



General Certificate of Secondary Education  
2013

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 16 MAY, MORNING



GMV12

For Examiner's use only

Question Number	Marks
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#### 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 **27**, **28** and **29**.

<b>Total Marks</b>	
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Answer **all** questions.

- 1 The road shown in **Fig. 1.1** below has no speed restrictions. What is the maximum permitted speed?

Answer \_\_\_\_\_ mph.

[1]



**Fig. 1.1**

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- 2 Give **one** reason why tyres have a tread pattern.

\_\_\_\_\_ [1]

- 3 (a) State the legal limit for alcohol in:

(i) breath

\_\_\_\_\_ micrograms per 100 ml. [1]

(ii) blood

\_\_\_\_\_ milligrams per 100 ml. [1]

- (b) Name **two** ways in which alcohol/drugs can impair a driver.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

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Marks	Remark

4 Primary road signs have \_\_\_\_\_ lettering on a \_\_\_\_\_ background.

[2]

5



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Fig. 5.1

(a) State the wording on the road sign you would expect to see when approaching the hazard shown in Fig. 5.1 above.

\_\_\_\_\_ [1]

(b) Explain the danger this hazard may cause a motorist.

\_\_\_\_\_  
 \_\_\_\_\_ [2]

Examiner Only	
Marks	Remark



8 Examine **Fig. 8.1** below.

Describe **two** hazards in the photograph.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]



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**Fig. 8.1**

9 (a) Name **three** secondary safety features found on modern cars.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

3. \_\_\_\_\_ [1]

(b) Name **two** ways in which motor vehicle pollution has been reduced or discouraged.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

Examiner Only	
Marks	Remark

(c) Examine **Fig. 9.1** below carefully.

Apart from ramps, name **one** traffic calming feature you would expect to find here.

\_\_\_\_\_ [1]



**Fig. 9.1**

© CCEA

**10 (a)** Name the **three** actions you should complete on arrival at an accident scene, in order of priority.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

3. \_\_\_\_\_ [1]

**(b)** At the scene of an accident, list **two** ways in which you could make a vehicle safe.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

Examiner Only	
Marks	Remark



12 Give the meaning of each of the road signs shown in Figs. 12.1–12.6 below, as stated in the Highway Code.



Fig. 12.1



Fig. 12.2



Fig. 12.3



Fig. 12.4

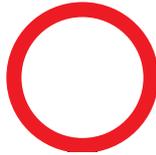


Fig. 12.5



Fig. 12.6

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Fig. 12.1 \_\_\_\_\_ [1]

Fig. 12.2 \_\_\_\_\_ [1]

Fig. 12.3 \_\_\_\_\_ [1]

Fig. 12.4 \_\_\_\_\_ [1]

Fig. 12.5 \_\_\_\_\_ [1]

Fig. 12.6 \_\_\_\_\_ [1]

13 (a) Explain briefly why the two second rule is important to road safety.

\_\_\_\_\_  
 \_\_\_\_\_ [1]

(b) Under what circumstances should the two second rule be increased?

\_\_\_\_\_  
 \_\_\_\_\_ [1]

Examiner Only	
Marks	Remark

14 (a) Explain briefly what a blind spot is.

\_\_\_\_\_ [1]  
\_\_\_\_\_

(b) Where, on a country road without a footpath, should a pedestrian walk?

\_\_\_\_\_ [1]

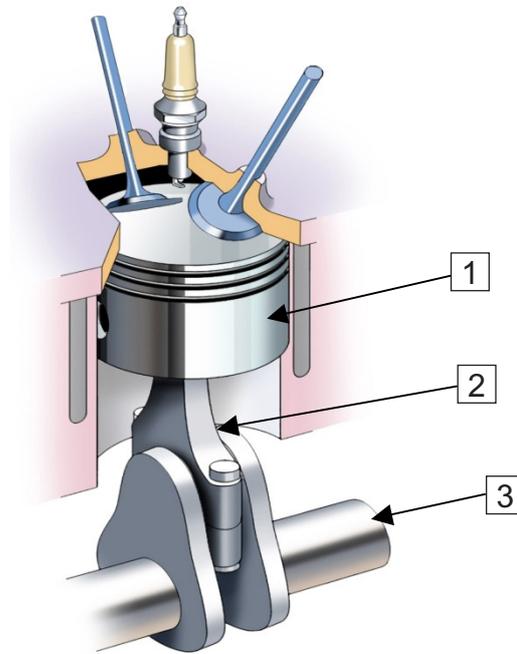
(c) Name **two** dangers which might be experienced when driving on rural roads.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

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Marks Remark



**Fig. 15.1**

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published by Colourpoint Books, 2009. ISBN 9781906578312

(a) Name the parts marked 1 to 3 in **Fig. 15.1** above.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

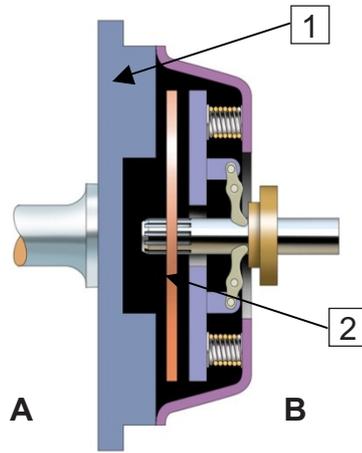
3. \_\_\_\_\_ [1]

(b) Explain briefly how linear motion is changed into circular motion in a car engine.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ [2]

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(c)



**Fig. 15.2**

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Name the parts marked 1 and 2 in **Fig. 15.2** above.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

(d) Explain briefly the function of a clutch.

\_\_\_\_\_  
 \_\_\_\_\_ [1]

(e) On which side of the clutch in **Fig. 15.2** would you expect to find the engine? Answer **A** or **B**.

\_\_\_\_\_ [1]

Examiner Only	
Marks	Remark

16 (a) Apart from resting the night before, list **two** ways **you** could prepare for a long car journey.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

(b) Apart from checking fuel, list **two** ways you could prepare **your vehicle** for a long journey.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

(c) Suggest **one** reason why speed limits are lower on single carriageway roads rather than on dual carriageways or motorways.

\_\_\_\_\_  
\_\_\_\_\_ [1]

Examiner Only	
Marks	Remark

17 (a) Label the parts of the diagram below.

Diagram removed due to copyright restrictions

Fig. 17.1

[6]

(b) What type of engine system is shown in **Fig. 17.1** above?

\_\_\_\_\_ [1]

(c) How is the crankshaft connected to the flywheel?

\_\_\_\_\_ [1]

(d) What is the main function of the top piston rings on a piston?

\_\_\_\_\_ [1]

(e) What is the name given to the bearing at the bottom of the connecting rod which the crankshaft runs through ?

\_\_\_\_\_ [1]

Examiner Only	
Marks	Remark

- 18** A motorist is calculating the cost of owning and running a modern family car (no MOT required). His expenses are summarised below. Calculate his monthly expenditure.

Road Tax	£190 pa.
Insurance	£648 pa.
Servicing, etc.	£360 pa.
Parking/cleaning	£20 per month
Fuel	18,000 miles pa. at an average of 36 mpg with fuel costing 135p/litre (1 gal= 4.55 litres)

Show all your working out.

Answer \_\_\_\_\_ [9]

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19



**Fig. 19.1**

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published by Colourpoint Books, 2009. ISBN 9781906578312

- (a) What is the common name given to the object shown in **Fig. 19.1** above?

\_\_\_\_\_ [1]

- (b) What property does the material used in this object have?

\_\_\_\_\_ [1]

- (c) How can this be useful to a driver?

\_\_\_\_\_ [1]

Examiner Only	
Marks	Remark

20 While motorways are considered to be the safest roads, they require some additional care.

(a) Explain briefly how a driver should act when joining a motorway.

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[3]

(b) If your vehicle breaks down on a motorway, list **three** actions you should take to maximise your safety.

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[3]

(c) Write down **two** types of vehicle which should not use the right-hand lane of a motorway with three or more lanes.

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[2]

(d) Write down **two** actions a driver must not take on a motorway.

---

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[2]

Examiner Only

Marks Remark



- 23 (a) A car costs £15,300. Calculate the monthly repayments over 36 months.

Answer \_\_\_\_\_ [1]

- (b) The buyer decides to make a 20% deposit to buy the car with repayments over 36 months. Calculate the monthly repayments.

Answer \_\_\_\_\_ [2]

Examiner Only	
Marks	Remark



24 (a) Name the parts marked 1 to 6 in Fig. 24.1 below.

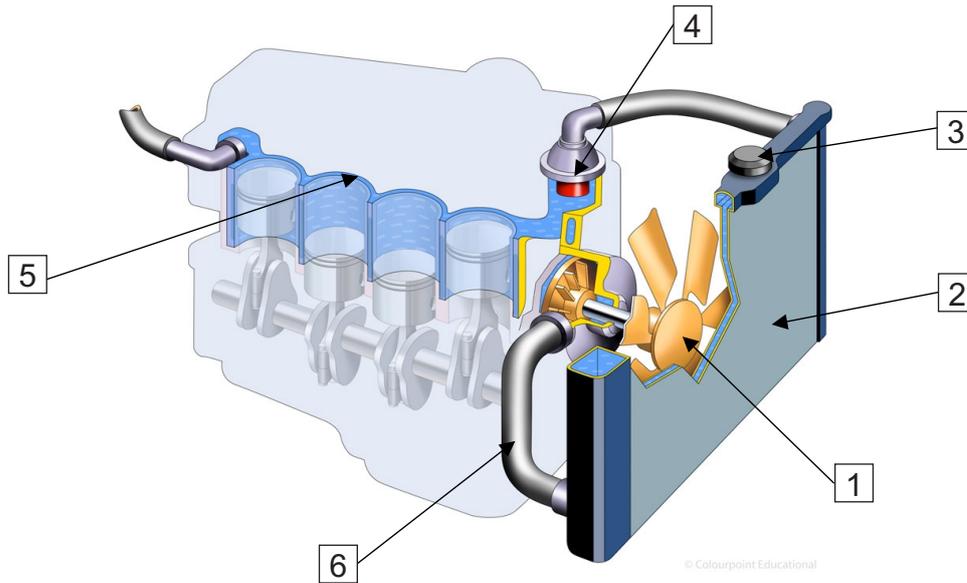


Fig. 24.1

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- 1. \_\_\_\_\_ [1]
- 2. \_\_\_\_\_ [1]
- 3. \_\_\_\_\_ [1]
- 4. \_\_\_\_\_ [1]
- 5. \_\_\_\_\_ [1]
- 6. \_\_\_\_\_ [1]

(b) Write down **two** problems which can occur in the water cooling system.

- 1. \_\_\_\_\_ [1]
- 2. \_\_\_\_\_ [1]

(c) Name another cooling system.

\_\_\_\_\_ [1]

(d) What type of vehicle would this be best suited to?

\_\_\_\_\_ [1]

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Marks	Remark

25 (a) In dealing with casualties at the scene of an accident, when should a casualty be placed in the “recovery position”?

\_\_\_\_\_ [2]  
\_\_\_\_\_

(b) Describe briefly how you would place a casualty in the “recovery position”.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [3]

Examiner Only	
Marks	Remark

26 (a) Write down **three** items of information found on a Vehicle Excise Licence.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

3. \_\_\_\_\_ [1]

(b) How is a Vehicle Excise Licence obtained and what items will you have to provide?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ [4]

(c) List **five** pieces of information contained on a vehicle registration document (V5).

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

3. \_\_\_\_\_ [1]

4. \_\_\_\_\_ [1]

5. \_\_\_\_\_ [1]

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Marks Remark









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**THIS IS THE END OF THE QUESTION PAPER**

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