

Mark Scheme - Final June 2010

GCE 2008

GCE General Studies Unit 3 6GS03



General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Question No.	Question	
1 (a)		
		Mark
	 It will be used in compiling statistics on eg mortality rates, life expectancy DO NOT ACCEPT any reference which only refers to estimating population number Data can be used to identify trends in health/disease It is important to know about any contributory cause of death Recording changes in the virulence of certain disease-producing bacteria There is concern about hospital-acquired infections, and therefore data is needed To prevent fraud eg identity theft, benefit claims etc 1 mark for any valid point, up to 2 	2

Question No.	Question	
1(b)		
		Mark
	 It may not show the main/underlying cause of death It may not include all contributory factors/lifestyle The doctor may record something in error, or the data is not double checked Any other valid reason IGNORE references to non-completion of death certificates 	2
	1 mark for any valid point, up to 2	

Question No.	Question	
2		
		Mark
	 Take care to see whether candidate has identified the correct graph to comment on (ie drop after 2005 refers to incorrect grey graph, drop in 2007 refers to correct black graph) Deaths where MRSA is an underlying cause generally rise between 1993 and 2006 But in 2007 there appears to be a fall In 2001, deaths where MSRA is the underlying cause appear to rise above the gradually rising trend In 2002, deaths where MSRA is the underlying cause appear to fall below the gradually rising trend In 1994, deaths where MSRA is the underlying cause appear to fall below the gradually rising trend (but this is difficult to see on the graph, and the numbers are small) 1 mark any valid point up to 2 	2
	i mark any vana point up to z	

Question No.	Question	
3		
		Mark
	 either Indicates that SA infections are being controlled effectively or Indicates that MRSA infections are not being controlled effectively Alerts medical authorities to the fact that MRSA infections are different/new types developing It might mean that the significance of the meticillin resistant strain of SA has become better appreciated. 1 mark for any valid point up to 2 	2

Question No.	Question	
4		
		Mark
	 Indicates poor hygiene/cleanliness in the hospital Hospital are monitored for quality standards, on which their income depends Humanitarian concerns about the risks to patients Patients entering hospital are already ill/at risk so easy to acquire an infection Hospital-acquired infection jeopardises their recovery Possibility of staff and/or visitors being infected May encourage people to resist hospitalisation (through fear) Increased costs of cleaning - money could be better used clinically Greater strain on hospital resources Legal issues - litigation and compensation claims 	2

Question No.	Question	
5		_
	Indicative content	Mark
	A good answer may consider how changes occur in the living world. Because pathogens are living organisms, they adapt to changes in the environment. For bacteria exposed to antibiotics, natural selection ensures that resistance to antibiotics will arise. This is a certainty, so that new antibiotics and treatments are continually needed. Also, it is necessary to reduce the use of antibiotics in situations where they are ineffective or inappropriate (such as treating viral infections, e.g. colds and flu, with antibiotics) as everpresent bacteria develop a resistance through natural selection. • Any explanation of how disease producing bacteria change • How use of antibiotics can promote changes in bacteria so that they become resistant to the antibiotic • Ineffectiveness of antibiotics against viral infections • Use of antibiotics in other situations (e.g. agriculture) can encourage human pathogens to become resistant and hence more of a threat to humans • Development of an argument about the relationship between natural selection and change in bacteria • Conclusion about the importance of only using antibiotics when necessary • Development of an argument about the indiscriminate use of antibiotics 1 mark for each point up to 4 marks	6
	AO3 Mark AO3 by asking yourself the following questions and awarding a mark where appropriate: • Does the candidate refer to identified (but not necessarily quoted) evidence? • Does the candidate subject the evidence to albeit limited critical scrutiny? • Does the answer distinguish between fact and opinion or recognising bias or problems of stereotyping? If YES award one mark • Does the candidate refer to the strength or weakness of arguments used? If YES award one mark • Is an overall objective assessment made of the sufficiency of the evidence and arguments presented? If YES award one mark • Is the conclusion supported by the evidence? If YES award one mark	

Question No.	Question			
6				
Indicative of	ontent		Mark	
	death to illus examples, for new need for adequate sup examples. Avantibiotics is knowing this, and ethical phow do we problems required.	er will use the example of MRSA infections and cause of strate a problem in the NHS. It should introduce other rexample the development of organ transplantation, the donor organs and the problems that arise from ensuring an oply of these organs. Candidates may come up with other roiding the problems arising from the development of new going to be difficult because of natural selection, but, guidelines for the use of antibiotics are necessary. Moral roblems arise, for example if a treatment is very expensive decide who will receive treatment? Minimising these uires a strategy of public information and education. les can be stem cell research and animal testing.	14	
AO2		dence and draw conclusions: select, interpret, evaluate e information, data, concepts and opinions.		
	Level	Criteria	Mark	
	0	Fragmentary, content is inaccurate, missing or miniscule, reaches no conclusion.	0	
	1	Limited, (mainly) one sided answer with a simple conclusion	1	
	2	Selects and marshals a limited range of evidence to draw a simple conclusion, which may or may not be appropriate. There may be little explanatory comment	2	
	3	A developed answer which largely examines one viewpoint or looks at two sides of the argument in a superficial and unspecific manner. Selects and interprets evidence, and uses it to draw a justified conclusion or conclusions.	3	
	4	Evidence is used to examine contrasting viewpoints. Selects, interprets and begins to evaluate evidence to show clear awareness of differing points of view, and uses it to draw a justified conclusion or conclusions.	4	

AO3	Demonstrate understanding of different types of knowledge, appreciating their strengths and limitations.		
	(Total 6 marks)		
Criteria		Mark	
	sking yourself the following questions and awarding a mark where	6	
appropriate:			
	andidate refer to identified (but not necessarily quoted) <i>evidence</i> ?		
	andidate subject the evidence to albeit limited <i>critical scrutiny?</i>		
20 aa.	d one mark		
problems o	 Does the answer distinguish between fact and opinion or recognising bias or problems of stereotyping? If YES award one mark 		
Does the ca			
arguments	arguments presented?		
	d one mark		
	lusion supported by the evidence?		
If YES awar	d one mark		
Any valid point	s up to max 6 marks		

AO4	Communicate clearly and accurately in a concise, logical and relevant way		
	The AO4 marks are not dependent upon the AO2 and AO3 mar	-ks	
A mark should guidelines			
	padly expressed or fails to treat the question seriously, there are apses in grammar and spelling or there is too little of the	(0 marks)	
_	n writing to assess reliably (as is sometimes the case in section	(exceptionally	
B)		poor)	
The answer is o	only understandable in parts, writing may be in an inappropriate	(1 mark)	
form, argumen	ts are not clearly expressed, and in places grammar and spelling		
inhibit commu	nication	(below average)	
The answer is I	proadly understandable; writing is in the correct form.	(2-3 marks)	
Arguments are	on the whole coherent, and grammar and spelling do not inhibit	(average)	
communication	n		
	clear and lucid, (writing in correct form is taken as a matter of	(4 marks)	
course) argume	ents are coherent and well laid out, there are very few		
grammatical or	spelling errors.	(above average)	

Question No.	Question	
7		
	Answer	Mark
	Candidates must be credited if they can produce the two following ideas - 1) Scientific method creates explanations which 2) can be tested	2
	 Based on empirical observations Hypothesis/explanation formed to explain phenomena Hypothesis/explanation tested in experiments Experimental results agree with predictions from the hypothesis/explanation If agreement is achieved by several experimenters, hypothesis/explanation is elevated to accepted scientific theory Theory is always open to falsification, therefore never final 1 mark each point, up to 2 	

Question No.	Question	
8		
	Answer	Mark
	 Any two from the four statements below. No other instances allowed "he proved most mathematical ideas for himself" "he invented the mathematical technique mathematical form" "he had a bitter dispute with Hooke his ideas" "he could not believe that Leibnitzindependently" 1 mark each point up to 2 	2

Question No.	Question	
9		
	Answer	Mark
	The question asks "how similar?" - so answers may make counterbalancing	3
	points, so that points of similarity and difference can both score marks.	
	They are similar because they are new to human experience/both creative	
	They are similar because they can sometimes be the result of the work of groups or teams	
	They are similar because based on observation and experimentation	
	However, artistic innovations are usually the product of one artist	
	 Artistic innovations are usually unique and are not usually discovered independently by different artists/schools 	
	• Scientific discoveries are based on objective criteria whereas artistic innovation can be entirely subjective.	
	Scientific discoveries help us to understand or explain the world	
	Artistic innovations makes us see the world in different ways	
	The same scientific discovery is sometimes made by scientists working	
	independently (e.g. Darwin and Wallace)	
	Scientific discoveries can be universally understood	
	Artistic creations may only be accessible to a few	
	1 mark each point up to 3	

Question No.	Question	
10 (a)		
	Answer	Mark
	 The analogy is of the moon being like a ball being thrown very hard (horizontally) away from the earth Then observing it falling back to earth Misses earth because it is curved But it reaches a point where the force taking it away from the earth is balanced by the force attracting it back again, so it continues to circle the earth The analogy lies in transferring this concept to the moon, an astronomical object Reject references to apple falling 1 mark each point up to 3 	3

Question No.	Question	
10 (b)		
	Answer	Mark
	 Analogy depends on comparing things which are similar Something may appear to be similar to something else (water flowing in a river is like an electrical current "flowing" in a wire) Things that look similar may be profoundly different or an oversimplification (water is nothing like electricity) The use of the analogy may lead to misconceptions about the thing compared, and therefore must be seen as weak Analogy is dangerous in understanding human behaviour and in moral reasoning Newton's analogy is not too bad - at least a ball is a round physical object, with quite a lot in common with the moon! 1 mark each point up to 3 	3

Question No.	Question	
11		
	Answer	Mark
	 Before Newton, no satisfactory mathematical explanation for the movement of astronomical bodies - therefore understanding of the universe limited to historical beliefs, rather than critical observations Newton's discovery that the motion of astronomical bodies could be precisely calculated from relatively simple rules - A mechanistic view of the world (eg explaining orbits of planets using gravitational theory) had profound philosophical implications and consequently an impact on people's beliefs 1 mark each point up to 3 	4

Question No.	Question		
12			
	Answer	Mark	
	 Progress is a subjective concept Using Newton as an example: Before Newton, ideas in physics (light, gravity) and mathematics (calculus) were simple and not at all powerful Newton' discoveries had a profound influence on technology (telescopes, lenses, measuring devices) Much of his work improved the human condition His work inspired others/led to more discoveries So he did not just change scientific understanding, he contributed to changes in society On the other hand, as with any science that leads to improvements in technology, this understanding led to problems for society (weaponry) Candidates may select another example of a scientific discovery. Name of discovery mark each for any points relating to the discovery in relation to "progress" - up to 6 marks 	6	

AO3	Demonstrate understanding of different types of knowledge, appreciating their strengths and limitations. (Total 6 marks)	
		Mark
Mark AO3 by as appropriate:	sking yourself the following questions and awarding a mark where	3
Does the ca	andidate refer to identified (but not necessarily quoted) <i>evidence</i> ? one mark	
	andidate subject the evidence to albeit limited <i>critical scrutiny?</i> rd one mark	
Does the answer distinguish between fact and opinion or recognising bias or problems of stereotyping? If YES award one mark		
Does the candidate refer to the strength or weakness of <i>arguments</i> used? If YES award one mark		
arguments	Il objective assessment made of the <i>sufficiency</i> of the <i>evidence</i> and presented? To one mark	
	lusion supported by the evidence? rd one mark	
Any valid point	s up to max 3 marks	

101	Communicate alarmy and accumately in a compice legical and	malayant way		
AO4	Communicate clearly and accurately in a concise, logical and relevant way			
	{Max 4 marks) The AO4 marks are not dependent upon the AO2 a	and AO3 marks		
A mark should	be given for the level of written communication using these			
guidelines				
The answer is	padly expressed or fails to treat the question seriously, there are	(0 marks)		
many serious la	apses in grammar and spelling or there is too little of the			
candidate's ow	in writing to assess reliably (as is sometimes the case in section			
B)	3			
The answer is	(1 mark)			
	only understandable in parts, writing may be in an inappropriate ts are not clearly expressed, and in places grammar and spelling	(* ************************************		
	inhibit communication			
	proadly understandable; writing is in the correct form.	(2-3 marks)		
	on the whole coherent, and grammar and spelling do not inhibit	(=,		
communication.				
		(4 marks)		
	clear and lucid, (writing in correct form is taken as a matter of	(4 marks)		
course) arguments are coherent and well laid out, there are very few				
grammatical or	r spelling errors.			

SECTION C

Marking of Questions - Levels of response

The mark scheme provides an indication of the sorts of answer that might be found at different levels. The exemplification of content is not exhaustive. It is intended as a guide and it will be necessary for examiners to use their professional judgement in deciding both at which level a question has been answered and how effectively points have been sustained. Candidates should always be rewarded on the quality of thought expressed in their answers and not solely on the amount of knowledge conveyed. However candidates with only a superficial knowledge will be unable to develop or sustain points sufficiently to move to higher levels.

In assessing the quality of thought, consider whether the answer:

- is relevant to the question and is explicitly related to the question's terms
- argues a case when requested to do so
- is able to make the various distinctions required by the question
- has responded to all the various elements in the question
- where required, explains, analyses, discusses assesses and deploys knowledge appropriately rather than simply narrates

Using the levels mark scheme

Examiners must mark initially on the A01/A02 levels. In order to arrive at a level, examiners must look for a best fit to the descriptors. Within the level, examiners must start at the middle mark and move up or down according to the quality of response.

Having fixed the level, the answer should be assessed using the AO3 and AO4 descriptors. Answers which are placed in the lower levels are unlikely to achieve a high mark in AO3.

Examiners are required to make use of the full range of marks.

Question No.	Question
13	
Indicative content	

Examples of evidence that might be used:

Such schemes reassure the public, not least the parents of young children

Knowledge enables you to take avoiding action, or to be aware of a potential risk

This does nothing about the risk from paedophiles who have not been convicted

Information may be spread, giving rise to possible witch-hunts

There are many social reasons for such a provision

It may harm the rehabilitation of convicted paedophiles

The police have very difficult decisions to make about divulging the information

It is possible that the civil liberties of paedophiles may be infringed

Examples of arguments that might be used

The schemes are worthy of support because, on balance, they reassure parents, and need not affect the convicted paedophile who has reformed

The schemes are not worthy of support because they give rise to unnecessary fear on the part of parents

Synoptic features

Candidates are required to look at the question from a range of viewpoints and disciplines. They need to draw together, or compare and contrast, different ideas on the nature of crime and punishment, risk assessment and civil liberties. They may also bring together ideas from other areas - ethical issues, e.g. utilitarianism

AO1		nstrate relevant knowledge and understanding s, using skills from different disciplines	g applied	to a range of
AO2	Marsh	all evidence and draw conclusions: select, interpo integrate information, data, concepts a		
LEVEL	AOs	Indicators of level	Mark	Mark range
0	AO1	Irrelevant or facetious answers	0	0
	AO2	Irrelevant or facetious answers	0	
1	AO1	Insufficient evidence to assess	0	1
	AO2	Incomplete or inconclusive answer	1	
2	AO1	Limited (in variety or amount) range of evidence drawn from a single discipline	1	2-6
	AO2	Superficial or formulaic answer	1-5	
3	AO1	Some evidence used from two or more disciplines	2	8-13
	AO2	Issue examined from one or more viewpoints but in a superficial or unbalanced manner	6-11	
4	AO1	Range of evidence drawn from two or more disciplines, showing some understanding	3	14-18
	AO2	Issue examined in a balanced and coherent way from two or more viewpoints	11-15	
5	AO1	A good range of evidence, showing clear understanding	4	19-20
	AO2	A balanced perceptive and evaluative answer	15-16	

AO3	Demonstrate understanding of different types of knowledge, appreciating		
	their strengths and limitations.		
	(Total 6 marks)		
Criteria		Mark	
Mark AO3 by as	sking yourself the following questions and awarding a mark where	4	
appropriate:			
	andidate refer to identified (but not necessarily quoted) evidence?		
If YES awar	rd one mark		
	andidate subject the evidence to albeit limited <i>critical scrutiny?</i>		
	rd one mark		
	nswer distinguish between fact and opinion or recognising bias or		
•	of stereotyping?		
	rd one mark		
	andidate refer to the strength or weakness of arguments used?		
	rd one mark		
	• Is an overall objective assessment made of the <i>sufficiency</i> of the <i>evidence</i> and <i>arguments</i> presented?		
	If YES award one mark		
 Is the conclusion supported by the evidence? 			
	rd one mark		
Any valid point			

AO4	Communicate clearly and accurately in a concise, logical and relevant way		
	The AO4 marks are not dependant upon the AO2 and AO3 marks		
		Mark range	
The answer are many scandidate section B)	(0 marks)		
The answe	er is only understandable in parts, writing may be in an	(1-2 marks)	
	inappropriate form, arguments are not clearly expressed, and in places grammar and spelling inhibit communication		
The answe	er is broadly understandable; writing is in the correct form.	(3-4 marks)	
Arguments	s are on the whole coherent, and grammar and spelling do not nonunication.	` ,	
		(E 4 marks)	
course) are	er is clear and lucid, (writing in correct form is taken as a matter of guments are coherent and well laid out, there are very few eal or spelling errors.	(5-6 marks)	

Question No.	Question
14	
Indicative content	

Examples of evidence that might be used;

Revolutions in transport were instrumental in bringing about the Industrial Revolution The Industrial Revolution set in train huge changes in social conditions

Many problems arose from change in social conditions (migration from rural to urban, over-crowding, poor living conditions)

Railways, and subsequent improvements allowed travel for people who were previously unlikely to seen much beyond their own locality

Air travel has made a vast difference to foreign travel - nearly all parts of the world are accessible to anyone, at reasonable cost.

Use of CO2 emitting energy sources has created a potentially disastrous situation in global warming

Through mass travel, many parts/environments of the world are being changed irrevocably. Transport systems are often opportunities for criminals/terrorists

The world economy is heavily dependent on transport systems.

Transport causes disruption - e.g. noise pollution

Examples of arguments that might be used:

The question refers to human progress, and in developed countries, life for citizens is improved through the development of mass transport of goods and people.

For other less-developed countries the benefits are less evident for most people.

Mass transport has potentially contributed to the threat of global warming, the outcome of which is uncertain, and potentially disastrous.

It is not safe to predict that any problem is impossible to solve, and change in the environment in which living organisms can thrive has occurred over millions of years already.

Synoptic features

Candidates are required to look at the question from a range of viewpoints and disciplines. They need to draw together, or compare and contrast, different ideas on the nature of transport and its impact. They may also bring together ideas from other areas - scientific, technological and sociological.

AO1	Demonstrate relevant knowledge and understanding applied to a range of issues, using skills from different disciplines Marshall evidence and draw conclusions: select, interpret, evaluate and integrate information, data, concepts and opinions.			
AO2				
LEVEL	AOs	Indicators of level	Mark	Mark range
0	AO1	Irrelevant or facetious answers	0	0
	AO2	Irrelevant or facetious answers	0	
1	AO1	Insufficient evidence to assess	0	1
	AO2	Incomplete or inconclusive answer	1	
2	AO1	Limited (in variety or amount) range of	1	2-6
		evidence drawn from a single discipline		
	AO2	Superficial or formulaic answer	1-5	
3	AO1	Some evidence used from two or more	2	8-13
		disciplines		
	AO2	Issue examined from one or more viewpoints	6-11	
		but in a superficial or unbalanced manner		
4	AO1	Range of evidence drawn from two or more	3	14-18
		disciplines, showing some understanding		
	AO2	Issue examined in a balanced and coherent	11-15	
		way from two or more viewpoints		
5	AO1	A good range of evidence, showing clear	4	19-20
		understanding		
	AO2	A balanced perceptive and evaluative answer	15-16	

AO3 Demonstrate understanding of different types of knowledge, app	orociatina	
	_	
their strengths and limitations.		
(Total 6 marks)		
Criteria	Mark	
Mark AO3 by asking yourself the following questions and awarding a mark where	4	
appropriate:		
Does the candidate refer to identified (but not necessarily quoted) evidence?		
If YES award one mark		
Does the candidate subject the evidence to albeit limited critical scrutiny?		
If YES award one mark		
Does the answer distinguish between fact and opinion or recognising bias or		
problems of stereotyping?		
If YES award one mark		
Does the candidate refer to the strength or weakness of arguments used?		
If YES award one mark		
• Is an overall objective assessment made of the <i>sufficiency</i> of the <i>evidence</i> and		
arguments presented?		
If YES award one mark		
Is the conclusion supported by the evidence?		
If YES award one mark		
in 120 divara one man		
Any valid points up to max 4 marks		

AO4	Communicate clearly and accurately in a concise, logical and relevant way		
	The AO4 marks are not dependent upon the AO2 and AO3 marks		
		Mark range	
The answer is badly expressed or fails to treat the question seriously, there are many serious lapses in grammar and spelling or there is too little of the candidate's own writing to assess reliably (as is sometimes the case in section B)		(0 marks)	
The answer is only understandable in parts, writing may be in an inappropriate form, arguments are not clearly expressed, and in places grammar and spelling inhibit communication		(1-2 marks)	
The answer is broadly understandable; writing is in the correct form. Arguments are on the whole coherent, and grammar and spelling do not inhibit communication.		(3-4 marks)	
course) ar	er is clear and lucid, (writing in correct form is taken as a matter of guments are coherent and well laid out, there are very few cal or spelling errors.	(5-6 marks)	