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Examiners' Report January 2011

GCE General Studies 6GS01 01

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Introduction

In section B of the paper many candidates were able to gain marks on questions which required them to select or manipulate information from the passage on GM food crops. Marks were much lower when candidates had to use their own knowledge to answer questions, for example in describing the relationship between knowledge about DNA and GM technology or describing the nature of an argument from analogy. Many candidates also lost marks because they did not read questions carefully and therefore failed to make any relevant points in their answer. As in previous papers, when candidates were asked to "assess the strengths and weaknesses of the evidence" many answers focused on assessing the benefits or problems associated with GM foods rather than assessing the strength of the evidence.

In section C candidates scored well when they were able to present some information about the topic of the question and were then able to link different bits of information to make a point. Candidates who planned their answer, for example by writing down what they knew and then linking points together, were able to produce some excellent answers.

In both section B and C many candidates lost a significant number of marks because of poor written communication.

Comments on Individual Questions

This report will provide exemplification of candidates' work, together with tips and/or comments, for a selection of questions. The exemplification will come mainly from questions which required more complex responses from candidates.

Question 21

Most candidates who selected the correct information from the text were able to use this to estimate that over six million children die of starvation each year.

21 From the information given in paragraph 1, estimate the number of children who die of starvation every year.

In source 1 lines 2-3 the article says "the world health organisation estimates that a third of the world is starving and that a child dies of starvation every 5 seconds." The world's population today is around 6 billion, therefore 2 billion people are starving.



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Examiner Comments

The candidate has estimated the number of people suffering from starvation, which is not what is asked.



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Examiner Tip

When selecting information make sure it relates precisely to the question asked.

21 From the information given in paragraph 1, estimate the number of children who die of starvation every year.

~~8 billion people 1/3 starving = 2.7 billion~~

12 per min

72 per hour

1728 per day

630720 per children will die of starvation every year.



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Examiner Comments

This candidate has gained 1 mark out of 2 because they have included their calculation, which shows that a simple error has been made leading to the answer being out by a factor of 10.



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Examiner Tip

Show the stages in your calculation. No marks are awarded for an incorrect answer on its own, but marks may be awarded if some parts of the answer are correct.

Question 22

Many candidates gained limited marks on this question because they identified technological changes relating to improving crop yields or "growing food faster" rather than changing scientific knowledge about genetics.

22 Use your own knowledge to explain, in the context of agriculture, what is referred to by the statement "science is now able to do quickly what was achieved very slowly in the past using traditional methods".

Whereas in the past crops would've ~~been~~ had to ~~have~~ been improved and modified using traditional methods such as selective breeding, where plants with specific traits such as a resistance to a type of pest or disease would be used to breed and create more of the same plants until they all had this resistance, ^{after many generations and time} ~~of~~ science means that crops can be genetically modified quickly to introduce these traits.



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Examiner Comments

This candidate has correctly identified selective breeding as a method of producing plants with specific traits and has also linked this to the speed with which changes can be introduced.

22 Use your own knowledge to explain, in the context of agriculture, what is referred to by the statement "science is now able to do quickly what was achieved very slowly in the past using traditional methods".

Modernisation of farming method can lead to quicker production of crops. At a basic level, greenhouses with controlled environment may make farming crops grow faster and similarly the technology such as GM crops can improve the quality of produce. This is the modern way.



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Examiner Comments

This candidate has given an answer which relates to technological changes which "make crops grow faster", rather than scientific changes which allow modification of crop plants to take place much more quickly.



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Examiner Tip

Science and technology overlap to some extent but if a question is about scientific changes you will not gain full marks for identifying only technological changes.

Question 23

Most candidates were able to gain a mark for identifying an analogy, but relatively few were able to give a characteristic of an argument from analogy. Some candidates linked analogy to an argument from cause or an argument from authority.

23 The writer uses an argument from analogy.

(a) Explain what is meant by an argument from analogy.

It uses analogies to make a point or reinforce one that has already been made.

(b) Identify an argument from analogy used in the passage.

UK consumers have been spooked by tales of 'Frankenstein foods'.



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Examiner Comments

"...reinforce one that has already been made." is not enough for the first mark because there is no clear reference to likeness or similarity. If the candidate had said "...or reinforces the point by using a similar one that has already been made" that would gain the mark.

The reference to "Frankenstein foods" gains the second mark.



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Examiner Tip

Marks are awarded separately for different parts of a question so attempt to answer all parts of a question even if the first answer may be incorrect.

23 The writer uses an argument from analogy.

(a) Explain what is meant by an argument from analogy.

To make a point about the argument by using a past event or something that is very similar to the situation and showing the possible outcome.

(b) Identify an argument from analogy used in the passage.

"During the Industrial Revolution many people's fears were embodied in the image of the 'Frankenstein' monster. His time we embarked on a new agricultural Revolution.



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Examiner Comments

This candidate has identified an essential point about an argument from analogy, which is that there is some similarity between situations. These similarities can be used to arrive at a conclusion about possible future outcomes.

Question 24

Most candidates were able to gain 2 or 3 marks for identifying evidence from the passage. Where marks were lost this was often because candidates repeated a point or gave evidence which did not come from the passage.

24 From the passage, identify three pieces of evidence which demonstrate public concern about the use of GM food crops.

1 "supermarkets have effectively banned GM products"

2 "attitude in surveys in the UK show continuing competition for GM seeds"

3 "environmentalists argue that this will reduce the variety of plant species"



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Examiner Comments

This candidate has correctly identified three different pieces of evidence from the passage.

24 From the passage, identify three pieces of evidence which demonstrate public concern about the use of GM food crops.

1. Nevertheless, environmentalists ~~eg~~ argue that this will reduce the variety of plant species and the insect population.
2. Other organisms, such as birds, may no longer have a ~~usable~~ viable habitat.
3. Nevertheless, attitude surveys in the UK show continuing opposition to GM foods.



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Examiner Comments

This candidate has gained two marks for answers 1 and 3. Answer 2 does not gain a mark because it identifies essentially the same point as answer 1 and does not link these problems to "public concern".



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Examiner Tip

Make sure that answers are not repeating the same point.

Question 25

Most candidates were able to identify one or two relevant pieces of evidence from the passage. Some candidates lost marks by offering evidence which did not appear in the passage but came from their own knowledge about GM foods.

25 From the passage, identify two pieces of evidence which suggest that GM foods are not harmful to human health.

1 'The USA has been producing and eating a variety of GM foods for many years'

2 'much of the food we eat contains small quantities of GM ingredients'



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Examiner Comments

This candidate has correctly identified two relevant pieces of evidence from the passage.



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Examiner Tip

Paraphrasing is acceptable but candidates should be careful that essential information is not lost when paraphrasing.

Question 26

Many candidates were only able to make very generalized statements about the link between knowledge about DNA and GM technology. When candidates did mention genes they usually gained 2 or 3 marks.

26 Use your own knowledge to explain how scientific knowledge about DNA has led to the development of GM technology.

Scientific knowledge has into DNA has help scientist come up with new ways to improve peoples standard of living such as trying to solve world hunger by being able to produce food at larger quantities and at a faster pace. Being able to understand DNA means that they could develop GM foods even further so foods are developed safer, faster and at a larger scale.



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Examiner Comments

Despite making some general comments this candidate has failed to make any specific points about "scientific knowledge about DNA" and has gained no marks.

26 Use your own knowledge to explain how scientific knowledge about DNA has led to the development of GM technology.

GM technology involves altering of the genes which could only have been led from knowledge about DNA. The idea of gene mutations and alteration came from scientific knowledge, and being able to remove unwanted genes, and add preferred genes has been led from knowledge about DNA.



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Examiner Comments

This candidate has correctly identified the ability to alter or modify genes as the basis of GM technology.

Question 27

Many candidates scored highly on this question. Where they did not, it was often because the benefits identified did not come from the passage, or because the suggested benefits were not assessed in any way.

27 The passage mentions several benefits of using GM food crops.

Assess the relative importance of these benefits.

There are many benefits to using GM food crops, however, there are also many disadvantages.

One benefit of using GM food crops is that it means you are able to genetically enhance our food, making it safer to eat.

One disadvantage of using GM food crops is that they will reduce the variety of plant species and the insect population.

The relative importance of the benefits in this passage is high due to the significance of having safer crops.

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Examiner Comments

This candidate has identified making food "safer to eat" but this is not a benefit identified in the passage. Also, the comment on reducing plant variety might be relevant but has not been linked in any way to one of the benefits which is identified in the passage. This answer was not awarded any marks for content.

27 The passage mentions several benefits of using GM food crops.

Assess the relative importance of these benefits.

This passage briefly mentions a number of benefits of GM crops, but they are not all of a great importance.

Firstly the source mentions that GM foods give higher yields at lower costs, which is a major benefit because it means more food will be available for the ever-growing number of people in the world, so will reduce starvation. However the lower costs will not benefit these poor people in LEDCs, because they produce their own food on farms, but will instead make less money from what they sell.

The fact that GM food is more attractive isn't really a benefit, because food is needed for us to stay alive, its appearance shouldn't be considered.

GM crops growing in previously barren areas is a major benefit though, as people who live in desert-like areas will be able to produce more food to survive.

Overall, I think there are more benefits of importance than not, because GM food will help save the lives of those living in poverty.



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Examiner Comments

This candidate has gained full marks for content by identifying 3 benefits from the passage and making relevant comments on 2 of them.

Question 28

Most candidates failed to gain good marks on this question because they did not identify particular pieces of evidence as fact or opinion.

28 The writer concludes by saying that "It is time we embarked on this new "Agricultural Revolution"."

Assess the strengths and weaknesses of the evidence used in support of this conclusion.

The strengths for this argument are strong in this article - the first point may seem insidious, but giving a statistic of children dying, and showing us that there is likely to be an increase in world population by 2020 to 8 billion sets us up for wanting to help people.

The first points are in favour of GM foods, and tells us that there are "enormous benefits" - this is strong opinion, but no fact is included to support it yet.

It is followed by a benefit of GM foods as how they can be more resistant, and that they can give higher yields, shown as a fact, but no statistic is included to support it. Another argument, this time against GM foods, is needed about animals & plants not being cured, and dying. This does not include statistics either.

The article tells us how it can benefit those mentioned at the beginning, which is a persuasive argument. It also tells us USA that has been eating it, showing us it is probably harmless.

Using Frankenstein as an example, they put fear of technology and advances in the past, by using 'in the Industrial Revolution'. However, there are no strong statistics at any point except the start, which is backed up by experts (WHO) - an argument from authority - otherwise, most of the arguments are not well

supported, I have no statistics to prove that. We do not know where the information is from either. (Total for Question 28 = 7 marks)



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Examiner Comments

This candidate has identified evidence based on fact and opinion as well as the status of the WHO as an authoritative source.

28 The writer concludes by saying that "It is time we embarked on this new "Agricultural Revolution"."

Assess the strengths and weaknesses of the evidence used in support of this conclusion.

The strengths of GM food will allow our population of around 6 million children, dying with the GM food allowing everyone to be fed and not hungry. The reason why is that GM food is known to having a higher yield than traditional methods and will be much more cost effective making food cheaper and more accessible for people to feed themselves.

The weaknesses of GM food is that it is not regarded as been good for the environment or even been accepted by people. So we have no idea whether using just GM food.



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Examiner Comments

This candidate has commented only on the benefits or disadvantages of GM food and has made no assessment of the strengths or weaknesses of the evidence.



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Examiner Tip

Identifying the strengths or weaknesses of evidence involves, as a minimum, identifying some pieces of evidence from the passage as fact or opinion.

Question 29

There was a very wide variety of responses to this question on science and religion. Almost all candidates scored at least 3 or 4 marks for even very minimal answers. Some excellent answers surveyed the changing relationship between belief and knowledge in different areas and gained maximum marks.

29 In the past, many famous scientists had religious beliefs. Newton spent much of his time studying the Bible and Copernicus worked for the Catholic Church, yet today science and religion are often seen as being in conflict.

To what extent is it possible for a person to have religious beliefs and to accept modern scientific ideas?

I believe that it is possible for a person to still hold their religious beliefs and be supportive of scientific progress.

The conflict between religion and science is often created by the two trying to disprove each other. For example, many people see Evolution and Charles Darwin's ideas as proof that we don't need a God, such as Richard Dawkins. However, we can still believe that there is a God, and that He created the process of Natural Selection and Evolution. Darwin himself was agnostic; not claiming that his ideas disproved the existence of God.

Science may often cause conflict with religion because the principle of science is that something is never certain unless it is falsifiable. With religion, people may or believe to have faith in what they can't prove to be true, such as a God. Because of this, naturally science and religion will collide.

Despite this, many scientists are religious

and many modern religions accept science. Fundamentalist Christians, such as Creationists, don't accept scientific ideas, but many other more liberal Christians do.

^{Traditionally} There is still a separation between science and religion in some cases though, such as the Pope criticising the use of condoms in AIDS affected areas. This however is an example of how in modern times religion and science are more accepting of each other, as the Catholic Church now in recent months have said that in some cases AIDS can be prevented by using condoms.

This shows that although ^{scientific} ideas often change the way people see religion there is still room for religious ideas in society. The development of our knowledge about the origins of the universe, such as the Big Bang Theory do still allow for belief in a Prime Mover who started everything off.

In some cases science supports religion, for example the fact that the universe is regular and has set laws of physics suggests that there is an intelligent designer behind it all.

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Examiner Comments

This candidate has scored highly because they have made relevant comments about the differences between science and religion and have discussed these differences in the context of some well-known examples.

SECTION C

Answer BOTH questions.

You should aim to spend no more than 40 minutes on this section.

29 In the past, many famous scientists had religious beliefs. Newton spent much of his time studying the Bible and Copernicus worked for the Catholic Church, yet today science and religion are often seen as being in conflict.

To what extent is it possible for a person to have religious beliefs and to accept modern scientific ideas?

A person is entitled to have their own religious beliefs and follow their beliefs and practices without questioning. However scientists have been given a ~~role~~ role in which they must follow scientific ideas. Religious beliefs often come into conflict with modern scientific ideas, as religious beliefs cannot be tested.

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Examiner Comments

Despite giving a very brief answer this candidate has gained some marks for mentioning the right to religious belief, and also for recognising that religious belief cannot be tested.

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Examiner Tip

Even when a candidate is uncertain about an extended question such as this, they should make some attempt to answer. A good way to do this is to try to link any information about the topics in question and use the information to argue a point. In this case, if the candidate had linked the fact that religious belief cannot be tested with a comment about how scientific knowledge is tested, they might have come to a number of creditworthy conclusions.

Question 30

Many candidates limited the number of marks which could be awarded because they failed to answer the question in terms of human rights. Candidates who were able to identify different human rights, and comment on why such rights are important and might be denied, scored highly.

30 In some parts of the world criminals are executed for committing serious crimes.

It is argued that criminals deny human rights to their victims and should, as a consequence, lose their own human rights.

How far and in what ways should those who fail to take their responsibilities seriously lose some or all of their rights?

well i think people getting executed is fine as long as it is proven that they committed a serious crime, definitely if its not a serious crime they should have some of the rights taken away, but if they have murdered someone or if they are going to be in prison for life, they should be executed!

lets say if someone i know killed someone i would probably want them dead because i would be so angry and disappointed with them.

If your going to do a bad thing and put in jail for it, i think jail should be a really bad place small room cramed with people and all they should have in there is a bed

each, this is what i would do in a
 jail & hopefully by doing this, people
 won't get in trouble ever again.



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Examiner Comments

This answer scored very poorly because the candidate concentrated almost entirely on a discussion of the death penalty, with almost no mention of human rights or any explicit mention of any purpose of punishment which might justify the removal of rights.



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Examiner Tip

The preamble to this question was intended to give an example or set a context to stimulate candidates' responses. However, the actual question asks about human rights and whether removing such rights can be justified.

30 In some parts of the world criminals are executed for committing serious crimes. It is argued that criminals deny human rights to their victims and should, as a consequence, lose their own human rights.

How far and in what ways should those who fail to take their responsibilities seriously lose some or all of their rights?

Human rights are given to humans and the
~~unwritten~~ unwritten ~~code~~ checkboxes you need to tick for being
 a human are considered to be kind and 'humane', but when
 you steal or kill, or abuse another living thing this
 can be considered as inhumane and therefore you can
 lose your human rights as you have strayed from
 the path of what is considered human. In some parts
 of the world if you murder you are sentenced to
 a death penalty, as you do not have the right to
 life so you have taken this right away from a human.

Due to this you have to pay the consequence, which can be considered as an eye for an eye. Dependent on what they do, should be the amount of rights they lose. e.g. if the worse greater the crime is directly proportional to the rights you lose. The worst being murder, where you lose all human rights even the right to live. Live to a smaller crime e.g. speaking and persuading people to join a group where they should be terrorists if you do this then you lose the right to free speech and free belief and are not allowed to speak in public etc.

But the other argument is that you ~~are not~~ shouldn't lose any of your rights as you are still human. Rights activists Rights activist groups like Amnesty International

campaign for the human rights, and campaign and protest when a person's human rights are breached. If you burn somebody's house down, they no longer have a roof over their heads. So you should not have the human right to shelter. Or if you steal food you should be denied the human right for food. Yet people believe that denying what person of their human rights is against a person's human rights and that if you deny somebody of their human rights then you should be denied of human rights and you this means nobody should then be denied of human rights as denying one person their human rights is but inhumane anyway. So if somebody fails to take responsibility you should take the responsibility of making them take responsibility of the failed task and help them become a better human.

In conclusion in some countries human rights are taken away if you do not obey by the laws of if you restrict somebody of their human rights. This may be done due to personal belief or it may be done because of religion regardless it is done to stop the person doing it again as a deterrent. So those who fail to take responsibility should ~~be~~ not be responsible for themselves and should be taught to take responsibility by the punishment of taking their human rights away from them. It depends on the person if all human rights can be taken away like the right to life. The freedom of

speech. If a state or country feels so, yet or no human rights can be taken away dependent on personal belief. This is why you can prosecute or not. If you prosecute when somebody commits a crime you wish to restrict them of human rights, but if you don't you believe that they deserve their human rights. Human rights exist only in some countries and not all, differing from country to country and therefore if human rights are not fixed how can you say what a human is rights are and how can you say what you can take away from them. It is personal belief all can be taken away, nothing can be taken away or just a select few can be taken away dependent on belief or belief, laws of land or religion.



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Examiner Comments

This answer scored near maximum marks for identifying a number of human rights and discussing the justification for removal of those rights.

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