



General Certificate of Secondary Education  
2016

Centre Number

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Candidate Number

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# Motor Vehicle and Road User Studies

Unit 1: Motor Vehicle and Road User Theory

Foundation Tier

[GMV11]

**MONDAY 16 MAY, AFTERNOON**



\*GMV11\*

## TIME

1 hour 30 minutes.

## INSTRUCTIONS TO CANDIDATES

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

**You must answer the questions in the spaces provided.**

**Do not write outside the boxed area on each page or on blank pages.**

Complete in blue or black ink only. **Do not write with a gel pen.**

Answer **all** questions.

## INFORMATION FOR CANDIDATES

The total mark for this paper is 120.

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 **40** and **41**.



## Section A

Answer **all** questions.

- 1 \_\_\_\_\_ lights should only be used when the vehicle is stopped and temporarily causing an obstruction. [1]
- 2 On motorways, \_\_\_\_\_ reflective studs mark the left hand edge of the carriageway. [1]
- 3 The shortest stopping distance in metres (feet), of an average family car travelling at 20 mph on a dry road with good tyres and brakes is \_\_\_\_\_ [1]
- 4 Direction signs on primary routes have white borders on a \_\_\_\_\_ background. [1]
- 5 Which one of the following is not regarded as an aspect of traffic management?  
Letter \_\_\_\_\_ [1]

A	B	C	D	E
One-way streets	Waiting restrictions	Roundabouts	Pedestrianisation	Seatbelt regulations



6 What does the P stand for in the abbreviation PCV?  
\_\_\_\_\_ carrying vehicle. [1]

7 Autostrada is a type of \_\_\_\_\_ . [1]

8 The national speed limit in Northern Ireland in MPH is \_\_\_\_\_ . [1]

9 \_\_\_\_\_ , Enforcement and Education are three main methods used to help reduce road accidents. [1]

10 Fig. 10.1 below shows road signs referred to in the Highway Code as \_\_\_\_\_ markers. [1]



Fig. 10.1

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11 The legal tread depth for tyres on a car is \_\_\_\_\_ . [1]

[Turn over



- 12 Each year your insurance premium will be reduced if you do not make a claim.  
This is known as your \_\_\_\_\_ . [1]
- 13 \_\_\_\_\_ winds mainly affect motorists and cyclists on open roads and bridges. [1]
- 14 The four main costs associated with owning a vehicle are purchasing costs, \_\_\_\_\_ costs, running costs and additional costs. [1]
- 15 A car costs £12,000. Sean decides to pay £350 a month for three years. How much extra will Sean pay for the car? £ \_\_\_\_\_ . [1]
- 16 When dealing with casualties at the scene of an accident, the first priority is to make sure that they are \_\_\_\_\_. [1]
- 17 The oil filter and sump are part of the vehicle's \_\_\_\_\_ system. [1]



18 Fig. 18.1 shows the main parts of a vehicle's \_\_\_\_\_.

[1]

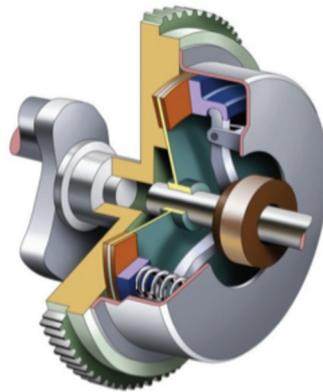


Fig. 18.1

© Motor Vehicle and Road User Studies for CCEA GCSE by Eamonn McPolin.  
(ISBN: 9781906578312) Published by Colourpoint Educational, 2009.

19 The \_\_\_\_\_ engages with the starter motor and is bolted to the crankshaft.

[1]

20 The handbrake is part of the mechanical braking system and normally operates on the \_\_\_\_\_ wheels.

[1]



## Section B

Answer **all** questions.



**Fig. 21.1**

© Principal Examiner

**21** Study the photograph in **Fig. 21.1** above. Which three letters are used to refer to this type of vehicle? \_\_\_\_\_ [1]

**22** State the only time when a mobile phone can be used legally in a vehicle.

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



23 Examine the warning sign in **Fig. 23.1** below.



**Fig. 23.1**

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(a) Which bend will the motorist meet first, the left or the right?

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

(b) State **one** action a motorist should take on seeing the sign in **Fig. 23.1**.

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

24 Study the photographs in **Fig. 24.1** and **Fig. 24.2** below.



**Fig. 24.1**

© Principal Examiner



**Fig. 24.2**

© Principal Examiner

Explain briefly why the driver in **Fig. 24.1** and the rider in **Fig. 24.2** have placed an extra mirror on their overtaking mirror.

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



25 Explain briefly what is meant by the following:

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

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

26 (a) Following a non-injury accident name **two** actions each driver must take.

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

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

(b) Name the type of insurance which offers the most cover or protection.

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

(c) Name **one** disadvantage of this type of cover.

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

(d) How can a seat belt exemption be acquired?

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

(e) Name **two** types of child restraint which can be legally used in a car.

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

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





Fig. 27.1

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27 Examine the Highway Code sign in Fig. 27.1 above.

Name **one** place, apart from a railway level crossing, where you would find this sign.

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

28 (a) Name **two** exhaust gases which are monitored for air quality.

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

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

(b) Where would you expect to find high concentrations of these gases?

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

29 (a) Name **one** advantage and **one** disadvantage of a hybrid car.

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

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

(b) State **two** reasons why hybrid cars are being developed and produced.

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

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

[Turn over



30 (a) The organ which removes alcohol from the body is the \_\_\_\_\_ . [1]

(b) How long does it take for one unit of alcohol to be removed from the body?  
\_\_\_\_\_ [1]

(c) Name **two** minimum sentences which a court can impose on a driver convicted of having excess alcohol.

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

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

31 (a) Explain the meaning of the word “passive” in relation to seat belts.  
\_\_\_\_\_ [1]

(b) Apart from seat belts, name **three** secondary safety devices found on a motor vehicle.

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

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

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

(c) What action must a driver take if there is a rear facing baby seat positioned in the front passenger seat of the car?  
\_\_\_\_\_ [1]



**32** Study the road signs below.

Explain the meaning of each of the road signs in **Fig. 32.1** to **Fig. 32.6** below.



**Fig. 32.1**



**Fig. 32.2**



**Fig. 32.3**



**Fig. 32.4**



**Fig. 32.5**



**Fig. 32.6**

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**Fig. 32.1** \_\_\_\_\_ [1]

**Fig. 32.2** \_\_\_\_\_ [1]

**Fig. 32.3** \_\_\_\_\_ [1]

**Fig. 32.4** \_\_\_\_\_ [1]

**Fig. 32.5** \_\_\_\_\_ [1]

**Fig. 32.6** \_\_\_\_\_ [1]



**33 (a)** The recovery position should only be used when the patient is unconscious and \_\_\_\_\_ . [1]

**(b)** List below the order of priorities when treating casualties at an accident scene.

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

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

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

**(c)** The common name for a contused wound is \_\_\_\_\_ . [1]

**34** Explain briefly why having poor peripheral vision would be a disadvantage to a driver.

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



35 Study the photograph in Fig. 35.1 below.



Fig. 35.1

© Principal Examiner

Explain why a traffic light is suspended over the centre of the carriageway.

[1]



36 (a) Name **one** advantage of borrowing money to buy a car.

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

(b) Apart from a bank loan, name **two** sources of credit to finance the purchase of a car.

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

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

(c) Name **two** standing costs associated with motoring.

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

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

(d) Calculate the total cost of borrowing £5,000 repaid over three years at an APR of 12%.

£ \_\_\_\_\_ [2]



37 (a) State the common name for a compression ignition engine.

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

(b) Explain briefly how fuel can be ignited by compression only.

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

(c) Name the component which

1. changes the up/down movement of the piston into circular motion

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

2. closes the valves in a four-stroke engine

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

3. forces the coolant to circulate around the engine

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

(d) In which vehicle system would you find a pressure plate?

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

[Turn over



38 (a) Match the components **A** to **D** below to their component systems.

Components

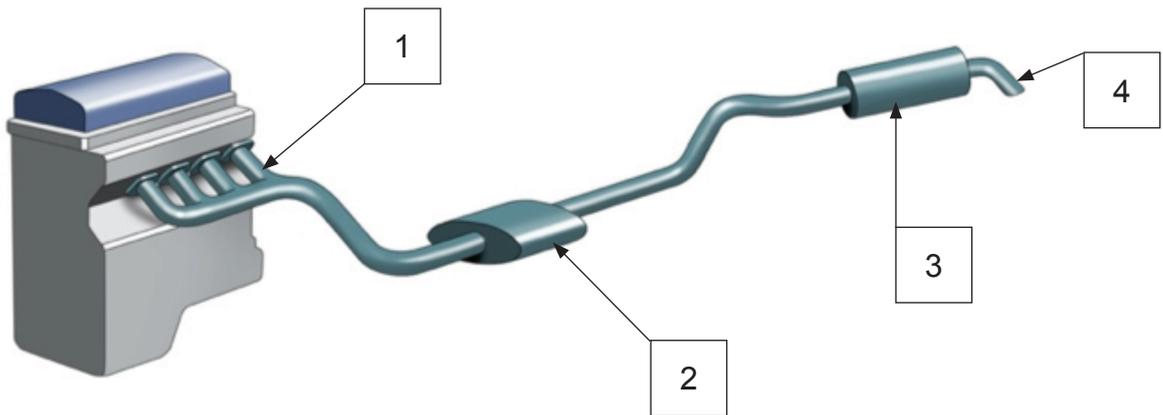
- A** manifold
- B** thermostat
- C** master cylinder
- D** solenoid

Component systems

- 1. braking system \_\_\_\_\_ [1]
- 2. cooling system \_\_\_\_\_ [1]
- 3. electrical system \_\_\_\_\_ [1]
- 4. exhaust system \_\_\_\_\_ [1]

(b) Name the parts labelled 1–4 in **Fig. 38.1** below.

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



**Fig. 38.1**

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(ISBN: 9781906578312) Published by Colourpoint Educational, 2009.



(c) What is the main function of baffles in a silencer box?

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

(d) Name **two** checks which can be carried out on a vehicle's exhaust system.

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

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

(e) Explain what is meant by a compression ratio of 8:1 in an engine.

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

[Turn over



39 Study the Highway Code signs in Fig. 39.1 and Fig. 39.2 below.

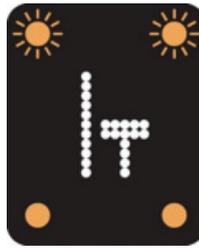


Fig. 39.1

© Crown copyright 2015. The Official Highway Code for Northern Ireland prepared by the Department for Infrastructure. <https://www.nidirect.gov.uk/content/crown-copyright>

(a) (i) What is the message displayed on the motorway sign in Fig. 39.1 above?

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

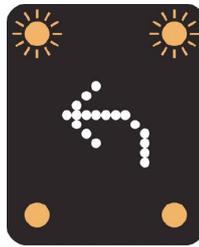


Fig. 39.2

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(ii) What should a driver do on seeing the motorway sign in Fig. 39.2 above?

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

(b) Describe briefly how you would join a motorway.

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

(c) Name **two** vehicles not permitted on a motorway.

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

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



(d) Name **two** vehicles not permitted to use the third lane of a three lane motorway.

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

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

(e) Explain briefly how to overtake on a motorway.

\_\_\_\_\_

\_\_\_\_\_

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

40 Explain why motorways are safer than other roads.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ [6]

[Turn over



41 Describe how vehicles, driver training and experience can make a contribution to road safety.

Vehicles

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Driver Training

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Experience

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[12]





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For Examiner's use only	
Question Number	Marks
1–11	
12–20	
21–24	
25–29	
30–32	
33–35	
36–37	
38	
39–40	
41	

<b>Total Marks</b>	
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