



Rewarding Learning

**General Certificate of Secondary Education
2023**

Motor Vehicle and Road User Studies

Unit 1: Motor Vehicle and Road User Theory

[GMR11]

WEDNESDAY 10 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.

| | | |
|----|---------------------------|-----|
| 1 | Primary | [1] |
| 2 | Give way/Yield | [1] |
| 3 | Brown | [1] |
| 4 | 60 | [1] |
| 5 | Stopping on hard shoulder | [1] |
| 6 | Radioactive | [1] |
| 7 | Bus/taxi/minibus | [1] |
| 8 | 30 | [1] |
| 9 | Cat's eyes | [1] |
| 10 | Contraflow | [1] |
| 11 | Renewal notice | [1] |
| 12 | Excess | [1] |
| 13 | Exhaust gases | [1] |
| 14 | 2½ (2.5) | [1] |
| 15 | Straight sale | [1] |
| 16 | Make vehicles safe | [1] |
| 17 | Cooling | [1] |
| 18 | Two-stroke | [1] |
| 19 | Alternator | [1] |
| 20 | Silencer | [1] |

**AVAILABLE
MARKS**

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Vehicle Control & Road User Behaviour

| | | | AVAILABLE MARKS |
|-----------|---|-----|-----------------|
| 21 | Any one from: Wind screen, lights, number plate | [1] | 1 |
| 22 | 60 mph | [1] | 1 |
| 23 | 200 metres/yards | [1] | 1 |
| 24 | Black, white | [2] | 2 |
| 25 | (a) Any two from: No harsh acceleration, no harsh braking, no spinning wheels, no doughnuts | [2] | |
| | (b) Any two from: Being seen night and day, crossing at safe crossing points, using footpaths, zebra crossings, walk facing traffic | [2] | 4 |
| 26 | (a) Any three from: Front white light, red rear light, red rear reflector, pedal reflectors | [3] | |
| | (b) Dismount and wheel bicycle across the crossing | [1] | |
| | (c) Two | [1] | 5 |
| 27 | (a) Any one from: Car cutting in in front of cyclist, cyclist may have to brake harshly, could cause cyclist to crash | [1] | |
| | (b) Slowed down to allow cyclist to pass junction | [1] | |
| | (c) In case they clip the kerb and topple over, in case they hit a drain | [2] | |
| | (d) Any four from: Ice cream van, people crossing from between parked cars, pedestrians, parked cars, entrance to park, elderly people, children on scooters, passing traffic | [4] | 8 |

| | | | | AVAILABLE MARKS |
|-----------|------------|---|-----|-----------------|
| 28 | (a) | Any three from: Narrow road, soft verges, overhanging trees, light levels, no room to pull in, hump bridge | [3] | 6 |
| | (b) | Stop/reverse to a wider space to allow room for passing | [1] | |
| | (c) | No footpath, shadows make it harder to see or be seen | [2] | |
| 29 | (a) | Motorway | [1] | 10 |
| | (b) | Any two from: Spray from other vehicles, reduced visibility, steering lighter, risk of aquaplaning, increased braking distance, slippery surface | [2] | |
| | (c) | Any four from: Indicators, wipers, wind screen washer full, tyres, demister working | [4] | |
| | (d) | Any three from: Slow down, turn on wipers, demister on, increase distance from vehicle in front, dipped head lights on | [3] | |
| 30 | 30.1 | No waiting | [1] | 6 |
| | 30.2 | Ahead only | [1] | |
| | 30.3 | Staggered junction | [1] | |
| | 30.4 | Risk of ice | [1] | |
| | 30.5 | Risk of grounding | [1] | |
| | 30.6 | Fallen rocks | [1] | |
| | | | [6] | |

Legal Requirements

| Legal Requirements | | | AVAILABLE MARKS |
|--------------------|--|------------|-----------------|
| 31 (a) (i) | Any two from: Change in marital status, change name, gender change, change in medical condition, change in eyesight, change of address | [2] | 9 |
| (ii) | Any two from: Change of registration, modifications, change of colour, change of engine, selling, SORN | [2] | |
| (b) | To or from a test centre, to or from a garage to effect repairs | [2] | |
| (c) | Have your vehicle MOT'd well before the old certificate expires | [1] | |
| (d) (i) | 4 years | [1] | |
| | (ii) 3 years | [1] | |
| 32 (a) | Protected bonus: discount protected even if a claim is made Cover note: a temporary insurance certificate until the permanent certificate is ready | [1] [1] | 5 |
| (b) | Statistically safer, make fewer claims | [2] | |
| (c) | 6 or 12 months | [1] | |

Road Transport and its effect on Society

- 33 (a)** Any **four** from:
Eradicate bends, straighter roads, earth banks, barriers,
anti-skid surfaces, junctions/bends, improved lighting/drainage/signage,
improve sight-lines [4]
- (b)** To slow vehicles down to make roads safer [1]
- (c)** Any **two** from:
Pedestrianised areas, zebra/light controlled crossing, wider pavements,
narrowed roads [2]

AVAILABLE
MARKS

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Motoring Mathematics

| | | | AVAILABLE MARKS |
|-----------|---|---|-----------------|
| 34 | <p>(a) $60 \div 4.55 = 13.19$ gals [1] $13.19 \times 45 = 593.55$ [1] = 594 miles (to nearest mile) [1]</p> <p>(b) Any two from: Drive gently, no harsh acceleration, brake gently, no spinning the wheels, no doughnuts, regular maintenance</p> <p>(c) Any one from: Insurance, MOT, Tax, licence</p> | <p>[3]</p> <p>[2]</p> <p>[1]</p> | 6 |
| 35 | <p>(a) 1 hr 30 mins or 1 hr 33 mins</p> <p>(b) 24 miles</p> <p>(c) 4 hrs or 4 hrs 3 mins</p> <p>(d) $160 \div 50 = 3.20$ $3.20 \times \text{£}4.30 = \text{£}13.76$</p> <p>(e) FSH – Full service history [1] 2WD – two-wheel drive [1] VGC – very good condition [1]</p> | <p>[1]</p> <p>[1]</p> <p>[1]</p> <p>[2]</p> <p>[1]</p> <p>[1]</p> <p>[1]</p> <p>[3]</p> | 8 |

Collision Procedures

- | | | |
|--|-----|-----|
| 36 (a) Medical condition – shock | [1] | |
| Treatment – Any one from: Keep casualty warm, reassure them, sit them down | [1] | [2] |
| (b) In case they have internal injuries or need an anaesthetic | | [1] |
| (c) Breathing, bleeding, consciousness | | [3] |
| (d) Puncture | | [1] |

AVAILABLE
MARKS

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Motor Vehicle Technology

| | | | AVAILABLE MARKS |
|-----------|---|-----|-----------------|
| 37 | (a) Ignition system | [1] | 9 |
| | (b) 1. high tension lead | [1] | |
| | 2. ignition switch | [1] | |
| | 3. coil | [1] | |
| | 4. battery | [1] | |
| | 5. distributor | [1] | |
| | 6. spark plug | [1] | |
| | (c) To boost the voltage to 30 000 volts | [1] | |
| | (d) Electrolyte | [1] | |
| 38 | (a) Compression, power, transfer | [3] | |
| | (b) Induction and exhaust | [2] | |
| | (c) 1. To set a vehicle in motion | [1] | |
| | 2. To absorb shocks/jolts and jerks to provide a smoother ride | [1] | |
| | | [2] | |
| 39 | (a) Lubrication – sump | [1] | 12 |
| | Cooling – pressure cap | [1] | |
| | Braking – wheel cylinder | [1] | |
| | Charging – alternator | [1] | |
| | (b) 1. Gudgeon pin/crankpin | [1] | |
| | 2. Big end bearing | [1] | |
| | (c) Any two from: Injects measured amounts of fuel into each cylinder, maximises combustion, long term saves money as fuel lasts longer and covers more miles, more efficient, maximises combustion of gases to protect catalytic converter | [2] | |
| | (d) 1. flywheel | [1] | |
| | 2. friction plate | [1] | |
| | (e) To engage and disengage the drive | [1] | |
| | (f) A | [1] | |
| 40 | Be alert, slow down, MSM, get into the correct lane as early as possible, know where your exit route is, give way to traffic from right, navigate roundabout with care, signal when exiting roundabout | [6] | 6 |

41 Pedestrians:

use crossings to cross the road, do not cross from between parked cars, wear bright clothing, green cross code, use footpaths when walking or walk facing traffic, keep young children to inside of footpath.

Drivers:

follow all rules as set in Highway Code, keep within speed limits, follow all signs, allow pedestrians time to cross the road, be considerate to cyclists and motor cyclists, signal properly, drive responsibly, no tailgating [10]

42 Dual carriageways:

motorists pulling out of junctions, crossing two lanes of traffic, central reservations, all types of vehicles/road users and challenges navigating them.

Motorways:

barrier separation, no junctions, entry via slip roads, no u turns, no agricultural vehicles, no pedestrians or cyclists, no vehicles under 50cc, traffic moving in same direction, 3 lanes of traffic

[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 provide 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

10

160