss the functions of oil and the faults that could occur to the engine as a result of poor maintenance. (10 marks)
- (b) Engine oil is given a rating such as 20W-40 or 10W-30. What does this mean and how would you choose the correct grade for your vehicle? (5 marks)

- 5 Most modern cars use an electronic ignition circuit.
- (a) Describe and label an electronic ignition circuit with the aid of a diagram. (7 marks)
- (b) What are the benefits of electronic ignition circuits over older electro-mechanical systems? (3 marks)
- 6 A newly qualified driver, who possesses little mechanical knowledge, has recently purchased a four-year-old car and is taking the family on a camping holiday in the UK. There is limited space for tools and spares.
- What advice and recommendations would you give regarding extra tools, spares and other essential equipment the driver should take in order to cope with any potential breakdown? (15 marks)
- 7 Vehicle maintenance, safety and security should be considered by a driving instructor.
- (a) What advice does the Highway Code give about warning displays? (5 marks)
- (b) Discuss the effects on a driving test and the driving instructor if a warning display came on during a driving test. (3 marks)
- (c) What are the other implications of inadequate maintenance to a driving instructor with particular reference to its effect on a driving school business? (6 marks)

END OF QUESTIONS