

THERE ARE NO QUESTIONS PRINTED ON THIS PAGE

MIDDLESEX UNIVERSITY
and
THE DRIVING INSTRUCTORS ASSOCIATION
May 2006

DIPLOMA IN DRIVING INSTRUCTION (3006)
Module III: Vehicle Maintenance and Mechanical Principles

Wednesday 10 May 2006 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 The engine lubrication system is an important system in a car.
- Describe the engine lubrication system. (3 marks)
 - What are the likely consequences of an ineffective lubrication system. (1 mark)
 - How does deterioration in the lubrication system occur? (3 marks)
 - Give **three** examples of how the lubrication system should be maintained. (3 marks)
- 2 The clutch in a manual vehicle is an integral part of the drive-train system.
- Using a simple diagram describe how the clutch works and its functions. (10 marks)
 - What faults might be noticed when operating the clutch and what might they mean? (10 marks)
- 3 Regular checks are necessary as preventative maintenance on a vehicle.
- List **five** checks which drivers should carry out daily. (5 marks)
 - List **ten** additional checks which drivers should carry out weekly. (10 marks)
 - Suggest **five** checks which should be carried out before and while driving in snow. (5 marks)
- 4 Most modern vehicles utilise an electronic ignition system.
- Describe the electronic ignition system. (7 marks)
 - What are the benefits of the electronic ignition system over electro-mechanical ignition systems? (3 marks)

- 5 There are other types of fuel systems as well as the petrol system.
- What are the ignition differences between a diesel engine and a petrol engine? (1 mark)
 - What are the results if a driver puts petrol into a diesel engine? (2 marks)
 - Discuss the advantages and disadvantages of electrically powered category B vehicles. (7 marks)
- 6 Regulations exist to enforce minimum standards of tyre safety.
- What are the minimum safety standards for tyres? (9 marks)
 - How are these standards checked by a driver? (4 marks)
 - What are the consequences of under-inflated tyres? (2 marks)
- 7 The early identification of vehicle faults can prevent subsequent damage or breakdown.
- Suggest reasons for the following faults:
- Engine performance is poor or reduced. (4 marks)
 - The car pulls to one side when the brakes are applied. (4 marks)
 - The engine overheats. (7 marks)

END OF QUESTIONS