



Rewarding Learning

General Certificate of Secondary Education

Centre Number

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Motor Vehicle and Road User Studies

Unit 1: Motor Vehicle and Road User Theory



[GMR11]

GMR11

Assessment

TIME

1 hour 45 minutes.

Assessment Level of Control:

Tick the relevant box (✓)

Controlled Conditions	
Other	

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 black ink only. **Do not write with a gel pen.**

Answer **all** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 160.

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 **44, 45 and 46.**



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Answer **all** questions

1 Which **one** of the following is not regarded as an aspect of traffic calming?

Letter _____ [1]

A	B	C	D	E
Gateways	Speed cushions	Horizontal deflections	Roundabouts	Road narrowing

2 An "Autobahn" is the name given to a motorway in _____ . [1]

3 Stop, look and listen are pieces of advice given in the _____
_____. [1]

4 Red-coloured road studs identify _____ . [1]

5 Standing water, worn tyres and excess speed will cause a car to
_____. [1]

[Turn over



6 The following vehicle markings are examples of _____ plates. [1]



Fig. 6.1

7 The legal limit for a drink-driving offence is _____ mg of alcohol per 100 ml of urine. [1]

8 The speed limit for a goods vehicle exceeding 7.5 tonnes on a single carriageway is _____ mph. [1]

9 What does the arm signal in Fig. 9.1 below indicate? [1]



Fig. 9.1



10 What abbreviation is used to describe the type of vehicle shown in **Fig. 10.1** below?

[1]



Fig. 10.1

11 The legal tread depth for tyres on a motorcycle is _____ mm.

[1]

12 Jet style, open face and full face are all types of _____ . [1]

13 In what decade were the first motorways in the UK designed and built?

[1]

14 Fuel, oil, tyres, servicing and repairs are examples of
vehicle _____ costs.

[1]

[Turn over



15 A car bought for £16,500 and sold three years later for £9,000 had an average annual depreciation of £ _____ . [1]

16 When a casualty stops breathing, it takes approximately _____ minutes for brain damage or death to occur. [1]

17 Fig. 17.1 below shows the main parts of the _____ cycle. [1]

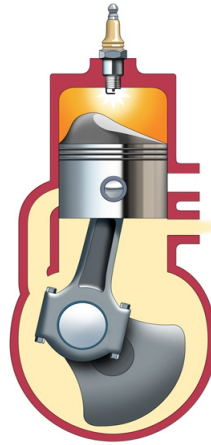


Fig. 17.1

18 Connecting rods join the _____ to the crankshaft. [1]

19 Electrolyte is found in the _____. [1]

20 The _____ allows the vehicle to operate at the optimum temperature. [1]



Vehicle Control and Road User Behaviour

21 Where would you see the sign in Fig. 21.1 below?

[1]

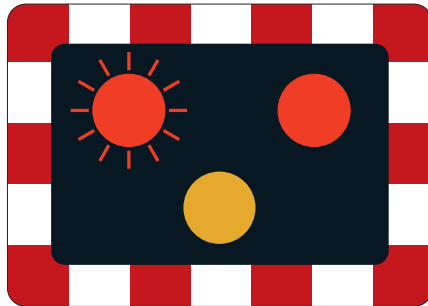


Fig. 21.1

22 What is the purpose of traffic calming?

[1]

23 Fig. 23.1 and Fig. 23.2 below show two types of road sign. Identify each type.

Fig. 23.1 _____ [1]

Fig. 23.2 _____ [1]



Fig. 23.1

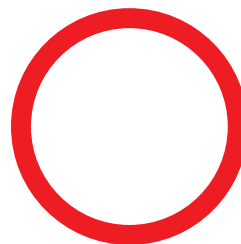


Fig. 23.2

[Turn over



24 Complete the traffic sign in **Fig. 24.1** below to show “no right turn”.

[2]

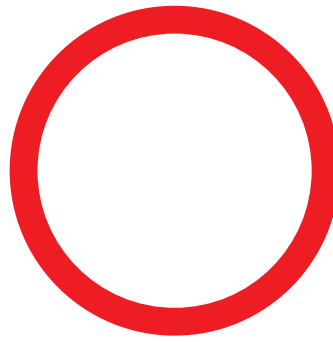


Fig. 24.1

25 To whom do the marked vehicles in **Figs 25.1–25.3** belong?

Fig. 25.1 _____ [1]

Fig. 25.2 _____ [1]

Fig. 25.3 _____ [1]

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Copyright restrictions.

Fig. 25.1

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Copyright restrictions.

Fig. 25.2

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Copyright restrictions.

Fig. 25.3

26 What is the meaning of each of the following abbreviations?

1. PCV _____ [1]

2. VED _____ [1]

3. MOT _____ [1]



27 (a) Figs 27.1–27.4 below show four examples of road hazards. For each photograph, state **one** possible danger for motorists.



Fig. 27.1



Fig. 27.2



Fig. 27.3



Fig. 27.4

Fig. 27.1 _____
_____ [1]

Fig. 27.2 _____
_____ [1]

Fig. 27.3 _____
_____ [1]

Fig. 27.4 _____
_____ [1]

[Turn over



(b) Give **one** reason why two cars meeting under the bridge in **Fig. 27.5** should reduce their speed.

[1]



Fig. 27.5

28 The police have a general right to stop motor vehicles.

(a) Write down **three** occasions when a police officer may stop a motor vehicle.

1. _____ [1]

2. _____ [1]

3. _____ [1]

(b) The police can require a driver to produce certain documents. Name **two** documents.

1. _____ [1]

2. _____ [1]



29 Name **four** checks carried out to prepare a car for winter driving.

1. _____ [1]

2. _____ [1]

3. _____ [1]

4. _____ [1]

[Turn over



30 (a) What is the main danger on the stretch of road ahead in **Fig. 30.1** below?

[1]



Fig. 30.1

(b) What action might a bus or LGV driver take on meeting an approaching vehicle at the corner in **Fig. 30.1** above?

[1]

(c) What action might the bus or LGV driver take to proceed safely around the corner in **Fig. 30.1** above, when there are no approaching vehicles?

[1]

(d) State a suitable speed limit for the road in **Fig. 30.1** above and give a reason for your answer.

1. Speed limit _____

[1]

2. Reason _____

[1]



(e) State **two** actions which bus passengers can take to improve their own safety.

1. _____ [1]

2. _____ [1]

[Turn over



31 (a) Apart from the sign, name **two** ways in which you can be reminded that you are approaching a roundabout.

1. _____ [1]

2. _____ [1]

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

1. _____ [1]

2. _____ [1]

(c) What should a motorist do if being followed too closely by another motorist?

_____ [1]



32 Give the meaning of each of the road signs shown in Figs. 32.1–32.6 below.



Fig. 32.1



Fig. 32.2



Fig. 32.3



Fig. 32.4



Fig. 32.5



Fig. 32.6

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



Legal Requirements

33 (a) Write down **three** reasons why motor insurance is so expensive for males aged between 17 and 21.

1. _____ [1]

2. _____ [1]

3. _____ [1]

(b) Write down the names of the **three** different types of motor insurance.

1. _____ [1]

2. _____ [1]

3. _____ [1]

(c) Which type of motor insurance is the cheapest?

_____ [1]

34 (a) Write down **two** purposes of tread on the tyres of a motor vehicle.

1. _____ [1]

2. _____ [1]

(b) State **three** checks which can be carried out on a vehicle's tyres.

1. _____ [1]

2. _____ [1]

3. _____ [1]



(c) The following information can be found written on the side of a tyre:

215/60 R15

What information is provided by the value

1. 215? _____ [1]

2 R15? _____ [1]

[Turn over



Road Transport and Its Effect on Society

35 (a) Give **two** examples of exhaust gases other than carbon dioxide.

1. _____ [1]

2. _____ [1]

(b) Give **two** examples of possible noise pollution from cars.

1. _____ [1]

2. _____ [1]

36 (a) State how motorists can ensure that their vehicle does not cause excessive noise.

_____ [1]

(b) State **two** ways in which traffic management methods may be used to reduce noise pollution in towns and cities.

1. _____ [1]

2. _____ [1]



Motoring Mathematics

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

1. Straight sale _____
_____ [1]

2. APR _____
_____ [1]

3. Vehicle under warranty _____
_____ [1]

38 (a) A sales representative receives a mileage allowance of 48p/mile for the first 350 miles, 42p/mile for the next 150 miles and 35p/mile for each mile thereafter. How much money does the sales representative claim for travelling 750 miles in one month?

[4]

[Turn over



(b) The sales representative has a budget of £350 to spend each month on fuel.

How much does the representative have left?

[1]

(c) A person wishing to buy a car sees a similar car in two different garages. The car costs £14,000 in both garages. Garage A requires a 20% deposit with 36 monthly payments of £350. Garage B requires a deposit of £3,500 and monthly payments of £320 paid over three years.

At the end of the repayment period which is the cheaper option and by how much?

[4]

39 List **two** standing costs associated with motoring.

1. _____ [1]

2. _____ [1]



Collision Procedures

40 (a) What position does the image in Fig. 40.1 below show?

_____ [1]



Fig. 40.1

(b) Write down **two** symptoms of a casualty who is suffering from shock.

1. _____ [1]

2. _____ [1]

(c) Write down **three** pieces of information which a motorist should give to the emergency services when reporting an accident.

1. _____ [1]

2. _____ [1]

3. _____ [1]

(d) The police and ambulance service are two examples of emergency services. Name **one** other emergency service.

_____ [1]

[Turn over



Motor Vehicle Technology

41 Fig. 41.1 below shows a diagram of a car.

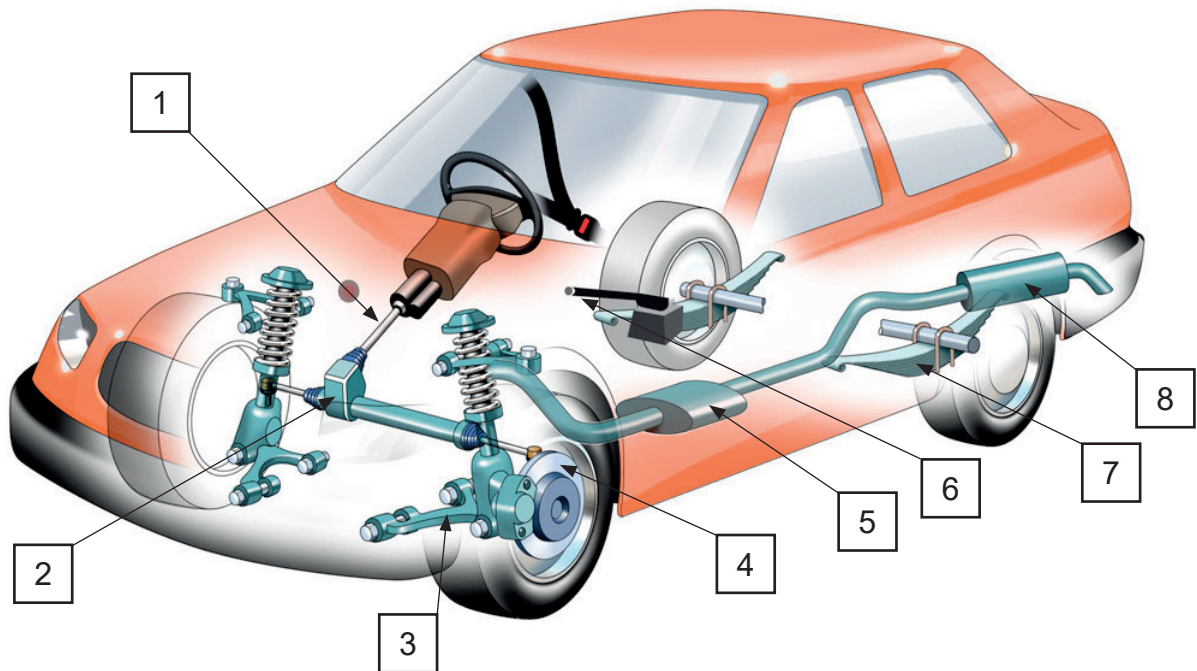


Fig. 41.1

(a) In the spaces provided, name the components numbered 1–8.

1. _____ [1]
2. _____ [1]
3. _____ [1]
4. _____ [1]
5. _____ [1]
6. _____ [1]
7. _____ [1]
8. _____ [1]



(b) Which vehicle component:

1. allows the brakes to be applied with only a little pressure?

_____ [1]

2. gives precise quantities of fuel to the cylinders in a diesel engine?

_____ [1]

3. boosts the voltage to 30 000 volts?

_____ [1]

4. engages and disengages the drive shaft in the transmission system?

_____ [1]

[Turn over



42 (a) Match the components **A** to **D** below to their systems 1–4.

Components

- A Alternator
- B Spark plug
- C Sump
- D Thermostat

Systems

- 1. Lubrication _____ [1]
- 2. Charging _____ [1]
- 3. Cooling _____ [1]
- 4. Ignition _____ [1]

(b) Name **four** parts found in a vehicle's transmission system.

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



43 (a) Fig. 43.1 below shows components belonging to which **two** vehicle systems?

1. _____ system [1]

2. _____ system [1]

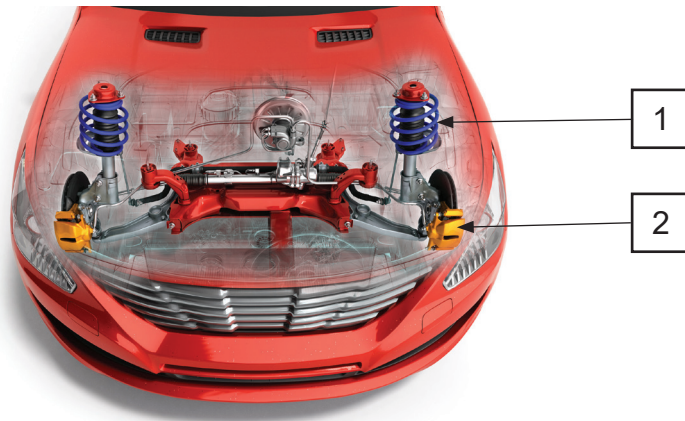


Fig. 43.1

(b) Name the **two** components 1–2 labelled in Fig. 43.1 above.

1. _____ [1]

2. _____ [1]



(c) Name the parts labelled 1–2 in **Fig. 43.2** below.

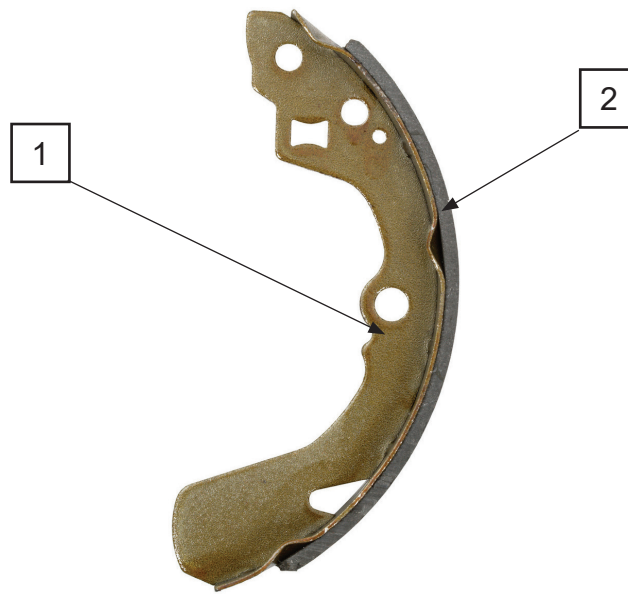


Fig. 43.2

1. _____ [1]

2. _____ [1]

(d) In which type of brakes would you find the parts in **Fig. 43.2** above?

_____ [1]

(e) The footbrake provides an hydraulic braking system; the handbrake is
decribed as _____ . [1]



44 State **four** differences and **two** similarities between motorways and dual carriageways.

Differences

Similarities

[6]



45 How can a motorcyclist be a responsible road user?

Make reference in your answer to precautions and behaviour.

Precautions

Behaviour

[10]



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Question Number	Marks
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