

New  
Specification



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Centre Number	
71	

Candidate Number	
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General Certificate of Secondary Education  
2011

**Motor Vehicle and Road User Studies**  
Unit 1: Motor Vehicle and Road User Theory  
Higher Tier  
[GMV12]  
THURSDAY 19 MAY, MORNING



**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 **33, 34** and **35**.

For Examiner's use only	
Question Number	Marks
1–5	
6–11	
12–16	
17–20	
21–23	
24–25	
26–27	
28–29	
30–32	
33–35	
<b>Total Marks</b>	

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Answer **all** questions.

Examiner Only

Marks Remark

1 Name **one** adverse weather situation caused by the sun.

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

2 Name the **two** components to which the gudgeon pin is attached.

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

3 (a) Describe the main difference between a pelican crossing and a zebra crossing.

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

(b) Name **two** engineering methods which could help a partially sighted or a hard of hearing pedestrian using a pelican crossing.

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

4 Apart from Fire and Rescue, name **one** other emergency service you could request when dialling 999.

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

5 When should a front passenger airbag be switched off?

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

6 (a) Park and Ride schemes help to ease congestion in cities. Suggest **two** benefits of such schemes.

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

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

(b) Give **two** reasons why it makes sense to car share.

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

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

7 Name **two** standing costs when owning a motor vehicle.

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

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

8 (a) Apart from cost, what is the main difference between third party and fully comprehensive insurance?

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

(b) In motoring insurance, who is referred to as the 'proposer'?

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

9 Give the meaning of the following initials:

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

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

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

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Remark

**10** Find a phrase in Group B to complete each sentence in Group A below.  
Place a circle around your answer.

Group A

- |                                       |           |     |
|---------------------------------------|-----------|-----|
| 1. The inlet manifold connects the    | a b c d e | [1] |
| 2. The universal joint connects the   | a b c d e | [1] |
| 3. The high tension lead connects the | a b c d e | [1] |
| 4. The negative lead connects the     | a b c d e | [1] |
| 5. The big end bearing connects the   | a b c d e | [1] |

Group B

- a battery to the car body
- b crankshaft to the connecting rod
- c carburettor to the cylinder head
- d drive shaft to the differential
- e distributor to a spark plug

**11 (a)** How far would a vehicle travel in forty minutes at a steady speed of 30 mph?

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

**(b)** What is the average speed of a car which travels 69 miles in one and a half hours?

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

Examiner Only	
Marks	Remark

12 Examine **Fig. 12.1** below carefully.



**Fig. 12.1**

Describe **two** hazards in **Fig. 12.1**.

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

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

13 (a) Explain briefly why a vehicle on a motorway might require a police escort.

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

(b) Name **three** differences between a motorway and a dual carriageway.

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

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

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

(c) On a motorway, when would it be necessary for a driver to use a lifesaver check?

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

Examiner Only	
Marks	Remark

**14 (a)** Name **two** places where you must not stop and park.

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

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

**(b)** Write down **two** situations when a motorist should drive with dipped headlights on during the day.

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

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

**15** What should a driver do if he/she approaches a junction normally controlled by traffic signals and finds that the signals are not working?

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

**16** Explain briefly the meaning of the following terms in connection with buying a car.

**(a)** straight sale \_\_\_\_\_  
 \_\_\_\_\_

**(b)** APR \_\_\_\_\_  
 \_\_\_\_\_

**(c)** vehicle under warranty \_\_\_\_\_  
 \_\_\_\_\_ [6]

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Marks	Remark





20 Fig. 20.1 below shows a cattle grid.



© Learn to Drive by Robert Davies, page 149, published by Haynes Publishing, 2005. ISBN 9781844253067

Fig. 20.1

(a) What danger does this present to a motorcyclist?

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

(b) Write down **one** other hazard which may be on the road ahead.

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

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Marks	Remark

**21** Joe is eighteen years old and has been driving for one year. He drives a 1.6 L fuel injected, turbo powered two door saloon car which does 0–60 mph in 7.4 secs.

Sarah is thirty five years old and has been driving for seventeen years. She drives a 1.1 L fuel injected four door saloon which does 0–60 mph in 13 secs.

They both need third party, fire and theft insurance from the same company.

**(a)** Who pays more for insurance?

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

**(b)** Who would most need a higher excess?

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

**(c)** Who would be a greater risk for the insurance company?

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

**(d)** Who would most likely have a no claims discount?

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

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Marks	Remark

22 Give the meaning of each of the road signs shown in Figs 22.1–22.6 below, as shown in the Highway code.



Fig. 22.1



Fig. 22.2



Fig. 22.3



Fig. 22.4



Fig. 22.5



Fig. 22.6

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Fig. 22.1 \_\_\_\_\_ [1]

Fig. 22.2 \_\_\_\_\_ [1]

Fig. 22.3 \_\_\_\_\_ [1]

Fig. 22.4 \_\_\_\_\_ [1]

Fig. 22.5 \_\_\_\_\_ [1]

Fig. 22.6 \_\_\_\_\_ [1]

23 (a) State **three** ways in which you could make an accident scene safe.

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

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

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

(b) Explain what is meant by 'the B. B. C. of First Aid'.

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

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

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

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Marks	Remark

24 Examine **Fig. 24.1** below carefully.



**Fig. 24.1** © Crown copyright

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Marks	Remark

**(a)** Where would this sign be found?

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

**(b)** Why would this sign be used there?

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

25 (a) Vehicles over a certain age require an MOT test.  
After how many years is this required in:

Northern Ireland? \_\_\_\_\_ [1]

Great Britain? \_\_\_\_\_ [1]

(b) Write down **two** situations in Northern Ireland where a vehicle may be legally driven on the road after failing an MOT test.

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

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

(c) Write down **four** items of equipment on a car that are tested in an MOT test in Northern Ireland.

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

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

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

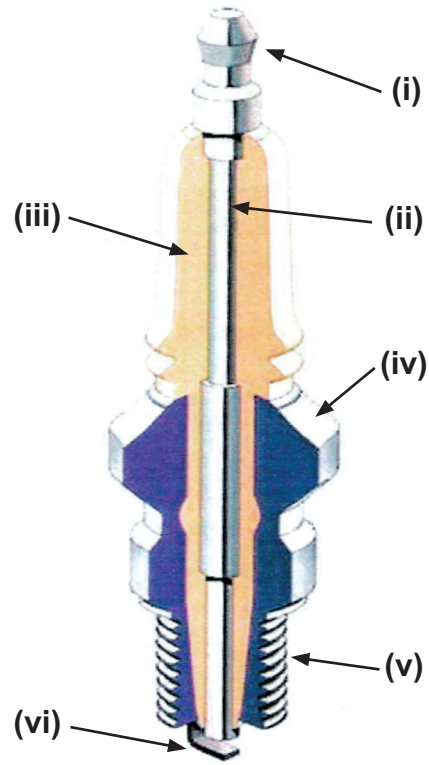
4. \_\_\_\_\_ [1]

(d) Write down **one** reason why vehicles must have an annual MOT test.

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

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[Turn over



**Fig. 26.1**

© Motor Vehicle & Road User Studies by E McPolin, published by Colourpoint Books, 2009. ISBN 9781906578312

**(a)** Fig. 26.1 above shows a spark plug. Name the parts **(i)–(vi)**.

- (i) \_\_\_\_\_ [1]
- (ii) \_\_\_\_\_ [1]
- (iii) \_\_\_\_\_ [1]
- (iv) \_\_\_\_\_ [1]
- (v) \_\_\_\_\_ [1]
- (vi) \_\_\_\_\_ [1]

**(b)** Write down the main function of the spark plug.

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

**(c)** Approximately what voltage is required by the spark plug?

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

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Marks	Remark

(d) What component produces this voltage?

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

(e) Explain how the condition of a spark plug can be checked.

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

27



Fig. 27.1  
© The AA

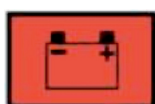


Fig. 27.2  
© The AA



Fig. 27.3  
© The AA



Fig. 27.4  
© Driving-Test-Success.com

Figs 27.1–27.4 show some common dashboard lights.

For each light identify the warning being given.

Fig. 27.1 \_\_\_\_\_ [1]

Fig. 27.2 \_\_\_\_\_ [1]

Fig. 27.3 \_\_\_\_\_ [1]

Fig. 27.4 \_\_\_\_\_ [1]

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Marks	Remark

28 There are several types of transport. Choose **two** different types and outline the advantages and disadvantages of each.

1. Type of transport \_\_\_\_\_ [1]

Advantages \_\_\_\_\_

\_\_\_\_\_

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

Disadvantages \_\_\_\_\_

\_\_\_\_\_

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

2. Type of transport \_\_\_\_\_ [1]

Advantages \_\_\_\_\_

\_\_\_\_\_

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

Disadvantages \_\_\_\_\_

\_\_\_\_\_

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

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29 (a) Name the parts marked (i), (ii) and (iii) in Fig. 29.1 below.

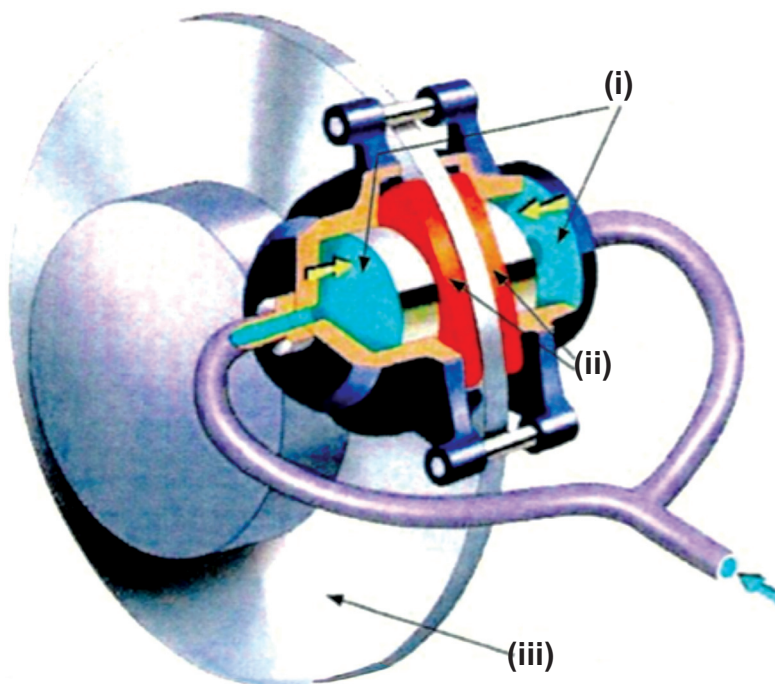


Fig. 29.1

© Motor Vehicle & Road User Studies by E McPolin, published by Colourpoint Books, 2009. ISBN 9781906578312

(i) \_\_\_\_\_ [1]

(ii) \_\_\_\_\_ [1]

(iii) \_\_\_\_\_ [1]

(b) Explain the purpose of the following parts of the braking system.

Brake master cylinder

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

Slave/Wheel cylinder

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

Brake pipes

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

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Marks	Remark

(c) Explain how an ABS (Anti-lock Braking System) functions.

\_\_\_\_\_

\_\_\_\_\_

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

30 (a) With reference to vehicle costs, explain what is meant by the term 'depreciation'.

\_\_\_\_\_

\_\_\_\_\_

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

(b) List **three** 'additional costs' which can add to the expense of owning a vehicle.

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

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

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

31 (a) Write down **three** places where a motorist must not overtake.

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

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

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

(b) For one of your answers in part (a), give **two** reasons why it is against the law to overtake.

1. \_\_\_\_\_

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

2. \_\_\_\_\_

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

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(c) Explain why it is unsafe to increase your speed when being overtaken.

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

(d) Explain what a motorist should do if he is being followed too closely by another motorist.

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

(e) Write down **two** situations when a driver is permitted to drive on the right hand side of the road.

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

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

32 (a) Explain briefly how road and weather conditions may contribute to 'aquaplaning'.

1. Road conditions \_\_\_\_\_  
\_\_\_\_\_ [2]

2. Weather conditions \_\_\_\_\_  
\_\_\_\_\_ [2]

(b) What should a motorist do to ensure that the condition of his car does not contribute to 'aquaplaning'?

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

(c) What should a driver do if he finds that his vehicle is aquaplaning?

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

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Marks	Remark





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[12]

35 'Educating road users in road safety should be a major priority before allowing them to drive any vehicle on the road.' Discuss this statement with reference to possible and existing methods of educating road users. Make reference in your answer to the bodies responsible for the delivery of road safety.

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