



**General Certificate of Secondary Education**

---

## **Motor Vehicle and Road User Studies**

Unit 1: Motor Vehicle and Road User Theory

**[GMR11]**

---

## **Assessment**

**MARK  
SCHEME**

## **General Marking Instructions**

### ***Introduction***

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

### **Assessment objectives**

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

Students 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 students' responses***

In marking the assessment, assessors 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 students 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 students may produce. In the event of unanticipated answers, assessors are expected to use their professional judgement to assess the validity of answers.

### ***Positive Marking***

Assessors are encouraged to be positive in their marking, giving appropriate credit for what students know, understand and can do rather than penalising students for errors or omissions. Assessors 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 student.

### ***Types of Mark Scheme***

Mark schemes for tasks or questions which require students 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, assessors 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, assessors are expected to use their professional judgement.

The following guidance is provided to assist assessors:

- **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, assessors should apply the 'own figure rule' so that students are not penalised more than once for a computational error.

### ***Quality of written communication***

Quality of written communication is taken into account in assessing students' 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	D	[1]
2	Germany	[1]
3	Green cross code	[1]
4	Left-hand edge of the carriageway	[1]
5	Aquaplane	[1]
6	Hazard warning plates	[1]
7	107	[1]
8	40	[1]
9	Turning left/moving into the left	[1]
10	LGV	[1]
11	1 mm	[1]
12	Helmet	[1]
13	1950s	[1]
14	Running	[1]
15	£2500	[1]
16	3–6 minutes (allow [1] mark for 3, 4, 5 or 6 or 3–6)	[1]
17	Two stroke	[1]
18	Pistons	[1]
19	Battery	[1]
20	Thermostat	[1]

**AVAILABLE  
MARKS**

20

**Vehicle Control & Road User Behaviour**

				AVAILABLE MARKS
<b>21</b>	Any <b>one</b> from: level crossing, airfield, lifting bridge, fire station		[1]	1
<b>22</b>	reduce the speed of traffic		[1]	1
<b>23</b>	23.1 warning signs	[1]		
	23.2 prohibition; signs giving orders	[1]	[2]	2
<b>24</b>			[2]	2
<b>25</b>	25.1 doctor/ambulance service	[1]		
	25.2 PSNI	[1]		
	25.3 DVA/transport enforcement	[1]	[3]	3
<b>26</b>	1. Passenger Carrying Vehicle	[1]		
	2. Vehicle Excise Duty	[1]		
	3. Ministry of Transport	[1]	[3]	3
<b>27</b>	(a) Any <b>one</b> from:			
	27.1 children crossing, people getting out of cars	[1]		
	27.2 cars parked along the road, people walking	[1]		
	27.3 sheep may cross the road	[1]		
	27.4 agricultural vehicles exiting field	[1]		
	(b) road narrows under bridge	[1]	[5]	5
<b>28</b>	(a) Any <b>three</b> from: at a checkpoint, accident scene, hazard ahead, to divert traffic, if moving traffic offence is suspected		[3]	
	(b) licence, insurance		[2]	5
<b>29</b>	Any <b>four</b> from: good tyres, lights, anti-freeze, wipers, spare tyre, heater and demister, brakes		[4]	4

			AVAILABLE MARKS	
<b>30</b>	<b>(a)</b>	blind corner	[1]	
	<b>(b)</b>	stop to allow vehicles to pass safely	[1]	
	<b>(c)</b>	cross the centre line to safely navigate the corner	[1]	
	<b>(d)</b>	1. 20–30 mph 2. built-up area/residential area	[2]	
	<b>(e)</b>	Any <b>two</b> from: remain seated, wear seatbelt, use official stops only	[2]	
<b>31</b>	<b>(a)</b>	Any <b>two</b> from: countdown markers, rumble strips/lines across carriageway/ painted surface	[2]	
	<b>(b)</b>	in a one-way street, when overtaking	[2]	
	<b>(c)</b>	try and find somewhere to pull in and let the other driver past	[1]	
<b>32</b>	32.1	no stopping	[1]	
	32.2	no entry	[1]	
	32.3	school crossing	[1]	
	32.4	tunnel ahead	[1]	
	32.5	zebra crossing	[1]	
	32.6	slippery road	[1]	
<b>Legal Requirements</b>				
<b>33</b>	<b>(a)</b>	Any <b>three</b> from: involved in more accidents, risk-takers, macho image, inexperience, impetuous, show off, accept a dare	[3]	
	<b>(b)</b>	fully comprehensive, third party, fire & theft, third party	[3]	
	<b>(c)</b>	third party	[1]	
<b>34</b>	<b>(a)</b>	grip the road, disperse surface water	[2]	
	<b>(b)</b>	Any <b>three</b> from: tread depth, foreign bodies, pressure, side wall damage (e.g. cuts, bulges)	[3]	
	<b>(c)</b>	1. 215 = width 215 mm	[1]	
		2. R15 = fits 15 inch diameter rim	[1]	

## Road Transport and its effects on Society

- 35 (a)** Any **two** from:  
sulphur dioxide, oxides of nitrogen, carbon monoxide, hydrocarbons [2]
- (b)** Any **two** from:  
faulty exhausts, fan belt squealing, misuse of horn, revs, sports exhausts,  
radios, spinning wheels [2]
- 36 (a)** Any **one** from:  
good maintenance, considerate driving [1]
- (b)** Any **two** from:  
bypasses, ring roads, park & ride, screening [2]

AVAILABLE  
MARKS

4

3

## Motoring Mathematics

- 37** 1. buying a vehicle without a trade in. [1]  
2. how much interest will be charged each year [1]  
3. guarantee for a set period, to repair/replace faulty parts at no additional cost [1] [3] 3
- 38 (a)**  $350 \times 48 = \text{£}168.00$   
 $150 \times 42 = \text{£}63$   
 $350 + 150 = 500$   
 $750 - 500 = 250$   
 $250 \times 35 = \text{£}87.50$   
 $168 + 63 + 87.50 = 318.50$
- Ans:  $\text{£}318.50$  [4]
- (b)**  $\text{£}31.50$  (allow [1] mark if answer is correct but based on incorrect answer to part (a) above) [1]
- (c)** Option A:  
 $14,000 \div 100 \times 20 = \text{£}2,800$   
 $14,000 - 2,800 = 11,200$   
 $350 \times 36 = 12,600$   
 $12,600 + 2,800 = \text{£}15,400$
- Option B  
 $320 \times 36 = \text{£}11,520$   
 $11,520 + 3,500 = \text{£}15,020$
- Ans: Option B by  $\text{£}380$  [4] 9
- 39** Any **two** from:  
insurance, tax, MOT, driving licence [2] 2

### Collision Procedures

- 40 (a)** recovery position [1]
- (b)** Any **two** from:  
casualty pale, faint, dizzy, breathing is shallow, pulse is weak,  
sick or vomits, thirsty [2]
- (c)** Any **three** from:  
location, number of vehicles involved, number of people involved,  
any risk of fire [3]
- (d)** Any **one** from:  
coastguard, mountain rescue [1]

**AVAILABLE  
MARKS**

7

### Motor Vehicle Technology

- 41 (a)**
- |    |                               |     |     |
|----|-------------------------------|-----|-----|
| 1. | steering column               | [1] |     |
| 2. | steering box                  | [1] |     |
| 3. | wishbones                     | [1] |     |
| 4. | brake disc                    | [1] |     |
| 5. | catalytic convertor/front box | [1] |     |
| 6. | handbrake                     | [1] |     |
| 7. | leaf spring                   | [1] |     |
| 8. | silencer box                  | [1] | [8] |
- (b)**
- |    |             |     |     |
|----|-------------|-----|-----|
| 1. | brake servo | [1] |     |
| 2. | injectors   | [1] |     |
| 3. | coil        | [1] |     |
| 4. | clutch      | [1] | [4] |
- 42 (a)**
- |    |            |     |     |
|----|------------|-----|-----|
| 1. | sump       | [1] |     |
| 2. | alternator | [1] |     |
| 3. | thermostat | [1] |     |
| 4. | spark plug | [1] | [4] |
- (b)** Any **four** from:  
gearbox, clutch, propeller shaft, universal joints, final drive,  
flywheel, halfshafts [4]

12

8



			AVAILABLE MARKS			
<b>43 (a)</b>	1. suspension	[1]	[2]			
	2. braking	[1]				
<b>(b)</b>	1. shock absorber/spring	[1]	[2]			
	2. brake calliper	[1]				
<b>(c)</b>	1. brake shoe	[1]	[2]			
	2. brake pad/lining	[1]				
<b>(d)</b>	drum brake		[1]			
<b>(e)</b>	mechanical		[1]		8	
<b>44 Differences:</b>						
	<b>Motorway:</b> no turning, always hard shoulder, emergency phones, central reservation, blue signs, electronic signs, slip road					
	<b>Dual carriageway:</b> junctions, traffic lights, bus stops, central reservation, crossings					
	<b>Similarities:</b> both 70mph, both 2 lanes or more				[6]	6
<b>45 Precautions:</b>	Vehicle checks, lights, mirrors, tyres, brakes, suspension, route planning, padded gear, helmet, reflective/fluorescent clothing					
	<b>Behaviour:</b> speed, road position, signals, safe overtaking/no showing off, no road rage				[10]	10
<b>46 Pre-Knowledge:</b>	theory test, highway code, lessons, driving test, parents, insurance, weather forecasts, route planning					
	<b>Condition of vehicle:</b> MOT, servicing, basic maintenance checks					
	<b>Own mental/physical state:</b> well rested, calm, health checks, eyesight, avoid alcohol/drugs			[10]	10	
			<b>Total</b>	<b>160</b>		





