

Mark Scheme (Results)

January 2011

GCE 2008

GCE General Studies Unit 6GS01 Paper 01

Challenges for Society



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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.

Unit GS01 : January 2011 MS

Section A

Question Number	Answer	Mark
Q1	A	1

Question Number	Answer	Mark
Q2	B	1

Question Number	Answer	Mark
Q3	A	1

Question Number	Answer	Mark
Q4	D	1

Question Number	Answer	Mark
Q5	B	1

Question Number	Correct Answer	Mark
Q6	C	1

Question Number	Answer	Mark
Q7	A	1

Question Number	Answer	Mark
Q8	D	1

Question Number	Answer	Mark
Q9	D	1

Question Number	Answer	Mark
Q10	C	1

Question	Answer	Mark
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Number		
Q11	B	1

Question Number	Answer	Mark
Q12	C	1

Question Number	Answer	Mark
Q13	A	1

Question Number	Answer	Mark
Q14	B	1

Question Number	Answer	Mark
Q15	D	1

Question Number	Answer	Mark
Q16	B	1

Question Number	Answer	Mark
Q17	A	1

Question Number	Answer	Mark
Q18	C	1

Question Number	Answer	Mark
Q19	A	1

Question Number	Answer	Mark
Q20	B	1

Section B

Question Number	Acceptable Answers	Reject	Mark
21	<p>Using 365 days the precise answer is 6 307 200 but since the question asks for an estimate accept any answer between 6 and 6.4 million for 2 marks</p> <p>Award 1 mark if answer is incorrect but calculation includes no more than 1 obvious mistake eg a factor of ten</p> <p>NB Candidates are not required to show their working out to achieve 2 marks</p>		2

Question Number	Acceptable Answers	Reject	Mark
22	<p>Award 1 mark for an answer which includes a specific example of scientific or technological changes which have improved agriculture such as greenhouses, herbicides, fertilizers, farm machinery</p> <p>Further marks can only be awarded for discussion in the context of GM/selective breeding with marking points below:</p> <ul style="list-style-type: none"> • Mention of selective breeding or selection (but not natural selection) • Further description eg selection for characteristics/cross-breeding • Results in changes/changes characteristics/does the same as GM (accept produces some specific characteristic such as better crop/resistance to pests providing this is within the context of selective breeding; • Selective breeding is slow(er)/GM is fast(er) 		3

Question Number	Acceptable Answers	Reject	Mark
23	Refers to comparison/similarity/likeness	Line nos or reference	2

	Identifies other technological advances/ changes or industrial revolution or Frankenstein ; Accept any quote from passage which includes words in bold NB These marks are independent ie do not need to get first mark to get second mark	to paragraph	
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Question Number	Acceptable Answers	Reject	Mark
24	Up to 3 marks, 1 each from <ul style="list-style-type: none"> • Environmentalist concerns (about habitat etc) • Supermarkets have banned GM products • Attitude surveys show opposition 	Line nos	3

Question Number	Acceptable Answers	Reject	Mark
25	Up to 2 marks from, 1 each from <ul style="list-style-type: none"> • GM foods have existed for a number of years • Many foods contain GM ingredients/GM derived ingredients/GM products(NOT many foods are GM) • USA has been eating GM food for years 	Line nos	2

Question Number	Acceptable Answers	Reject	Mark
26	Up to 3 marks, 1 each from <ul style="list-style-type: none"> • Mention of genes/chromosomes (not just GM/DNA) • DNA/genes/chromosomes determine characteristics • (GM means) altering/splicing/cutting/transferring the DNA/genes • To change characteristics 		3

Total for Paper: 90 marks

Question Number		
27		
Marking Guidance		
After marking the answer for AO2, assess it for communication, AO4.		
	A02: Marshall evidence and draw conclusions: select, interpret, evaluate and integrate information, data, concepts and opinions.	Mark
	<p>Award up to 4 marks for identifying advantages, and additional marks for assessing advantages up to a total maximum of 5 marks. The mark for identifying is simply for identifying an advantage of GM foods from the passage ie</p> <ul style="list-style-type: none"> • higher yields OR lower cost • more attractive food • reduced use of pesticides/herbicides • modification to grow well in poor conditions <p>To gain the mark for assessing, an answer must make some comment which does not simply reproduce information from the passage word for word. It may</p> <ul style="list-style-type: none"> • link or select evidence from different parts of the passage • extend or add to the information given • evaluate GM foods in relation to existing food crops <p>Where the assessment could apply more than once, eg <i>reduces starvation</i> for points A and D, the mark for assessment should only be given once. Examples are given below but marks for assessment should be awarded for other similar valid points.</p> <p>A Identify - Higher yields OR lower cost</p> <p>Assess – we already produce a lot of food in the world eg EU butter mountain etc</p> <ul style="list-style-type: none"> • but it is not in the right places • famines are often linked to mass movement because of war • will alleviate starvation • reduced expenditure on food 	5

	<ul style="list-style-type: none"> • will allow other developments • reduced carbon footprint • less import or export • less reliance on charity • reduces amount of land devoted to agriculture. <p>B Identify - more attractive food</p> <p>Assess –</p> <ul style="list-style-type: none"> • is this important • we already throw away food which is not the right shape/colour • starving people are not concerned about appearances • supermarkets require uniform or attractive produce <p>C Identify –</p> <ul style="list-style-type: none"> • reduced use of pesticides • crops more resistant to pests or herbicides <p>Assess –</p> <ul style="list-style-type: none"> • much subsistence farming does not make use of these anyway • environmental concerns are a luxury • not much wildlife where plant growth is poor • less toxins in water sources or food chain • reduced carbon footprint • less import or export • increases proportion of crop available for food <p>D Identify –</p> <ul style="list-style-type: none"> • can be modified to grow well even in poor conditions <p>Assess –</p> <ul style="list-style-type: none"> • shortage of water will continue to affect population in some areas where it is probably unsustainably high anyway • population in areas where crops cannot grow well are small • will alleviate starvation • reduced carbon footprint • less import or export • less reliance on charity 	
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	Mark	Descriptor
		<p>A04: Communicate clearly and accurately in a concise, logical and relevant way.</p> <p>The A04 marks are NOT dependent upon the A02 marks.</p>
	0	The answer is badly expressed, not relevant 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.
	1	The answer is only understandable in parts, writing may be in an inappropriate form, arguments are not clearly expressed, rarely relevant and in places grammar and spelling inhibit communication.
	2	The answer is broadly understandable, writing is in the correct form. Arguments are on the whole coherent, mainly relevant and grammar and spelling do not inhibit communication.
	3	The answer is clear and lucid, (writing in correct form is taken as a matter of course) arguments are coherent and well laid out, and relevant, there are very few grammatical or spelling errors.

Question Number		
28		
Marking Guidance:		
After marking the answer for AO3, assess it for communication, AO4.		
	A03: <i>Demonstrate understanding of different types of knowledge, appreciating their strengths and limitations.</i>	Mark
	<p>The following marking points are awarded independently. Only 1 mark can be awarded under each letter.</p> <p>A Award 1 mark for identifying/quoting at least 2 relevant pieces of evidence from passage</p> <p>B Award 1 mark for making</p> <ul style="list-style-type: none"> • a general comment about the strength or weakness of evidence in the passage; (eg evidence is strong/weak or includes fact/opinion) • OR for discussing the advantages and disadvantages of GM crops • OR for discussing lack of balance or possible bias <p>C Award 1 mark for correctly identifying a relevant statement as a fact, such as -</p> <ul style="list-style-type: none"> • <i>Population rising to 8 billion...</i> • <i>a child dies of starvation every 5 seconds</i> • <i>GM crops can give higher yields/lower costs</i> • <i>resistant to pests/herbicides</i> • <i>GM foods have existed for years..</i> • <i>USA has been eating GM food for years</i> • <i>supermarkets have banned GM food</i> • <i>attitude survey</i> • <i>GM alters yields, characteristics etc</i> <p>D Award 1 mark for correctly identifying a relevant statement as an opinion, such as -</p> <ul style="list-style-type: none"> • <i>misguided concerns</i> • <i>benefits of GM foods are obvious</i> • <i>no evidence...other than beneficial</i> • <i>it is time we embarked...</i> 	Max 4

	<ul style="list-style-type: none"> • <i>GM technology is like other technologies...</i> • <i>Mary Shelley's Frankenstein embodied fears...</i> • <i>more attractive food</i> <p>E Award 1 mark for identifying argument by analogy as a weak form of argument</p> <p>F Award 1 mark for identifying WHO as a reputable/authoritative/unbiased source</p> <p>G factual evidence is stronger than opinion</p> <p>Accept</p> <ul style="list-style-type: none"> • objective/scientific knowledge or statistics for fact • subjective knowledge for opinion 	
Mark	Descriptor A04: <i>Communicate clearly and accurately in a concise, logical and relevant way.</i> <i>The A04 marks are NOT dependent upon the A03 marks.</i>	
0	The answer is badly expressed, not relevant 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.	
1	The answer is only understandable in parts, writing may be in an inappropriate form, arguments are not clearly expressed, rarely relevant and in places grammar and spelling inhibit communication.	
2	The answer is broadly understandable, writing is in the correct form. Arguments are on the whole coherent, mainly relevant and grammar and spelling do not inhibit communication.	
3	The answer is clear and lucid, (writing in correct form is taken as a matter of course) arguments are coherent and well laid out, and relevant, there are very few grammatical or spelling errors.	

Section C

Question Number	Background				
<p>29</p>	<p>In some respects science and religion both attempt to make sense of the world. Science can be viewed as having grown out of religion – think of the astronomer-priests of ancient Egypt or the long history of alchemy’s search for the “Elixir of Life”.</p> <p>Newton was a secret Arian who kept his religious beliefs well hidden and was only able to accept his post as Lucasian professor at Cambridge because he got a royal dispensation from the requirement to take Holy Orders in the C of E.</p> <p>Science aims to understand and describe nature based on empirical observations and rational argument based on these observations. Because of this, science is limited to those things which can be observed and cannot address questions which relate to purpose or values. Belief in science is based on “facts” ie observations and theories based on inductive arguments.</p> <p>Religion tries to answer questions about why we are here and then bases its rules about morality on the perceived purpose. Religious belief is based on revelation and faith.</p> <p>Conflict between science and religion has arisen where new scientific discoveries or theories have clashed with orthodoxy, most notably Copernicus/Galileo and the heliocentric solar system and Darwin’s theory of evolution.</p> <p>The creationist debate continues with some people in the UK and USA arguing for the inclusion of creationism in science lessons as an “alternative theory”. Much of the friction is caused by basic, perhaps deliberate, misinterpretations of the nature of science eg the equivalence drawn between scientific theories based on empirical evidence and repeatedly tested, and creationist accounts which are described as theory ie a hunch based on intuition. This is equivocation, ie using a word with different meanings, in this case “theory”, to support a dodgy argument.</p>				
<p>Marking Guidance</p>					
<p>After marking the answer for AO1 and AO2, assess it for communication, AO4.</p>					
	<table border="1"> <thead> <tr> <th data-bbox="395 1783 528 1850">Mark</th> <th data-bbox="528 1783 1361 1850">Descriptor</th> </tr> </thead> <tbody> <tr> <td data-bbox="395 1850 528 1948"></td> <td data-bbox="528 1850 1361 1948"> <p>AO1: <i>Demonstrate relevant knowledge and understanding applied to a range of issues, using</i></p> </td> </tr> </tbody> </table>	Mark	Descriptor		<p>AO1: <i>Demonstrate relevant knowledge and understanding applied to a range of issues, using</i></p>
Mark	Descriptor				
	<p>AO1: <i>Demonstrate relevant knowledge and understanding applied to a range of issues, using</i></p>				

		skills from different disciplines.
	0-8	<p>Award 1 mark for each valid point, up to a maximum of 8 marks, such as:</p> <p>Points related to nature of science A1 Science is empirical/based on observation A2 Observations lead to theories A3 Through induction/testing A4 Science explains how/science doesn't explain why A5 Ethics/morals not normally part of science A6 Science arises from human curiosity/desire to explain</p> <p>Points related to religion/ethics/morals A7 Religion is based on faith/holy texts/cannot be tested A8 People may have different religious beliefs A9 Morals may come from religion or experience; A10 Religion addresses questions of purpose - ie why as opposed to how A11 Religion was also a way of explaining the world</p> <p>Points relating to conflict A12 Origin of Earth/universe/Big Bang A13 Heliocentric/geocentric system A14 Darwin and evolution/creationism A15 Explanations for miracles A16 Explanations for natural phenomena eg earthquakes/disease A17 The influence of religion has waned A18 Science addresses many more areas than previously</p> <p>The above points are illustrative only and not exhaustive. Any other valid points must be credited, even if they don't appear in the list above.</p>
Level	Mark	Descriptor
		A02: Marshall evidence and draw conclusions: select, interpret, evaluate and integrate information, data, concepts and opinions.
	0-8	<p>Award 1 mark for each valid point, up to a maximum of 8 marks.</p> <p>The question requires candidates to critically examine</p>

		<p>conflicting views/alternative viewpoints. Candidates who give consideration solely to one side of the question are limited to a maximum of 6 marks.</p> <p>Points should be used to demonstrate how evidence is marshalled by:</p> <ul style="list-style-type: none"> • Selecting: identifying and applying relevant evidence • Interpreting: showing how evidence helps to answer the question • Evaluating: assessing the strength of the evidence in support of the question • Integrating: using evidence to develop a coherent argument/conclusion <p>Note – evidence can be information, data, concepts or opinions</p> <p>The following areas are likely to be addressed by a majority of candidates, but candidate responses are not restricted to these areas. Other valid points must be credited, even if they don't appear in the list below.</p> <p>Marshalling evidence</p> <p>B1 Because science depends on 'facts' and religion depends on faith, they can often clash</p> <p>B2 Because science depends on facts, scientific explanations should reach the same conclusion</p> <p>B3 Because religion/moral views depend on faith or experience they can arrive at different conclusions</p> <p>B4 Because science is a system of explaining things it will continue to explain more things in the future</p> <p>B5 Because science enables new technologies it can itself create moral issues eg IVF, animal testing, nuclear weapons</p> <p>B6 Belief does not justify the imposition of belief on others</p> <p>B7 Literal beliefs or extreme orthodoxy lead to conflict</p> <p>B8 Religion only challenges selected areas of science</p>
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		<p>Drawing conclusions</p> <p>B9 Conclusion which is simple (implicit or explicit) 1 mark</p> <p>B10 Conclusion linked to limited evidence/arguments 2 marks</p> <p>B11 Conclusion balanced and comprehensive 3 marks</p> <p>Any other valid points must be credited.</p>
	Mark	<p>Descriptor</p> <p>AO4: <i>Communicate clearly and accurately in a concise, logical and relevant way.</i></p> <p><i>The AO4 marks are not dependent upon the AO1 and AO2 marks.</i></p>
	0	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.
	1	The answer is only understandable in parts and maybe irrelevant, writing may be in an inappropriate form, arguments are not clearly expressed, and in places grammar and spelling inhibit communication.
	2	The answer is generally understandable, writing is often in the correct form. Arguments are sometimes coherent and relevant, and grammar and spelling do not seriously inhibit communication.
	3	The answer is broadly understandable, writing is in the correct form. Arguments are on the whole coherent and relevant, and grammar and spelling do not inhibit communication.
	4	The answer is clear and lucid, (writing in correct form is taken as a matter of course) arguments are coherent, well laid out and relevant, there are very few grammatical or spelling errors.

Question Number	Background
30	<p>Human rights are seen as fundamental and involving basic expectations such as the right to life or freedom of speech. They are set out in the UN declaration of Human Rights and both EU and UK legislation.</p> <p>However, some human rights are clearly conditional on respecting the rights of others. In this sense rights and responsibilities have to go together. My right to life imposes a responsibility on other people, but if I am expecting other people to accept this responsibility then I also have to accept the same responsibility for other people.</p> <p>Punishing serious crime by imprisonment or death obviously conflicts with any idea of absolutely inviolable human rights. Even in many countries which still impose the death penalty, where clearly the basic human right to life is not seen as sacrosanct, condemned prisoners are still treated normally in some respects eg food and water, right to associate.</p> <p>In the UK there has been a debate about the rights of prisoners to vote and participate in the democratic process. In some countries eg China the severity of the penal system is quoted as an example of their lack of respect for human rights. The USA</p> <ul style="list-style-type: none"> • still executes prisoners regularly • has what many would consider to be a very harsh penal regime • has been criticized for its treatment of prisoners at Guantanamo and by the CIA <p>but has been seen as one of the driving forces behind the development of human rights.</p> <p>There is no one simple answer to the question put, but students who show knowledge of human rights and the purposes of punishment in the penal system and are able to use this</p>

	<p>knowledge to illustrate an argument about the relationship between the two should earn high marks whether they come to a definite conclusion or not.</p>
<p>Marking Guidance</p>	
<p>After marking the answer for AO1 and AO2, assess it for communication, AO4.</p>	
	<p>Mark</p> <p>Descriptor</p> <p>AO1: <i>Demonstrate relevant knowledge and understanding applied to a range of issues, using skills from different disciplines.</i></p>
	<p>0-8</p> <p>Award 1 mark for each valid point, up to a maximum of 8 marks, such as:</p> <p>Points Relating to Human Rights up to 4 marks</p> <p>A1 Human rights are universal / people should be treated in the same way</p> <p>A2 Human rights are recognised by legislation</p> <p>A3 Reference to UK or EU legislation or UN Declaration of Human Rights</p> <p>A4 Examples of human rights eg</p> <ul style="list-style-type: none"> • right to life • freedom of belief • free speech • access to food and water • freedom of association • equality • fair treatment before the law • freedom from slavery • freedom from torture

		<p>Points Relating to Punishments</p> <p>A5 Purposes of punishment in the legal system eg retribution, protection of public, rehabilitation, deterrence (up to 3 marks)</p> <p>The above points are illustrative only and not exhaustive. Any other valid points must be credited, even if they don't appear in the list above.</p>
Level	Mark	<p>Descriptor</p> <p>A02: <i>Marshall evidence and draw conclusions: select, interpret, evaluate and integrate information, data, concepts and opinions.</i></p>
	0-8	<p>Award 1 mark for each valid point, up to a maximum of 8 marks.</p> <p>The question requires candidates to critically examine conflicting views/alternative viewpoints. Candidates who give consideration solely to one side of the question are limited to a maximum of 6 marks.</p> <p>Points should be used to demonstrate how evidence is marshalled by:</p> <ul style="list-style-type: none"> • Selecting: identifying and applying relevant evidence • Interpreting: showing how evidence helps to answer the question • Evaluating: assessing the strength of the evidence in support of the question • Integrating: using evidence to develop a coherent argument/conclusion <p>Note – evidence can be</p> <ul style="list-style-type: none"> • information • data • concepts • opinions <p>Marshalling Evidence</p> <p>B1 Argument that human rights are absolute eg because they are:</p> <ul style="list-style-type: none"> • fundamental • set out in legislation • not conditional on circumstances • independent of accepting responsibility <p>(up to 2 marks)</p>

		<p>B2 Argument that human rights are not absolute eg because</p> <ul style="list-style-type: none"> • they are not fundamental • legislation can change • they are dependent on circumstance eg war, famine etc • they are linked with responsibility (up to 2 marks) <p>B3 Individuals' rights can conflict B4 Rights are linked to responsibilities B5 Examples of crimes/acts which violate human rights eg</p> <ul style="list-style-type: none"> • murder violates the right to life • theft violates the right to own property, etc <p>(up to 2 marks)</p> <p>B6 Punishment should fit the crime</p> <p>Drawing conclusions</p> <p>B7 Conclusion which is simple (implicit or explicit) 1 mark B8 Conclusion linked to limited evidence/arguments 2 marks B9 Conclusion balanced and comprehensive 3 marks</p> <p>Any other valid points must be credited.</p>
	Mark	<p>Descriptor</p> <p>AO4: <i>Communicate clearly and accurately in a concise, logical and relevant way.</i></p> <p>The AO4 marks are not dependent upon the AO1 and AO2 marks.</p>
	0	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.
	1	The answer is only understandable in parts and maybe irrelevant, writing may be in an inappropriate form, arguments are not clearly expressed, and in places grammar and spelling inhibit communication.

	2	The answer is generally understandable, writing is often in the correct form. Arguments are sometimes coherent and relevant, and grammar and spelling do not seriously inhibit communication.
	3	The answer is broadly understandable, writing is in the correct form. Arguments are on the whole coherent and relevant, and grammar and spelling do not inhibit communication.
	4	The answer is clear and lucid, (writing in correct form is taken as a matter of course) arguments are coherent, well laid out and relevant, there are very few grammatical or spelling errors.

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