

Mark Scheme

Summer 2013

GCE General Studies (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.

Section A

Question Number	Answer	Mark
Q1	A	1

Question Number	Answer	Mark
Q2	A	1

Question Number	Answer	Mark
Q3	C	1

Question Number	Answer	Mark
Q4	B	1

Question Number	Answer	Mark
Q5	D	1

Question Number	Correct Answer	Mark
Q6	D	1

Question Number	Answer	Mark
Q7	B	1

Question Number	Answer	Mark
Q8	C	1

Question Number	Answer	Mark
Q9	D	1

Question Number	Answer	Mark
Q10	B	1

Question Number	Answer	Mark
Q11	C	1

Question Number	Answer	Mark
Q12	B	1

Question Number	Answer	Mark
Q13	B	1

Question Number	Answer	Mark
Q14	D	1

Question Number	Answer	Mark
Q15	A	1

Question Number	Answer	Mark
Q16	A	1

Question Number	Answer	Mark
Q17	C	1

Question Number	Answer	Mark
Q18	D	1

Question Number	Answer	Mark
Q19	A	1

Question Number	Answer	Mark
Q20	C	1

Section B

Question Number	Acceptable Answers	Mark
21	2 from 1 $56 \times 365/4$; 2 Final answer = 5110 (accept any answer between 5000 and 5200); award 2 marks for correct final answer even with no calculation	2

Question Number	Acceptable Answers	Mark
22	Up to 3 marks from 1 weather/meteorology; 2 space station; 3 spy/espionage (not just observation); 4 communications;	3

Question Number	Acceptable Answers	Mark
23 (i)	1 mark max for 1 (international) space station; 2 carbon reducing technologies (not just carbon reducing);	1

Question Number	Acceptable Answers	Mark
23 (ii)	Accept any of following up to max 2 marks 1 LHC/(Large) Hadron Collider/CERN; 2 Human Genome Project; 3 Hubble (space telescope); 4 ESA/European Space Agency/Ariane; 5 (Nuclear) fusion (not just nuclear research)/JET/Joint European Torus; Do not accept any of the following Global warming/renewable energy/carbon	2

	reduction/sustainable or renewable energy International Space Station NASA/NATO/WWF/Green peace Mars rover Reference to protocols or agreements UN/UNESCO/World or International Health/Cancer research Nuclear fission/nuclear weapons/bombs Antarctic research Millenium Seed Project	
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Question Number	Acceptable Answers	Mark
24	Up to 3 marks from following. Only 1 mark can be awarded in each category A Cost/finances Eg. high cost projects feasible; costs reduced (for each country); projects not limited by cost; finance more readily available B Inputs or Outcomes Eg. expertise/knowledge/resources shared; benefits more widely shared; faster progress; more scientists involved; C Relationships Between Countries Eg. improved relationships; leads to cooperation in other areas; improved status/recognition	3

Question Number	Acceptable Answers	Mark
25	Up to 4 marks from A high orbit/further from Earth; B reduced risk of collision/damage; C satellite orbits/rotates at same speed/period as Earth/every 24hours; D satellite above fixed point on Earth's surface/at same position (do not accept "not moving" unless it is clear that this is in relation to the Earth); E example eg. communication/weather/TV/GPS (do not accept spy satellite); F orbit is equatorial/orbit is not polar;	4

26		
Marking Guidance		
After marking the answer for AO2, assess it for communication, AO4.		
	<p>A02: <i>Marshall evidence and draw conclusions: select, interpret, evaluate and integrate information, data, concepts and opinions.</i></p>	Mark
	<p>Up to 4 marks from the following. Each separate mark A-F can only be awarded once.</p> <p>TRACKING</p> <p>A enables spacecraft to avoid debris</p> <p>B suitable for debris larger than 10cm/not suitable for debris smaller than 10cm</p> <p>C not available for high orbits/greater distance from Earth/available for low orbit</p> <p>SHIELDS</p> <p>D suitable for small debris less than 1cm/not suitable for debris larger than 1cm</p> <p>E even small particles can cause damage because of high speeds.</p> <p>F other disadvantages eg. shields are heavy/reduce payload/interfere with signals/impede function/expense</p>	4
	<p>Mark</p> <p>Descriptor</p> <p>A04: <i>Communicate clearly and accurately in a concise, logical and relevant way.</i> <i>The A04 marks are NOT dependent upon the A02 marks.</i></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.

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Marking Guidance		
After marking the answer for AO3, assess it for communication, AO4.		
	A02: <i>Marshall evidence and draw conclusions: select, interpret, evaluate and integrate information, data, concepts and opinions.</i>	Mark
	<p>Up to 5 marks from</p> <p>A Reference to possible bias OR author is unknown OR examples are selected/limited in range</p> <p>B Identifies a relevant fact (accept objective/statistic)</p> <p>C Identifies a relevant opinion (accept subjective)</p> <p>D Factual evidence is strong/stronger/can be checked OR opinion is weak/weaker/cannot be checked</p> <p>E Identifies argument by analogy (accept comparison or similarity) with chain reaction or global warming</p> <p>F Discusses validity/strength/weakness of argument by analogy/comparison</p> <p>Do not credit any reference to argument from authority ie "some experts" (although this can be credited if identified as representing opinion)</p> <p>Do no credit reference to slippery slope argument.</p>	5
Mark	Descriptor	
	A04: <i>Communicate clearly and accurately in a concise, logical and relevant way.</i> <i>The AO4 marks are NOT dependent upon the AO2 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		
28		
Marking Guidance		
After marking the answer for AO1 and AO2, assess it for communication, AO4.		
	Mark	Descriptor
		AO1: <i>Demonstrate relevant knowledge and understanding applied to a range of issues, using skills from different disciplines.</i>
	0-8	<p>Award 1 mark for each valid point, up to a maximum of 8 marks, such as:</p> <p>A10 examples of punishments eg suspended sentence/fines/community order/electronic tagging/ASBO/restraining orders/ drug treatment/loss of license/(un)conditional discharge (up to 4 marks for examples) (do not credit imprisonment/custody/probation); A20 punishments linked to purposes eg imprisonment with incapacitation or deterrence, suspended sentence/community order with rehabilitation, loss of license with incapacitation, community order with reparation, life sentences with retribution (up to 4 marks). Allow any reasonable example if it is explained even minimally. A22 general comment on link between punishments and purpose;</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
	0-8	<p>A02: <i>Marshall evidence and draw conclusions: select, interpret, evaluate and integrate information, data, concepts and opinions.</i></p> <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 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>B10 Some punishments should be linked to nature of crime/suitability of punishments; B12 comment about overall purpose, eg, to make people stick to the rules, or to achieve justice (allow up to 2 examples); B14 recidivism/reoffending rates are high; B16 (which may show that) prison/punishment is ineffective; B18 or that other factors are important such as homelessness, lack of work, mental health, drug addiction (allow up to 2 examples); B20 low crime rate (with high prison population) suggests punishment works; B22 although there are other explanations eg improved living standards, reduced poverty, better education, changing age profile of population (allow up to 2 examples); B24 difference between crime rates and fear or perception of crime; B26 media portrayal/perception of punishments, particularly prison, as a soft option;</p> <p>Drawing conclusions</p> <p>B30 Conclusion which is simple (implicit or explicit) 1 mark</p> <p>B31 Conclusion linked to limited evidence/arguments 2 marks</p> <p>B32 Conclusion balanced and comprehensive 3 marks</p> <p>Any other valid points must be credited.</p>

	Mark	Descriptor AO4: <i>Communicate clearly and accurately in a concise, logical and relevant way.</i> <i>The AO4 marks are not dependent upon the AO1 and AO2 marks.</i>
	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		
29		
Marking Guidance		
After marking the answer for AO1 and AO2, assess it for communication, AO4.		
	Mark	Descriptor
		<p>AO1: <i>Demonstrate relevant knowledge and understanding applied to a range of issues, using skills from different disciplines.</i></p>
	0-8	<p>Award 1 mark for each valid point, up to a maximum of 8 marks, such as:</p> <p>Copernicus/Heliocentric Solar System</p> <p>A10 older model is geocentric; A12 Copernican/new/model is heliocentric ; A14 older model based on religion/beliefs about place of humanity in universe; A16 newer model based on observations of planetary orbits/Occam's Razor/principle of simplicity;</p> <p>Darwin/Evolution</p> <p>A20 adaptation to environment; A22 natural selection; A24 survival of the fittest; A26 God created the variety of life/Adam and Eve stories; A28 evolution supported by fossil record;</p> <p>Big Bang</p> <p>A30 mention of Big Bang/explosion/universe originated from one point; A32 universe has been expanding; A34 based on evidence eg red-shift; A36 based on evidence eg cosmic microwave background; A38 God created space and time/the universe/planets/the Earth;</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
	0-8	<p>A02: <i>Marshall evidence and draw conclusions: select, interpret, evaluate and integrate information, data, concepts and opinions.</i></p> <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 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>Ideas related to science</p> <p>B10 Science tries to explain how (things work/rather than why); B12 Science/scientific belief is based on evidence/induction/is empirical/can be tested; B14 Induction/testing etc does not lead to certainty; B16 But nothing is certain/can be proved absolutely/some things are not susceptible to proof; B18 Scientific theories change over time B20 The questioning nature of science is a strength not a weakness;</p> <p>Ideas related to religion</p> <p>B30 Religion is linked to purpose/tries to explain why/teleology; B32 Religion/religious belief is based on faith; B34 Or interpretation of texts/teachings; B36 Which cannot be tested; B38 Remain constant (to some extent); B40 Many people/faiths have accepted scientific findings/interpret scientific findings in religious context (allow 2 examples); B42 Many areas where science and religion have not clashed/examples;</p> <p>Drawing conclusions</p> <p>B51 Conclusion which is simple (implicit or explicit) 1 mark B52 Conclusion linked to limited evidence/arguments 2</p>

		marks B53 Conclusion balanced and comprehensive marks Any other valid points must be credited.	3
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	Mark	Descriptor AO4: <i>Communicate clearly and accurately in a concise, logical and relevant way.</i> <i>The AO4 marks are not dependent upon the AO1 and AO2 marks.</i>
	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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