



General Certificate of Secondary Education
2014

Centre Number

71

Candidate Number

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Motor Vehicle and Road User Studies

Unit 1: Motor Vehicle and Road User Theory

Higher Tier

[GMV12]

THURSDAY 5 JUNE, MORNING



For Examiner's use only	
Question Number	Marks
1–2	
3–4	
5	
6	
7–9	
10–13	
14–15	
16–17	
18–19	
20	
21–22	
23–24	
25	
26	
27	
28	
29	
30	
31	

TIME

2 hours.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
Answer **all** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 180.
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.
Quality of written communication will be assessed in questions 29, 30 and 31.

Total Marks	
--------------------	--

5 (a) Explain the following abbreviations.

DVA _____ [1]

MOT _____ [1]

(b) In N.I., all vehicles over _____ years old must have an MOT certificate. In England, all vehicles over _____ years old must have an MOT certificate. [2]

(c) Fig. 5.1 below shows a diagram of a car, with arrows indicating some components checked during an MOT inspection.

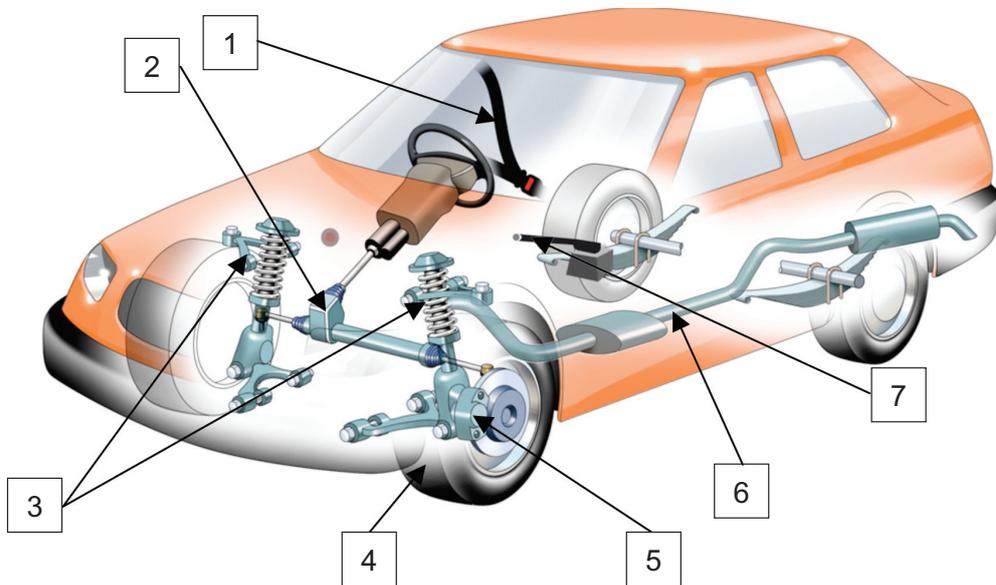


Fig. 5.1

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In the spaces provided, name the components numbered 1–7.

1. _____ [1]

2. _____ [1]

3. _____ [1]

4. _____ [1]

5. _____ [1]

6. _____ [1]

7. _____ [1]

Examiner Only	
Marks	Remark

6 Study the road signs below.

Give the meaning of each of the road signs Fig. 6.1 to Fig. 6.6 below, as given in the Highway Code.



Fig. 6.1



Fig. 6.2



Fig. 6.3



Fig. 6.4



Fig. 6.5



Fig. 6.6

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Fig. 6.1 _____ [1]

Fig. 6.2 _____ [1]

Fig. 6.3 _____ [1]

Fig. 6.4 _____ [1]

Fig. 6.5 _____ [1]

Fig. 6.6 _____ [1]

Examiner Only	
Marks	Remark

7 Describe briefly how a motorist can ensure that the tyres on a vehicle are maintained in the best possible condition with reference to:

(a) tread depth

 _____ [2]

(b) tyre damage

 _____ [2]

(c) tyre pressure

 _____ [2]

8 (a) Explain what is meant by “car sharing”.

 _____ [2]

(b) Give **two** reasons why car sharing is being encouraged.

 _____ [2]

9 Many motorway accidents occur on the hard shoulder.

(a) Give **one** example of when a driver can use the hard shoulder.

_____ [1]

(b) List **two** precautions a driver or his passengers should take if using the hard shoulder.

1. _____ [1]

2. _____ [1]

Examiner Only	
Marks	Remark

10 Suggest **two** reasons why roundabouts are used at major road junctions.

1. _____ [1]

2. _____ [1]

11 (a) List **two** ways in which driving can be affected by old age.

1. _____ [1]

2. _____ [1]

(b) List **two** tendencies in young drivers which could make them an insurance risk.

1. _____ [1]

2. _____ [1]

12 Name **two** penalties introduced in the Road Traffic (NI) Order 2007.

1. _____ [1]

2. _____ [1]

13 (a) If petrol costs £1.50/litre, calculate the cost of a journey if seven litres of petrol are used.

Answer _____ [1]

(b) Petrol and oil have to be mixed, in the ratio of 24:1, for a two stroke engine. If the fuel tank holds 30 litres, how much oil is required to mix with the petrol to fill the tank?

Answer _____ [2]

Examiner Only	
Marks	Remark

14

The diagram of a car suspension has been removed due to copyright restrictions.

Fig. 14.1

List the parts marked A–D on **Fig. 14.1** above.

A _____ [1]

B _____ [1]

C _____ [1]

D _____ [1]

15 (a) List **four** areas covered during an environmental assessment, when designing a new road.

1. _____ [1]

2. _____ [1]

3. _____ [1]

4. _____ [1]

(b) Choose **one** of your answers from (a) and describe briefly how road planners can deal with this issue.

(Ans. no. ____) _____

_____ [3]

Examiner Only	
Marks	Remark

- 18** A man wants to travel from A to B each day, Monday to Friday, to work. He is trying to work out the best option, taking cost and time into consideration.

A weekly return train ticket would cost £42.50 and would take 40 minutes plus 10 minutes walk to work.

Travel by car would involve 26 miles, each way, in a car which averages 36 miles to the gallon, and takes around 45 minutes, and he would have to pay £10 per week parking charge.

If fuel costs £5.85 per gallon, which option would you advise him to take and why?

(Show all working out)

Examiner Only	
Marks	Remark

Answer _____

[12]

19 Study the photographs Fig. 19.1 to Fig. 19.3.



Fig. 19.1

© CCEA

(a) Name **one** hazard for pedestrians in Fig. 19.1 above.

_____ [1]



Fig. 19.2

© CCEA

(b) Name the traffic management technique shown in Fig. 19.2 above.

_____ [1]

(c) Name **two** hazards a driver could face in Fig. 19.2 above.

1. _____ [1]

2. _____ [1]

Examiner Only	
Marks	Remark



Fig. 19.3

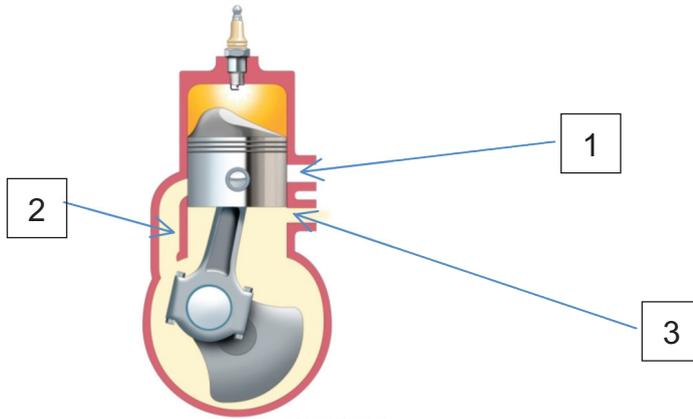
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(d) Name **two** hazards in **Fig. 19.3** above.

1. _____ [1]

2. _____ [1]

Examiner Only	
Marks	Remark



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Fig. 25.1

(a) Name the parts marked 1 to 3 in **Fig. 25.1** above.

- 1. _____ [1]
- 2. _____ [1]
- 3. _____ [1]

(b) Explain briefly why oil is added to the fuel in a two stroke engine.

 _____ [1]

(c) Suggest **one** advantage of a two stroke engine.

_____ [1]

Examiner Only	
Marks	Remark

26



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Fig. 26.1

The photograph in **Fig. 26.1** above shows a single track road. Write down three considerations a motorist should take into account when travelling on this road.

1. _____
 _____ [2]

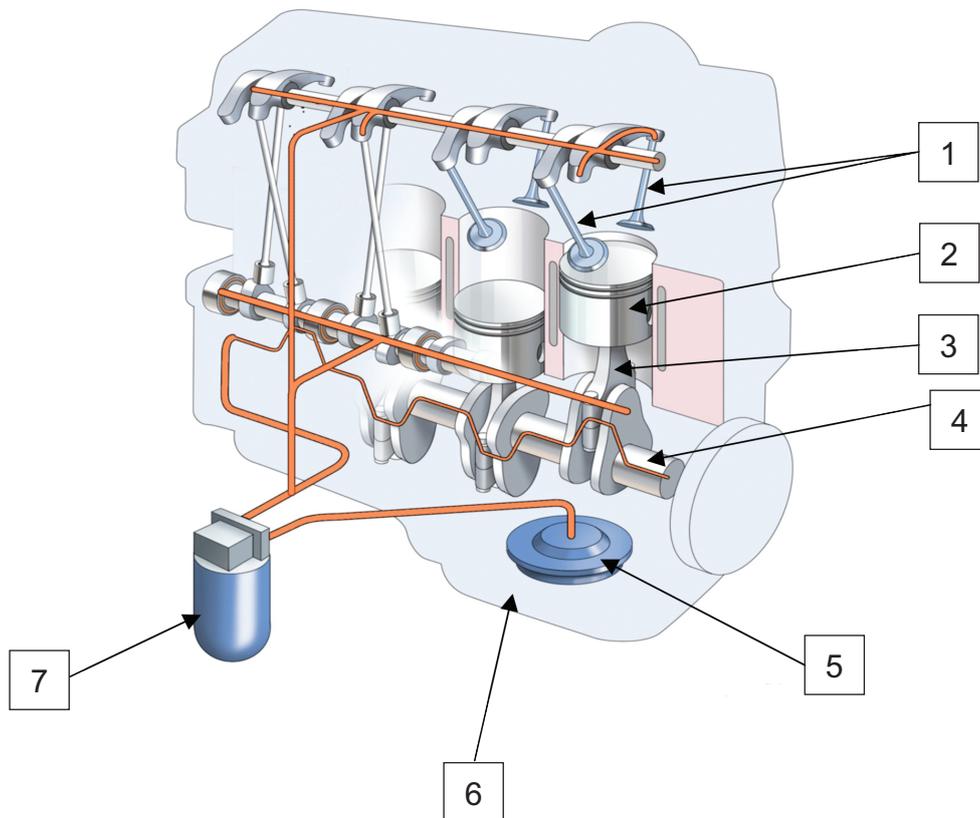
2. _____
 _____ [2]

3. _____
 _____ [2]

Examiner Only	
Marks	Remark

27 (a) What vehicle system does the diagram in Fig. 27.1 below show?

[1]



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Fig. 27.1

(b) Name the parts 1–7 in Fig. 27.1 above.

1. _____ [1]

2. _____ [1]

3. _____ [1]

4. _____ [1]

5. _____ [1]

6. _____ [1]

7. _____ [1]

(c) State **two** main reasons for the need for oil in a vehicle's engine.

_____ [2]

Examiner Only	
Marks	Remark

Source:

- Fig 5.1: MVRUS – ISBN 978-1-90-6578-31-2, (2009);
- Fig 6.1: Highway code booklet;
- Fig 6.2: Highway code booklet;
- Fig 6.3: Highway code booklet;
- Fig 6.4: Highway code booklet;
- Fig 6.5: Highway code booklet;
- Fig 6.6: Highway code booklet;
- Fig 14.1: www.howstuffworks.com/suspension, 2005;
- Fig 19.1: Photograph (PX);
- Fig 19.2: Photograph (PX);
- Fig 19.3: Photograph (PX);
- Fig 20.1: Google – Road hazards;
- Fig 20.2: Google – Road hazards;
- Fig 20.3: Google – Road hazards;
- Fig 25.1: MVRUS – ISBN 978-1-90-6578-31-2, (2009);
- Fig 26.1: www.autotrades.co.uk/editorial/hazards;
- Fig 28.1: www.uldrive.co.uk/hazards.htm;
- Fig 28.2: www.uldrive.co.uk/hazards.htm