



**General Certificate of Secondary Education
2022**

Motor Vehicle and Road User Studies

Unit 1: Motor Vehicle and Road User Theory

[GMR11]

THURSDAY 12 MAY, MORNING

**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.

COVID-19 Context

Given the unprecedented circumstances presented by the COVID-19 public health crisis, senior examiners, under the instruction of CCEA awarding organisation, are required to train assistant examiners to apply the mark scheme in case of disrupted learning and lost teaching time. The interpretation and intended application of the mark scheme for this examination series will be communicated through the standardising meeting by the Chief or Principal Examiner and will be monitored through the supervision period. This paragraph will apply to examination series in 2021–2022 only.

			AVAILABLE MARKS
1	Italy	[1]	
2	Primary	[1]	
3	Chicane	[1]	
4	30	[1]	
5	Level crossing	[1]	
6	Crossing	[1]	
7	Coasting/freewheeling	[1]	
8	Dual carriageway/primary route/ 'A' Road	[1]	
9	School bus	[1]	
10	Headwind	[1]	
11	Windscreen washer	[1]	
12	V5	[1]	
13	Henry Ford	[1]	
14	Depreciation	[1]	
15	2½	[1]	
16	CPR	[1]	
17	Sump	[1]	
18	Filter	[1]	
19	Drum brake	[1]	
20	Steering	[1]	20

Vehicle Control & Road User Behaviour

			AVAILABLE MARKS
21	steep hill	[1]	1
22	By its position	[1]	1
23	Any one from: Oncoming traffic, vehicles exiting side roads, vehicle in front turning without indicating	[1]	1
24	(a) Fig. 24.1 facing downhill [1] Fig. 24.2 facing uphill [1]	[2]	
	(b) 1. park between parked cars; reverse into space [1] 2. park alongside a kerb (parallel) [1]	[2]	4
25	(a) yellow	[1]	
	(b) when their exit route is clear	[1]	
	(c) Keep clear	[1]	3
26	(a) instruction to traffic to approach/move forward/follow on	[1]	
	(b) Fig. 26.1 from the side [1] Fig. 26.2 from the front [1] Fig. 26.3 from behind [1]	[3]	4
27	(a) Any two from: disabled people, blind people/guide dogs, disabled/crutches, wheelchair users, elderly people, young children, pedestrians with prams	[2]	
	(b) every 3 years	[1]	
	(c) Any two from: to ensure no impediments to driving ability, no illnesses/or change in medical condition/eyesight	[2]	5

			AVAILABLE MARKS
28 (a)	Any two from: red lorry exiting on wrong side, lorry unloading blocking junction, cars parked on inside of unloading lorry	[2]	
(b)	Any three from: reduced visibility, slippery conditions, spray from other motorists, steering lighter, surface water/puddles	[3]	
(c)	to allow for increased braking distance	[1]	
(d)	Any two from: standing/surface water, excess speed, worn tyres	[2]	8
29	Any five from: wet road, no road markings, soft verges, corner ahead, overhanging vegetation, pothole on road	[5]	5
30	Fig. 30.1 national speed limit [1] Fig. 30.2 road narrows on both sides [1] Fig. 30.3 soft verges [1] Fig. 30.4 no motor vehicles [1] Fig. 30.5 keep left [1] Fig. 30.6 no overtaking [1]	[6]	6
31 (a)	Any two from: sight, reactions/awareness, coordination, hearing, judgement	[2]	
(b)	Any two from: loss of job, increased insurance, cost of retest, alternative travel, loss of assets	[2]	
(c)	1. blood 80 2. urine 107	[1] [1]	6

Legal Requirements

		AVAILABLE MARKS
32	VED – Vehicle Excise Duty [1] SORN – Statutory Off Road Notification [1]	[2] 2
33	Any five from: Make, model, name of owner, address of owner, number of previous owners, year of manufacture, bhp, colour, number of doors, chassis number, engine size, fuel type	[5] 5
34	(a) passenger seat airbag must be switched off	[1]
	(b) driver	[1]
	(c) passenger	[1]
	(d) GP/Doctor	[1]
	(e) shoulder injury etc.	[1]
	(f) must provide a booster seat	[1]
	(g) penalty points/fine	[1] 7
Road Transport and its effects on Society		
35	(a) Fig. 35.1 motorway [1] Fig. 35.2 single track road [1] Fig. 35.3 single carriageway [1]	[3]
	(b) Any four from: effect of traffic noise, effect on agriculture/communities, air pollution, visual impact, heritage and conservation, wildlife, disruption during road construction	[4] 7

Motoring Mathematics

			AVAILABLE MARKS
36	(a) Advantage: cheaper [1] Any one from: Disadvantage: no warranty, no finance option, no trade in [1]	[2]	7
	(b) Shop for insurance, buy a vehicle with a lower tax band	[2]	
	(c) Any two from: drive gently to save fuel, no harsh braking/acceleration, no spinning the wheels, cruise control	[2]	
	(d) full service history	[1]	
37	(a) £475 ($£17,100 \div 36 = £475$)	[1]	7
	(b) $17,100 \div 100 \times 30 = 5130$ [1] $17,100 - 5130 = 11,970$ $11,970 \div 30 = 399$ [1]	[2]	
	(c) $60 \div 4.55 = 13.19$ gals [1] $13.19 \times 35 = 461.65$ miles Ans: 462 miles [1]	[2]	
	(d) Any two from: leasing, renting, company car, car motability	[2]	

Collision Procedures

38	(a) Any three from: stop/direct traffic, park your vehicle safely, warn other vehicles	[3]	7
	(b) Any two from: stop/stay at the scene, summon emergency services, give details to people who are entitled to them, report accident to police within 24 hours	[2]	
	(c) make vehicles safe	[1]	
	(d) apply pressure to the wound/tightly wrap temporary bandage on the wound	[1]	

Motor Vehicle Technology

			AVAILABLE MARKS
39	<p>(a) baffles</p> <p>(b) reduce airflow and noise</p> <p>(c) exhaust manifold</p> <p>(d) Check for holes/rust, check mountings</p>	<p>[1]</p> <p>[1]</p> <p>[1]</p> <p>[2]</p>	5
40	<p>(a) Lubrication</p> <p>(b) 1. Inlet and exhaust valves [1] 2. piston [1] 3. connecting rod [1] 4. strainer [1] 5. sump [1] 6. oil filter [1] 7. crankshaft [1] 8. camshaft [1]</p> <p>(c) Any one from: Cools engine surfaces, removes dust dirt particles</p> <p>(d) 1. d [1] 2. e [1] 3. a [1] 4. b [1] 5. c [1]</p>	<p>[1]</p> <p>[8]</p> <p>[1]</p> <p>[5]</p>	15
41	<p>(a) induction and exhaust</p> <p>(b) Any two from: smooth engine motion , engage with starter motor, engage clutch mechanism</p> <p>(c) Any three from: brake fluid level, brake lights, operation of parking brake, resistance in brake pedal, gently tap brake pedal</p> <p>(d) anti-lock braking system</p>	<p>[2]</p> <p>[2]</p> <p>[3]</p> <p>[1]</p>	8
42	<p>DVA – responsibility for vehicle safety – MOT/driving test PSNI – promoting road safety – upholding the law Insurance companies, talks/seminars, safe drive app DfI – road safety campaigns/adverts/reports/statistics ROSPA – delivers road safety education in school through Green Cross Code and Cycling Proficiency Any three with explanation 3 × 2</p>	<p>[6]</p>	6

43 Challenges:

Rain, reduced visibility, increased braking distance, car handling

Sun, visibility reduced, fatigue, ventilation,

Wind, vehicle handling

Snow/frost/ice, vehicle handling, visibility, braking distance

Fog, reduced visibility

Precautions

Drive slower, dipped headlights, windscreen washer and wipers, lights working,

increase braking distance, double 2 second rule, sun glasses, visor, good tyres,

air conditioning working

[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]

10

AVAILABLE
MARKS

44 Any **five** with relevant explanation.

Dangers: increased traffic, people getting out of parked cars, parked cars, pedestrian activity, getting into wrong lane, unfamiliar with roads, taking a wrong turn, motorists looking at scenery/activities rather than road ahead

[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