



*Rewarding Learning*

General Certificate of Secondary Education  
2015

---

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

Unit 1: Motor Vehicle and Road User Theory

Higher Tier

**[GMV12]**

**MONDAY 11 MAY, AFTERNOON**

---

**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	Flammable liquid/petrol/oil etc.	[1] 1
2	Traffic congested/blocked/parade etc.	[1] 1
3	(a) motorcycle/scooter/moped etc.	[1]
	(b) heavy traffic/congestion/rush hour etc.	[2] 3
4	(a) 80	[1]
	(b) vision impaired, slower reactions etc.	[1]
	(c) banned from driving for 12 months, resit test etc.	[2] 4
5	(a) Any <b>two</b> from: hi viz vest/helmet/gloves/ride on left, single file etc.	[2]
	(b) Any <b>two</b> from: cycle lanes/toucan crossings etc.	[2] 4
6	(a) Any <b>two</b> from: is the journey necessary? allow extra time, are all lights working? etc.	[2]
	(b) Any <b>three</b> from: Use dipped headlights, reduce speed, do not follow the lights of the car in front, be aware of speed etc.	[3]
	(c) Mirror, signal, manoeuvre	[1]
	(d) Always check your surroundings, when safe to do so, signal your intention, and only then carry out the manoeuvre.	[2] 8
7	(a) pedestrians crossing etc.	[2]
	(b) Drive slowly and smoothly past giving a wide berth, be ready to stop, do not rev. engine or sound horn, do not accelerate rapidly once you have passed etc. Any <b>two</b> , [1] mark each	[2] 4
8	(a) Reduce speed/No overtaking etc.	[2]
	(b) bad bend/brow of a hill/hidden dip etc.	[3] 5

		AVAILABLE MARKS
9	Traffic emerging from side roads traffic turning right pedestrians attending fast food van traffic stopping at food van etc.	[2]      2
10	(a) coil - - - - - ignition system [1] solenoid - - - - - starting system [1] rack and pinion - - - - - steering system [1] expansion/ header tank - - cooling system [1]	[4]
	(b) Glow plugs, absence of spark plugs etc.	[1]      5
11	(a) Three	[1]
	(b) Any <b>three</b> from: speeds bus flow encourages park & ride encourages increased bus use	[3]      4
12	(a) 12.1 clearway 12.2 no overtaking 12.3 no entry 12.4 ahead only 12.5 national speed limit 12.6 cycle route	[6]
	(b) (i) 30 mph	[1]
	(ii) Street lights/built up area etc.	[1]
	(c) view not blocked by high-sided vehicles can be seen from further back	[1]      9
13	(a) $1 : 24 = 25$ [1] 5000 ml divided by 25 = 200 ml/20 cl Ans 200 ml [1]	[2]
	(b) 550 km divided by 50 litres = 11 km/l	[1]
	(c) $£475 \times 34 = £16\,150$ [1] $£19\,000 - £16\,150 = £2850$ Ans £2850 [1]	[2]      5
14	(a) Any <b>two</b> from: plant trees/bushes, build fences etc.	[2]
	(b) Any <b>two</b> from: electric, petrol, gas, diesel	[2]
	(c) lead is a poison	[1]      5

			AVAILABLE MARKS	
15	(a)	view of road ahead blocked by trees, hidden dip Contrasting light etc.	[2]	3
	(b)	fallen leaves etc.	[1]	
16	(a)	Third party	[1]	10
	(b)	1 policy 2 certificate 3 cover note renewal notice	[3]	
	(c)	Any <b>three</b> from: gender, engine size, location, occupation, age etc.	[3]	
	(d)	Third party The Agent The Proposer	[3]	
17	(a)	fuel system	[1]	12
	(b)	1 air filter 2 <b>inlet</b> manifold 3 petrol pump 4 carburettor 5 petrol tank	[5]	
	(c)	only uses measured amounts of fuel, more economical	[2]	
	(d)	air, fuel, oil (any 2, [1] each)	[2]	
	(e)	to prevent dust/dirt particles from getting into the engine	[2]	
18	(a)	makes motorists aware of their road position when car lights reflect off them.	[2]	
	(b)	Red White Amber Green	[4]	
19	(a)	Always maintain the correct pressure. tyres should be checked regularly etc.	[2]	6
	(b)	Turn off if not essential, service regularly	[2]	
	(c)	Sharing one car with two or more people will help share the cost of fuel and parking.	[2]	

			AVAILABLE MARKS
20	60 divided by 4.55 = 13.19 gals [2] 13.19 × 35 = 461.65 miles = 462 miles (to nearest mile) [2]	[4]	4
21	Plan your journey, allow for breaks, follow the two second rule, check mirrors often, indicate when changing lanes, take extra care around LGVs, know the rules etc. (any 3 answers 2 marks each)	[6]	6
22	(a) 1 ignition switch 2 HT leads 3 coil 4 battery 5 distributor 6 spark plugs	[6]	
	(b) to ignite the fuel etc.	[3]	
	(c) Fuel is then injected into the cylinder. [1] Air is compressed by the piston to combustion temperature. [2]	[3]	
	(d) to reduce harmful gases	[2]	14
23	Drive carefully, observe speed limits, look out for pedestrians, keep a safe distance from vehicle in front, be aware of signs etc.		
	<b>([0]–[2])</b> Some knowledge and basic understanding.		
	<b>([3]–[4])</b> Relevant knowledge, good understanding.		
	<b>([5]–[6])</b> Good knowledge, thorough understanding.	[6]	6
24	(a) Any <b>two</b> from: First aid kit, fire extinguisher, torch, reflective/fluorescent jacket etc.	[2]	
	(b) Any <b>two</b> from: Switch off engine, handbrake, chock wheels etc.	[2]	
	(c) doesn't catch fire, roll away, cause obstruction etc.	[1]	5

			AVAILABLE MARKS	
<b>25</b>	(a)	1 induction 2 compression 3 power 4 exhaust	[4]	12
	(b)	1 piston 2 connecting rod 3 crankshaft 4 gudgeon pin	[4]	
	(c)	1 inlet valve 2 exhaust valve	[2]	
	(d)	camshaft/springs	[2]	
<b>26</b>	<b>Drivers</b> Drive carefully, observe all aspects of highway code. Care for vehicle/fit for use (service, MOT, fluids, tyres) etc.			
	<b>Vehicle</b> Design improvements; primary and secondary safety and examples etc.			
	<b>Roads</b> Improvement to existing roads – straightening, widening, line of sight; junctions; dual carriageways, motorways etc.			
	[0] Zero mark will be awarded if the response is not worthy of credit.			
	<b>Level 1 ([1]–[4])</b> The candidate may focus on only one or two of the required references and give limited examples and limited or irrelevant detail. Specialist vocabulary will be limited or inappropriately used. The answer will lack clarity and/or cohesion and may also contain significant grammatical, punctuation or spelling errors.			
	<b>Level 2 ([5]–[8])</b> The candidate will address at least two of the required references in some relevant detail. Some specialist vocabulary is used and used correctly. The style of writing is appropriate and the meaning is clear. There may be some errors in spelling, punctuation or grammar.			
	<b>Level 3 ([9]–[12])</b> The candidate addresses all of the required references in line with the detail set out above. Specialist vocabulary is used and used correctly. The answer is well structured and relevant material is presented with a high degree of clarity. Spelling, punctuation and grammar will generally be correct.		[12]	12

		AVAILABLE MARKS
<p><b>27</b> Drink driving No seatbelt no excuse speeding cycling &amp; motorcyclists respect everyone’s journey Police/Fire &amp; Rescue/DOE etc.</p> <p><b>[0]</b> Zero mark will be awarded if the response is not worthy of credit.</p> <p><b>Level 1 ([1]–[4])</b> The candidate may focus on only one or two of the required references and give limited examples and limited or irrelevant detail. Specialist vocabulary will be limited or inappropriately used. The answer will lack clarity and/or cohesion and may also contain significant grammatical, punctuation or spelling errors.</p> <p><b>Level 2 ([5]–[8])</b> The candidate will address at least two of the required references in some relevant detail. Some specialist vocabulary is used and used correctly. The style of writing is appropriate and the meaning is clear. There may be some errors in spelling, punctuation or grammar.</p> <p><b>Level 3 ([9]–[12])</b> The candidate addresses all of the required references in line with the detail set out above. Specialist vocabulary is used and used correctly. The answer is well structured and relevant material is presented with a high degree of clarity. Spelling, punctuation and grammar will generally be correct. [12]</p>	12	
<p><b>28</b> Car: tyres/battery/screenwash/fuel/windows etc. Driver preparation: warm clothing, weather forecast, plan route, food/drink, mobile phone, shovel, tow rope, torch, is journey necessary etc. Driver behaviour: keep revs low, dipped headlights, increase stopping distance, adjust speed etc.</p> <p><b>[0]</b> Zero mark will be awarded if the response is not worthy of credit.</p> <p><b>Level 1 ([1]–[4])</b> The candidate may focus on only one or two of the required references and give limited examples and limited or irrelevant detail. Specialist vocabulary will be limited or inappropriately used. The answer will lack clarity and/or cohesion and may also contain significant grammatical, punctuation or spelling errors.</p> <p><b>Level 2 ([5]–[8])</b> The candidate will address at least two of the required references in some relevant detail. Some specialist vocabulary is used and used correctly. The style of writing is appropriate and the meaning is clear. There may be some errors in spelling, punctuation or grammar.</p> <p><b>Level 3 ([9]–[12])</b> The candidate addresses all of the required references in line with the detail set out above. Specialist vocabulary is used and used correctly. The answer is well structured and relevant material is presented with a high degree of clarity. Spelling, punctuation and grammar will generally be correct. [12]</p>	12	
<b>Total</b>		<b>180</b>