



Rewarding Learning

General Certificate of Secondary Education
2016

Centre Number

--	--	--	--	--

Candidate Number

--	--	--	--	--

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

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

- 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]

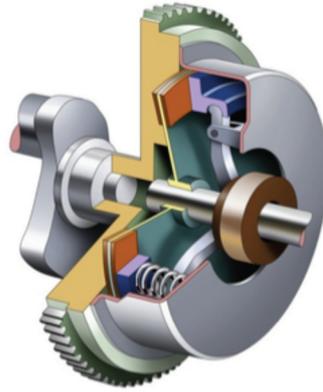


Fig. 18.1

© 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]

[Turn over



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

© 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) 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

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

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

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

Fig. 32.1 _____ [1]

Fig. 32.2 _____ [1]

Fig. 32.3 _____ [1]

Fig. 32.4 _____ [1]

Fig. 32.5 _____ [1]

Fig. 32.6 _____ [1]

[Turn over



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]

[Turn over



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]

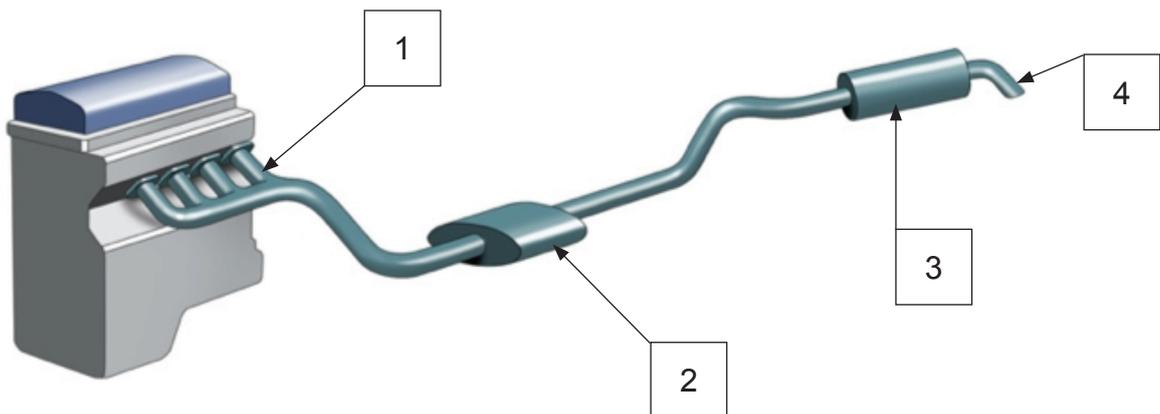


Fig. 38.1

© Motor Vehicle and Road User Studies for CCEA GCSE by Eamonn McPolin.
(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]



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

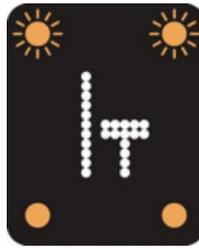


Fig. 39.1

© 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]

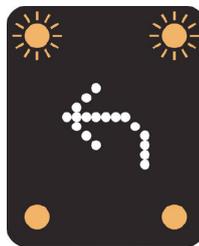


Fig. 39.2

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

(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

Driver Training

Experience

[12]





BLANK PAGE
DO NOT WRITE ON THIS PAGE

9912.07 R



24GMV1121

BLANK PAGE
DO NOT WRITE ON THIS PAGE

9912.07 R



24GMV1122





BLANK PAGE
DO NOT WRITE ON THIS PAGE

9912.07 R



24GMV1123

DO NOT WRITE ON THIS PAGE

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	

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

Examiner Number

Permission to reproduce all copyright material has been applied for.
In some cases, efforts to contact copyright holders may have been unsuccessful and CCEA will be happy to rectify any omissions of acknowledgement in future if notified.

9912.07 R



24GMV1124