

**MARK SCHEME for the May/June 2012 question paper**  
**for the guidance of teachers**

**8987 GLOBAL PERSPECTIVES**

**8987/12**

Paper 1 (Written Paper), maximum raw mark 30

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

- Cambridge will not enter into discussions or correspondence in connection with these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2012 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

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## Study Document 1

- 1 (a) Identify two reasons why the author of Document 1 considers that GM crops are a danger to the environment. [2]

Examiners should note that this question is worth only two marks and candidates are asked ONLY to identify two reasons. However, it is important that the reasons are linked to the environment and do not simply focus on any general reason why GM crops are dangerous.

There are a number of reasons mentioned in the Document and candidates might consider some of the following:

- Gene escape could get into weeds.
- Once genes are released it will not be possible to recall them.
- There could be gene mutation.
- Uncertainty over whether genes will remain stable when in plants.
- GMOs might interact with native and wild populations.
- Threat to crop biodiversity.
- Impact on birds, pollinators and micro-organisms.
- Danger caused by novel gene sequences in plants to fungi and soil.

- (b) Summarise the main arguments put forward in the last two paragraphs of Document 1 against the use of GM crops. [4]

Examiners should note that this question is worth only four marks and candidates do not need to write at great length or in great detail to achieve full marks. Candidates are instructed to summarise and therefore examiners should not over-reward candidates who copy out large sections of the Document.

The Document offers two main reasons why GM crops should not be used:

- the potential negative effects on human health.
- the potential socio-economic effects.

Although candidates may not use this terminology, the 'headings' are present in the Document.

Award one mark for the identification of such headings, and a further mark for the development of the argument in each case.

Candidates should summarise each argument in a couple of sentences and there is no need for detailed supporting evidence. For example, if writing about the negative effect on human health, they might suggest that 'GM crops pose a danger to human health. The transfer of allergenic genes has the potential to cause dangerous reactions in those with allergies or they could lead to antibiotic resistance, making treatment of some illnesses difficult.'

Study Document 1.

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## 2 Study Document 1.

### How strong is the reasoning in Document 1?

In your answer, you should refer to both the strengths and weaknesses of Document 1.

[10]

Responses should focus on both the strengths and weaknesses of the argument put forward in Document 1.

- Level 3: in order to achieve this level, candidates must consider both the strengths and weaknesses and should reach a judgement.
- Level 2: there is likely to be imbalance, with most of the answer focusing on the weakness of the reasoning, although some answers may focus largely on the strengths. Candidates who focus on only the strengths or weaknesses can still achieve any mark within this level depending upon the quality of the evaluation.
- Level 1: it is likely that candidates will consider only either the strengths or weaknesses. Candidates' answers are likely to be descriptive in approach, particularly at the lower end, if there is evaluation it may be very generalised.

<b>Level 3</b> <b>8-10 marks</b>	Sustained evaluation of strengths and weaknesses of reasoning and evidence, critical assessment with explicit reference to how flaws and counter argument support the claim. Highly effective, accurate and clearly expressed explanation and reasoning; clear evidence of structured argument/discussion, with conclusions reached/explicitly stated in a cogent and convincing manner.
<b>Level 2</b> <b>4-7 marks</b>	Some evaluation of strengths and/or weaknesses of reasoning and evidence, but evaluation may focus on one aspect; assessment of flaws may be limited. Effective and generally accurate explanation and reasoning; some evidence of structured argument/discussion; conclusions may not be explicitly stated or link directly to the analysis.
<b>Level 1</b> <b>1-3 marks</b>	Little or no evaluation of strengths and/or weaknesses, although flaws etc. may be identified. Level of communication is limited, response may be cursory or descriptive; communication does not deal with complex subject matter.

No set answer is expected and examiners should be flexible in their approach. There is no requirement to use technical terms to access any level and candidates will NOT be rewarded for their use unless they link them directly to the demands of the question.

**Strengths:** Candidates might suggest that the article is clearly structured and that the writer avoids emotional appeals, often producing a balanced account which acknowledges the limitations of the argument against GM crops, using phrases such as 'inconclusive'. This means that when the writer suggests that there is consensus, as in the first paragraph, candidates might argue that it makes their views more credible. The author also uses specific examples to support their argument; there is mention of both soya and Starlink when discussing the potential impact on human health. The article also draws examples from a wide range of areas, considering weeds, fish, bees, fungi, soil, birds, pollinators etc. and this evidence shows the wide scope of the issue, reminding the reader that GM crops have a wide impact. Some answers might refer to the origin of the source and suggest that as it is from the Food and Agriculture Organisation of the UN it is more likely to be credible.

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**Weaknesses:** The article acknowledges that much of the argument is speculation. The article often uses the word 'could' and refers to 'inconclusive'. Although it might be argued that this makes the article more balanced, candidates could suggest that there is much speculation about the impact of GM crops and therefore there is little evidence to show that they are dangerous. The author also acknowledges that crop biodiversity could also be damaged by conventional breeding methods and therefore it is not just GM crops that are a danger. When considering health related issues, the author acknowledges that tests prevented a danger or there was no evidence that Starlink was a danger to humans. The article even suggests that provided controls are in place or new approaches pursued, as in the case of antibiotic resistance, problems can be avoided, suggesting that in the future GM crops could be safe.

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### 3 Study Documents 1 and 2.

**How far does Document 2 undermine the arguments put forward in Document 1 against the use of GM crops?**

**In your answer, you should consider the quality of the:**

- reasoning
- evidence
- credibility

**of both documents.**

**[14]**

Responses should focus on key reasons and evidence in both Documents in order to compare alternative perspectives and synthesise them in order to reach a reasoned judgement. In order to assess whether Document 2 undermines the arguments put forward in Document 1 against the use of GM crops, candidates should consider not only the content of the Documents, but critically assess the arguments put forward through a consideration of issues such as the nature of the passages, purpose and language.

- At Level 3: candidates will reach a sustained judgement about whether the thesis in the question is justifiable. In order to do this they will have covered a significant range of issues, and evaluated them clearly.
- At Level 2: there will be some evaluation and comparison, but it will be either poorly developed or limited in the areas covered.
- At Level 1: there will be very little comparison of the passages or evaluation and candidates may simply describe the Documents or identify areas of similarity and difference, with little link to the question.

<b>Level 3 11–14 marks</b>	There will be sustained evaluation of alternative perspectives; critical assessment with explicit reference to key issues raised in the passages leading to a reasoned and sustained judgement. Highly effective, accurate and clearly expressed explanation and reasoning; clear evidence of structured argument/ discussion, with conclusions reached/explicitly stated in a cogent and convincing manner.
<b>Level 2 5–10 marks</b>	Answers at this level will be more than just a comparison of the two Documents; there will be some evaluation, but this will not be sustained and may focus on one perspective; assessment may not link key reasons and evidence clearly to the perspective or to the reasoned judgement. Effective and generally accurate explanation and reasoning; some evidence of structured argument/discussion; conclusions may not be explicitly stated or link directly to analysis.
<b>Level 1 1–4 marks</b>	Answers at this level will describe a few points and there will be little or no evaluation of perspectives, although some relevant evidence or reasons may be identified. If there is any judgement it will be unsupported or superficial. Level of communication is limited; response may be cursory or descriptive; communication does not deal with complex subject matter.

No set answer is expected and examiners should be flexible in their approach.

Candidates might argue that Document 2 does successfully undermine the arguments in Document 1 as the argument has more precise factual support. The precise detail about the reduction in the use of pesticides on cotton, enzymes used in cheese production and growth hormones gives that argument greater credence. Document 2 also has evidence from the regulation and scale of tests to support its claims, which are lacking in Document 1. Many of the

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claims in Document 1 are supported by generalisations, although some might suggest that the wide range of issues cited gives the argument in Document 1 credence.

However, it could be argued that both Documents do acknowledge the limitations to their claims. Document 1 does talk about 'could', but Document 2 also states that it needs to be treated with care and respect. Some may suggest that this balanced approach makes Document 2's arguments more trustworthy, but the same could be argued for Document 1 as that also offers a balanced analysis.

Some might argue that Document 1 avoids any appeal to emotion and offers a balanced view, whereas Document 2 does have appeal to emotion, which although it might convince the reader does not add to the credibility of the argument. In Document 2 the writer talks of 'Pigs might fly' and 'Frankenstein Foods'.

It might be argued that the structure of the argument in Document 1 is clearer and logical, with three clear issues of the impact on the environment, health and economy considered and argued through. This could be contrasted with Document 2, which although has precise support and examples lacks the clear line of argument of Document 1.

There might be some consideration of the nature of the two sources. It might be argued that independent scientists who wrote Document 2 will have the necessary subject knowledge, but it is likely that the writers of a UN report would also. The writers of Document 2 are supporters of technology and therefore might want to make their claims appear justified and be more selective. However, it might be argued that both Documents come from credible sources and that this is reflected in the conclusions made. Both sources, although arguing from different sides, acknowledge that there are limits to their position.