



Rewarding Learning

**General Certificate of Secondary Education
2024**

Motor Vehicle and Road User Studies

Unit 1: Motor Vehicle and Road User Theory

[GMR11]

THURSDAY 9 MAY, AFTERNOON

**MARK
SCHEME**

General Marking Instructions

Introduction

The main purpose of a mark scheme is to ensure that examinations are marked accurately, consistently and fairly. The mark scheme provides examiners with an indication of the nature and range of candidates' responses likely to be worthy of credit. It also sets out the criteria which they should apply in allocating marks to candidates' responses.

Assessment objectives

Below are the assessment objectives for Motor Vehicle and Road User Studies.

Candidates should be able to:

- AO1** Recall, select and communicate their knowledge and understanding in relation to motor vehicle and road user studies;
- AO2** analyse, evaluate and draw logical conclusions from motor vehicle and road user information;
- AO3** collect, select and use road traffic information from a variety of sources; and
- AO4** demonstrate skills of vehicle (moped) control and roadcraft.

Quality of candidates' responses

In marking the examination papers, examiners should be looking for a quality of response reflecting the level of maturity which may reasonably be expected of a 15–16 year old which is the age at which the majority of candidates sit their GCSE examinations.

Flexibility in marking

Mark schemes are not intended to be totally prescriptive. No mark scheme can cover all the responses which candidates may produce. In the event of unanticipated answers, examiners are expected to use their professional judgement to assess the validity of answers. If an answer is particularly problematic, then examiners should seek the guidance of the supervising examiner.

Positive Marking

Examiners are encouraged to be positive in their marking, giving appropriate credit for what candidates know, understand and can do rather than penalising candidates for errors or omissions. Examiners should make use of the whole of the available mark range for any particular question and be prepared to award full marks for a response which is as good as might be expected of a 15 or 16-year-old GCSE candidate.

Types of Mark Scheme

Mark schemes for tasks or questions which require candidates to respond in extended written form are marked on the basis of levels of response which take account of the quality of written communication.

Other questions which require only short answers are marked on a point for point basis with marks awarded for each valid piece of information provided.

Awarding zero marks

Marks should only be awarded for valid responses and no marks should be awarded for an answer which is completely incorrect or inappropriate.

Levels of response

In deciding which level of response to award, examiners should look for the 'best fit' bearing in mind that weakness in one area may be compensated for by strength in another. In deciding which mark within a particular level to award to any response, examiners are expected to use their professional judgement.

The following guidance is provided to assist examiners:

- **Threshold performance:** Response which just merits inclusion in the level and should be awarded a mark at or near the bottom of the range.
- **Intermediate performance:** Response which clearly merits inclusion in the level and should be awarded a mark at or near the middle of the range.
- **High performance:** Response which fully satisfies the level description and should be awarded a mark at or near the top of the range.

Marking Calculations

In marking answers involving calculations, examiners should apply the 'own figure rule' so that candidates are not penalised more than once for a computational error.

Quality of written communication

Quality of written communication is taken into account in assessing candidates' responses to all tasks and questions that require them to respond in extended written form. These tasks and questions are marked on the basis of levels of response. The description for each level of response includes reference to the quality of written communication.

Level 1: Specialist vocabulary will be limited or inappropriately used. The answer may lack clarity and/or cohesion and may also contain significant grammatical, punctuation or spelling errors.

Level 2: Specialist vocabulary is mainly correctly used. The style of writing is appropriate and the meaning is clear although there may be some errors in spelling, punctuation or grammar.

Level 3: Specialist vocabulary is used correctly. The answer is well structured and relevant material is presented with a high degree of clarity and coherence. Spelling, punctuation and grammar will generally be correct.

1	primary/A route	[1]
2	20 metres/20.5 metres	[1]
3	50	[1]
4	primary	[1]
5	level crossing with barrier or gate ahead	[1]
6	C	[1]
7	60	[1]
8	traffic calming	[1]
9	overtaking	[1]
10	slip	[1]
11	4	[1]
12	certificate	[1]
13	single track	[1]
14	insurance	[1]
15	leasing	[1]
16	contused	[1]
17	fuel	[1]
18	2-stroke	[1]
19	crankshaft	[1]
20	exhaust	[1]

**AVAILABLE
MARKS**

20

Vehicle Control & Road User Behaviour

			AVAILABLE MARKS																																
21	End of minimum speed limit	[1]	1																																
22	Any one from: driving under a bridge, through a tunnel, narrow road with overhanging hedges, taking a sharp bend.	[1]	1																																
23	Any two from: reactions are slower, perception poorer, might fall asleep, more careless, less alert, poor concentration.	[2]	2																																
24	Any three from: side impact bars, collapsible steering column, airbags, head restraints, padded dashboard, shock absorbing bumpers, laminated glass, burst proof locks, crumple zone.	[3]	3																																
25	<p>(a)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10px;">1.</td> <td style="width: 40px;">centre</td> <td style="width: 10px; text-align: right;">[1]</td> <td style="width: 10px;"></td> </tr> <tr> <td>2.</td> <td>longer</td> <td style="text-align: right;">[1]</td> <td></td> </tr> <tr> <td>3.</td> <td>shorter</td> <td style="text-align: right;">[1]</td> <td></td> </tr> <tr> <td>4.</td> <td>hazard</td> <td style="text-align: right;">[1]</td> <td style="text-align: right;">[4]</td> </tr> </table> <p>(b)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10px;">1.</td> <td style="width: 40px;">white</td> <td style="width: 10px; text-align: right;">[1]</td> <td style="width: 10px;"></td> </tr> <tr> <td>2.</td> <td>red</td> <td style="text-align: right;">[1]</td> <td></td> </tr> <tr> <td>3.</td> <td>green</td> <td style="text-align: right;">[1]</td> <td></td> </tr> <tr> <td>4.</td> <td>amber</td> <td style="text-align: right;">[1]</td> <td style="text-align: right;">[4]</td> </tr> </table>	1.	centre	[1]		2.	longer	[1]		3.	shorter	[1]		4.	hazard	[1]	[4]	1.	white	[1]		2.	red	[1]		3.	green	[1]		4.	amber	[1]	[4]	[4]	8
1.	centre	[1]																																	
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26	<p>(a) Any two from: reduced visibility, sound muffled, slower moving traffic, motorway congestion.</p> <p>(b) Any four from: slow down, keep a safe distance from vehicle in front, never follow lights of another vehicle, use dipped headlights, use windscreen wipers, roll down window to listen for traffic, leave more time for journey, use fog lights.</p>	[2]	6																																

			AVAILABLE MARKS	
27	(a)	Any two from: makes steering more difficult, causes vehicle to sway, loss of control, overtaking is challenging.	[2]	8
	(b)	Any one from: open roads, bridges, dual carriageways, motorways.	[1]	
	(c)	Any two from: articulated lorries, vehicles towing caravans or trailers, high – sided vehicles or cars with roof racks.	[2]	
	(d)	Any three from: slow down, wear sunglasses, use of sun visor, increase distance from vehicle in front.	[3]	
28	(a)	Any two from: slow down, approach with care, pull in and stop vehicle.	[2]	4
	(b)	Any one from: use horn, drive through animals at speed.	[1]	
	(c)	Any one from: use of horn would spook animals, driving fast through animals could result in car damage from animal contact.	[1]	
29	(a)	29.1 a queues likely	[1]	11
		29.1 b traffic merging from left	[1]	
		29.1 c dual carriageway ends	[1]	
		29.1 d no left turn	[1]	
		29.1 e mini roundabout	[1]	
		29.1 f loose chippings	[1]	
			[6]	
	(b)	29.1 g tourist information	[1]	
		29.1 h motorway signs	[1]	
		29.1 i diversion/roadworks	[1]	
		29.1 j primary routes/A roads	[1]	
	(c)	rumble strip	[1]	

Legal Requirements

			AVAILABLE MARKS	
30	<p>(a)</p> <p>(i) Proposer – person seeking insurance</p> <p>(ii) Agent – person who acts for only one company</p> <p>(iii) Broker – person who acts on behalf of various companies</p> <p>(iv) Green Card – document needed to drive in EU countries</p>	<p>[1]</p> <p>[1]</p> <p>[1]</p> <p>[1]</p>	6	
	<p>(b)</p> <p>MOT – Ministry of Transport [1]</p> <p>DVA – Driver & Vehicle Agency [1]</p>	<p>[2]</p>		
31	<p>(a) Any three from: photographic identification, name, address, date & place of birth, licence expiry date, driving licence number, classes of vehicle permitted to drive, signature.</p>	<p>[3]</p>		8
	<p>(b) every 3 years</p>	<p>[1]</p>		
	<p>(c) Any two from: to ensure no impediment to driving ability; no illnesses/or change in medical condition; eyesight.</p>	<p>[2]</p>		
	<p>(d)</p> <p>1. display R plates for 1 year [1]</p> <p>2. restricted to 45 mph [1]</p>	<p>[2]</p>		

Road Transport and its Effect on Society

- 32 (a)** Traffic noise: Any **two** from:
echo barriers to absorb noise, building ring roads and bypasses to divert traffic away from town centres, embankments, tree planting/screening. [2]
- Heritage and conservation: Any **two** from:
preserving natural wildlife habitats, preserving historical buildings/sites, avoiding damage to valued landscapes. [2]
- (b)** tunnels [1]
- (c)** Any **two** from:
faulty exhaust, misuse of horn, revving the engine, spinning of wheels, loose fan belt squealing, LGV in urban areas, vehicle radios, performance exhaust systems, traffic queues. [2]

AVAILABLE
MARKS

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Motoring Mathematics

			AVAILABLE MARKS
33	<p>(a) Any two from: leasing, renting, company car, car mobility/Motability</p>	[2]	6
	<p>(b) Any two from: speed varies, clutch on/off, traffic jams, harsh acceleration, inclines</p>	[2]	
	<p>(c) Any two from: no need to carry large amounts of cash, can be used in any currency, can be used at any time of day, payment deferred for 1 month, only one monthly payment to be made.</p>	[2]	
34	<p>(a) 187 miles</p>	[1]	8
	<p>(b) Motorist A 147 miles @ 60 mph = 147mins [1] 10.00hrs + 2hr 27mins = 12.27hrs [2]</p>		
	<p>Motorist B 187 miles @ 60 mph = 187mins [1] 09.30hrs + 3hr 07 mins = 12.37hrs [2]</p>		
	<p>Ans: Motorist A by 10 mins [1]</p>	[7]	

Collision Procedures

- 35 (a)** to ensure no further accidents take place [1]
- (b)** Any **three** from:
park your vehicle with warning lights on, wear reflective clothing,
place a warning triangle at least 45 metres in front of the scene,
wave down oncoming traffic. [3]
- (c)** within 24 hours [1]
- (d)** only in case of fire [1]
- (e)** clean wound, apply a plaster [1]

AVAILABLE
MARKS

7

Motor Vehicle Technology

			AVAILABLE MARKS
36	(a) thickness, resistance to flow	[1]	
	(b) 10W-50	[1]	
	(c) Any two from: helps cooling, reduces wear, reduces friction	[2]	4
37	(a) charging	[1]	
	(b) 1. fan belt	[1]	
	2. alternator	[1]	
	3. cut-out box/regulator	[1]	
	4. battery	[1]	
	5. cooling fan	[5]	
	(c) to absorb shocks, bumps and jolts from the road, to improve handling and comfort	[1]	
	(d) does not suck up dust, dirt or water	[1]	8
38	(a) drum	[1]	
	(b) 1. brake drum	[1]	
	2. brake pad	[1]	
	3. brake shoe	[1]	
	(c) 1. gudgeon pin	[1]	
	2. water pump	[1]	
	3. inlet manifold	[6]	
	(d) to engage with starter motor	[1]	8
39	(a) check for holes/cracks/rust, security of mountings	[2]	
	(b) 36 times	[1]	
	(c) 1. rev counter	[1]	
	2. speedometer	[1]	
	3. fuel level	[3]	
	(d) 95 mph	[1]	
	(e) total mileage of vehicle	[1]	8

40 Speed limit is the maximum speed, it is illegal to exceed the limit; circumstances may dictate a lower safe speed; speed limits help reduce accidents; exceeding speed limit could result in fine or penalty points. Any three with explanation 3 × [2] [6]

41 Vehicle engineering – reference to different types of primary and secondary safety features and how each feature mentioned assists in the reduction of accidents.

Driver behaviour – reference to different types of driver behaviour and how each type of behaviour assists in the reduction of accidents.

Courteous – being careful and patient with other road users.

Keep to speed limits – maintaining good control of vehicle.

Follow all rules of the road – being a safe driver, consideration.

Don't drive when tired, or under the influence of drink/drugs, as reactions will be slower. [10]

AVAILABLE MARKS
6
10

42 Attitudes of young drivers:
 risk takers, impetuous, showing off, accept a dare, like to speed, inexperienced,
 over-confident, macho image, socialising and associated risks.

Influence of passengers:
 distraction, mobile phone use sharing/showing images texts,
 bad influence on decision making, showing off to passengers,
 older passengers could have a steadying influence.

[0] A zero mark will be awarded if the response is not worthy of credit.

Level 1 ([1]–[3])

The candidate may focus only on one or two of the required references and contain limited or irrelevant detail. Specialist vocabulary will be limited or inappropriately used. The answer may lack clarity and/or cohesion and may also contain significant grammatical, punctuation or spelling errors.

Level 2 ([4]–[7])

The candidate addresses at least two of the required references in some relevant detail. Specialist vocabulary is correctly used. The style of writing is appropriate and the meaning is clear although there may be some errors in spelling, punctuation or grammar.

Level 3 ([8]–[10])

The candidate addresses at least two of the required references in line with the detail set out above. Specialist vocabulary is used correctly. The answer is well structured and relevant material is presented with a high degree of clarity and coherence. Spelling, punctuation and grammar will generally be correct. [10]

Total

**AVAILABLE
 MARKS**

10

160