



*Rewarding Learning*

**General Certificate of Secondary Education  
2014**

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

Unit 1: Motor Vehicle and Road User Theory

Higher Tier

**[GMV12]**

**THURSDAY 5 JUNE, MORNING**

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**MARK  
SCHEME**

## General Marking Instructions

### Introduction

Mark schemes are published to assist teachers and students in their preparation for examinations. Through the mark schemes teachers and students will be able to see what examiners are looking for in response to questions and exactly where the marks have been awarded. The publishing of the mark schemes may help to show that examiners are not concerned about finding out what a student does not know but rather with rewarding students for what they do know.

### The Purpose of Mark Schemes

Examination papers are set and revised by teams of examiners and revisers appointed by the Council. The teams of examiners and revisers include experienced teachers who are familiar with the level and standards expected of students in schools and colleges.

The job of the examiners is to set the questions and the mark schemes; and the job of the revisers is to review the questions and mark schemes commenting on a large range of issues about which they must be satisfied before the question papers and mark schemes are finalised.

The questions and the mark schemes are developed in association with each other so that the issues of differentiation and positive achievement can be addressed right from the start. Mark schemes, therefore, are regarded as part of an integral process which begins with the setting of questions and ends with the marking of the examination.

The main purpose of the mark scheme is to provide a uniform basis for the marking process so that all the markers are following exactly the same instructions and making the same judgements in so far as this is possible. Before marking begins a standardising meeting is held where all the markers are briefed using the mark scheme and samples of the students' work in the form of scripts. Consideration is also given at this stage to any comments on the operational papers received from teachers and their organisations. During this meeting, and up to and including the end of the marking, there is provision for amendments to be made to the mark scheme. What is published represents this final form of the mark scheme.

It is important to recognise that in some cases there may well be other correct responses which are equally acceptable to those published: the mark scheme can only cover those responses which emerged in the examination. There may also be instances where certain judgements may have to be left to the experience of the examiner, for example, where there is no absolute correct response – all teachers will be familiar with making such judgements.

			AVAILABLE MARKS
1	(a) 60 mph.		
	(b) 60 mph.	[2]	2
2	Coil. High tension leads. Spark plugs.	[3]	3
3	(a) To indicate their presence.		
	(b) When visibility is reduced to 100m. or less.	[2]	2
4	(a) Date, time, location, road conditions, details of vehicles etc One mark each for any three correct	[3]	
	(b) Police, Fire & Rescue, Ambulance etc.	[2]	5
5	(a) Driver and Vehicle Agency Ministry of Transport (Test)	[2]	
	(b) 4 3	[2]	
	(c) 1 Seat belts 2 Steering 3 Front suspension 4 Tyres 5 Brakes 6 Exhaust 7 Handbrake	[7]	11
6	Fig. 6.1 – traffic signals/lights. Fig. 6.2 – uneven road. Fig. 6.3 – staggered junction. Fig. 6.4 – no entry. Fig. 6.5 – cycle route. Fig. 6.6 – one-way traffic.	[6]	6
7	(a) Min of 1.6 mm. Use tread depth indicator – if you can see the top of it, tyre needs changing etc	[2]	
	(b) Check for cuts/breaks/abrasions/nails etc	[2]	
	(c) Know the correct pressure and check using a guage	[2]	6

			AVAILABLE MARKS
<b>8</b>	<p><b>(a)</b> When two or more people travel in one car instead of a car each</p> <p><b>(b)</b> To reduce congestion Ease parking Reduce pollution etc</p>	<p>[2]</p> <p>[2]</p>	<p>4</p>
<b>9</b>	<p><b>(a)</b> In an emergency</p> <p><b>(b)</b> Use hazard lights Leave car by passenger door Stay on grass bank etc</p>	<p>[1]</p> <p>[2]</p>	<p>3</p>
<b>10</b>	Any <b>two</b> from: self regulating; no traffic lights; low maintenance; ease of route at complex junction etc.	[2]	2
<b>11</b>	<p><b>(a)</b> Any <b>two</b> from: failing vision; slow or delayed reactions; failure to judge distance accurately; unfamiliar with updated highway code; may have medical problems.</p> <p><b>(b)</b> Any <b>two</b> from: drive fast; take risks; take dares; impulsive etc.</p>	<p>[2]</p> <p>[2]</p>	<p>4</p>
<b>12</b>	<p>Any <b>two</b> from:</p> <ul style="list-style-type: none"> <li>– penalty points for use of mobile phone/no seat belt;</li> <li>– retraining courses for drink/drive offences;</li> <li>– on-the-spot fines for foreign nationals;</li> <li>– police to seize and dispose of vehicles driven without insurance;</li> <li>– MOT disc not displayed on vehicle.</li> </ul>	[2]	2
<b>13</b>	<p><b>(a)</b> <math>£1.50 \times 7 = £10.50</math> Ans £10.50</p> <p><b>(b)</b> <math>24 + 1 = 25</math> 30L divided by 25 = 1.2L Ans 1.2L</p>	<p>[1]</p> <p>[2]</p>	<p>3</p>
<b>14</b>	<p>A Shock absorber &amp; spring B Steering link C Car Frame D Lower control arm</p>	[4]	4

			AVAILABLE MARKS
<b>15 (a)</b>	Any <b>four</b> from: effect of traffic noise/effect on agriculture/community severance/ air pollution/visual impact/heritage & conservation/wildlife/ view from the road etc	[4]	
<b>(b)</b>	Any acceptable description of one ans. to (a)	[3]	7
<b>16 (a)</b>	20.05m.	[1]	
<b>(b)</b>	Being aware of vision from the side of your eyes while looking straight ahead	[2]	3
<b>17 (a)</b>	Wear ear plugs.	[1]	
<b>(b)</b>	Any <b>two</b> from: reduce noise outside; reduce noise inside; less stressful for passengers and driver; can hold a conversation without shouting etc.	[2]	3
<b>18</b>	Train; <b>£42.50</b> 40 + 10 = <b>50 mins</b>	[1]	
	Car;      26 × 2 = 52 × 5 <b>45 mins</b>	[2]	
	÷ 36 = 7.22 gls	[1]	
	× £5.85	[1]	
	= £42.25	[1]	
	+ £10.00	[1]	
	<b>+ £52.25</b>	[1]	
	Reason: Train: cheaper & no stress etc. Car: Quicker & freedom of time to travel etc. Either reason	[4]	12
<b>19 (a)</b>	Any <b>one</b> from: vehicle driving on roadway close to pedestrians; Pedestrians unaware of vehicles presence etc.	[1]	
<b>(b)</b>	<b>Fig. 47.2</b> Contraflow.	[1]	
<b>(c)</b>	<b>Fig. 47.2</b> Any <b>two</b> from: narrow lanes; men working etc.	[2]	
<b>(d)</b>	<b>Fig 47.3</b> Any <b>two</b> from: vehicles parked on pavement/over cycle lane/ close to or at a junction etc.	[2]	6

			AVAILABLE MARKS
<b>20</b>	20.1 – Can't see if any vehicles are in dip 20.2 – Vehicles in centre of road 20.3 – Can't see oncoming vehicles 20.4 – Children and traffic emerging, no waiting, school entrance	[8]	8
<b>21</b>	(a) Any <b>two</b> from: stop; stay at the scene; summon emergency vehicles; give details to people who require them; report accident to police within 24 hours.	[2]	
	(b) Any <b>two</b> from: location; no. of casualties; their condition; no. of vehicles involved etc.	[2]	
	(c) bandage and pressure etc.	[1]	5
<b>22</b>	(a) Any <b>two</b> from: check coolant level; security of hoses; check fan tension etc.	[2]	
	(b) Cooling fan pushes air through radiator matrix and cools coolant.	[1]	
	(c) Air flows over cylinder fins where heat from piston is transferred to be cooled.	[2]	5
<b>23</b>	(a) Catalytic converter.		
	(b) Brake servo.		
	(c) Fuel injector.	[3]	3
<b>24</b>	To reverse into a parking space against the kerb between two parked cars.	[2]	2
<b>25</b>	(a) <b>Fig. 25.1</b> 1. exhaust port. 2. transfer port. 3. inlet port.	[1] [1] [1]	
	(b) No oil sump in two stroke engine, oil is added to the fuel for lubrication.	[1]	
	(c) Any <b>one</b> from: cheaper to manufacture/smaller/lighter/ cost effective etc.	[1]	5

			AVAILABLE MARKS
<p><b>26</b> Watch for any vehicles coming into view.            Note position of passing places.            Is there anything behind?            Unfenced edges, watch for animals.            Is there anything behind the bridge parapets? etc.            [2] marks each for any three valid answers</p>	[6]		6
<p><b>27 (a)</b> lubrication</p>	[1]		
<p><b>(b)</b> 1 inlet &amp; exhaust valves            2 piston            3 connecting rod            4 crankshaft            5 oil strainer            6 sump            7 oil filter</p>	[7]		
<p><b>(c)</b> Reduces friction            Reduces wear            Helps cooling etc.</p>	[2]	Any two correct	10
<p><b>28 (a)</b> Side road on the left. Van parked just inside side road.            Van pulling out of side road. Other parked vehicles.            Sign warning of level crossing with no barrier etc.            3 answers – 2 marks each</p>	[6]		
<p><b>(b)</b> Now close to level crossing, be prepared to stop.            Fences on either side of road could indicate possibility of pedestrians.            road goes sharply to right, can't see if it clear.            Do not stop on level crossing etc.            3 answers – 2 marks each</p>	[6]		12
<p><b>29</b> Candidates may refer to and/or develop some/many/all of the following points:</p> <p><b>Pedestrians:</b>  <b>General:</b> use pavements; crossings; green cross code; face oncoming traffic; “see and be seen”  <b>Morning:</b> rushing to school/work; may be careless; wear bright clothing; be aware of traffic volume; should use school crossing points; give vehicles time to stop  <b>Night:</b> use reflective clothing; “wear something bright at night”; carry torch; face traffic; cross under street lights or at official crossing</p> <p><b>Motorists:</b>  <b>General:</b> “see and be seen”; drive at suitable speed for conditions; all vehicle systems eg lights working properly  <b>Morning:</b> use appropriate lights; clear windscreen; be aware of school children. School buses/crossings  <b>Rush hour traffic:</b> lane discipline  <b>Afternoon:</b> be aware of school closing/children; drive at appropriate speed; do not obstruct school entrances, crossings etc  <b>Evening:</b> rush hour; lane discipline; speed; be aware of pedestrians/other vehicles</p>			

**Night:** drive within stopping distance of lights; proper use of dipped headlights; be aware of lighting up time etc

AVAILABLE  
MARKS

**Level 1 ([1]–[4])**

The candidate may focus only on one or two of the required references and give 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 ([5]–[8])**

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 ([9]–[12])**

The candidate addresses all 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.

[0] a zero mark will be awarded if the response is not worthy of credit. [12]

12

30 Candidates may refer to and/or develop some/many/all of the following points:

**Checks:** daily; weekly; annual; MOT

**Daily:** windscreen .windows clear, mirrors adjusted, clear; de-mister working

**Weekly:** tyres pressure, tread, damage; if tyre punctures, wheels re-balanced after repair; lights; washers/wipers; coolant level

**Seasonally:** battery

**Annually:** annual service; brakes, steering, tyres, exhaust system

**MOT:** vehicle prepared for MOT as necessary; vehicle maintained in same condition after MOT pass

**Level 1 ([1]–[4])**

The candidate may focus only on one or two of the required references and give 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 ([5]–[8])**

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 ([9]–[12])**

The candidate addresses most 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.

[0] a zero mark will be awarded if the response is not worthy of credit. [12]

12



31 Candidates may refer to and/or develop some/many/all of the following points:

- Winter weather:** rain, snow, fog, ice, high winds, low winter sun  
Features/problems associated with each weather type; differing impact on urban/rural roads
- Rain:** vision/visibility; risk of aquaplaning; greater stopping distances; risk in both areas; lying water more likely on rural roads
- Wind:** cross winds on exposed sections; debris on roads; less issue in urban driving though hoardings/scaffolding dangers
- Fog:** vision/visibility; don't tailgate; urban lesser problem due to effect of street lights; greater problem on smaller rural roads with less road marking etc
- Snow:** vision; traction; speed; greater stopping distances
- Ice:** black ice conditions; speed; braking distance; minor roads may not be gritted/salted; pedestrians may slip/fall on urban roads
- Sun:** vision with low winter sun; less problem in urban areas due to buildings but care still needed

Candidates should make appropriate reference to **both** rural and urban roads/conditions.

**Level 1 ([1]–[4])**

The candidate may focus only on one or two of the required references and give 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 ([5]–[8])**

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 ([9]–[12])**

The candidate addresses most 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.

**[0]** a zero mark will be awarded if the response is not worthy of credit. [12]

**Total**

**AVAILABLE  
MARKS**

12

**180**