CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2013 series

0457 GLOBAL PERSPECTIVES

0457/31 Paper 3 (Written Paper), maximum raw mark 60

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 should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

1 (a) Give one use of rare earth metals

The answers should be related to the uses implied within Sou

- batteries
- electronics
- defence technology such as night vision goggles, guided
- clean technology
- medical technology
- rare earth metals make very small gadgets possible.
- energy saving light bulbs
- laptops
- iPods
- cell phones
- DVDs
- flat screen TV
- wind turbines
- hybrid cars

Allow other correct examples.

Give 1 mark for each correct answer, up to a maximum of 1 mark

(b) Give one cause of the global shortage of rare earth metals

The answers should be related to the causes implied within Source A

- The major producing country (China) needs its rare earth metals for its own industries
- Use of rare earth metals exceeds mining (2010 figures) - accept ‘overuse/use too much’
- Demand for rare earth metals is predicted to rise
- Difficult to extract rare earths from the rocks
- Environmental impact
- Other reasonable response

Give 1 mark for each correct answer, up to a maximum of 1 mark

Further Guidance – do not accept ‘over-mining’ as potential supply is not known

(c) Give two consequences of the global shortage of rare ear

The answers should be related to the causes implied within S

- not enough rare earth metals for high tech industries in Ja
- we'll have to do without our I-pods
- we'll have to do without our phones
- we will have to reduce the number of gadgets we own
- keep gadgets for longer
- we need to find a new source of rare earth metals
- we need more rare earth metal mines in more countries.
- our way of life will be threatened
- slower development
- environmental problems/impact
- radioactive waste
- other reasonable

Give 1 mark for each correct answer, up to a maximum of 2 marks

Further Guidance – do not accept 'run out' as potential supply is not known

(d) Which consequence of the global shortage of rare earth metals is the most important? Justify your answer. [3]

Candidates are likely to give the following type of reasons to justify their choice:

- Range of impact on other aspects of society
- The degree of impact on people's lives
- Impact on the environment
- How far it affects people and countries geographically
- How many people/groups/countries are affected
- Other reasonable response

Mark	Level of Response
Level 3: 3 marks Strong Response	Clearly reasoned explanation of why one consequence is more important than another; compares with one or more other consequences; usually 2/3 reasons linked to consequences of overuse of fuel; a convincing argument.
Level 2: 2 marks Reasonable Response	Some reasoned explanation of why one consequence is most important; usually 1/2 reasons suggested with some link to consequences of shortage of rare earths, but may be implicit at times.
Level 1: 1 marks Basic Response	Identifies a consequence as important/most important but reasoning is weak or not linked to rare earth shortage explicitly. Implicit. Simply identifies and asserts a consequence without support.
0	No creditworthy material.

Further Guidance

(i) Candidates may discuss 'consequences' from the Sourc Scheme for Q1c or from their background knowledge; th their reasoning/justification of their choice.

(e) To what extent is the supply of rare earth minerals a glob answer.

Candidates are likely to discuss the following reasons drawin Sources 1:

- the benefits/consequences for individuals – see source
- the benefits/consequences for communities/countries – see source
- the benefits/consequences for global society – see
- issues of equal opportunities/fairness – helps to address or reduce inequality/poverty
- access to jobs in the industry affected
- in response to government, united nations and other NGO humanitarian aims and goals e.g. millennium goals
- interdependence – we are all affected
- other reasonable responses

The supply of rare earth minerals is certainly an international problem, because it involves many different countries. The problems to do with shortage might not be truly global, because it might be an issue mostly for rich countries, but the issues to do with supply certainly affect less rich countries – e.g. Greenland, so in that respect it is global. May have an impact on development, for example affordability of mobile phones in developing world. It is certainly of global importance, because of the damage that can be done, and the trade issues.

Levels and Marks	Description of Level
Level 3: Strong Response **5 marks**	Strong, supported reasoning and explanation justifying why this may be issue of global importance. The response is likely to contain a range of reasoned arguments and/or evidence to support the views expressed, with at least 3 developed points, and some undeveloped points. The response is clearly and explicitly related to the global dimension. Lower in the band a greater proportion of arguments will be left undeveloped.
Level 2: Reasonable Response **3–4 marks**	Some reasoning and explanation justifying why this may be an issue of global importance. The response is likely to contain some reasoned arguments and/or evidence to support the views expressed, with at least 2 developed points, and some undeveloped points. Arguments may be partial and lack clarity at times. The global dimension is apparent but may be implicit at times. Lower in the band most arguments may begin to lack clarity, and/or be partial and generalised. A tendency to assert may be apparent.
Level 1: Basic Response	Basic reasoning and explanation justifying why this may be an issue of global importance. The response is likely to contain simple, undeveloped and asserted arguments and/or evidence to support the views expressed,

1–2 marks	with only 1/2 undeveloped points. Arguments The global dimension is not apparent. Lower in the band the arguments are likely to relevance to the issue and/or simply recycle/c Sources without any explanation or developm

2 (a) DKP_Narayan says, 'Until modernisation came, life expec and people were desperately poor. So the introduction of modern industries and ways of life can only benefit these people.'

What additional information do you need to know to be sure that the people in Greenland would definitely benefit from the introduction of modern industries and ways of life? [2]

Additional Information

Possible types/areas of additional information likely to be suggested by candidates include:

- what the life expectancy of people in Greenland is now – is it significantly higher?
- the levels of poverty in Greenland now – are people better off?
- disadvantages of the introduction of modern industries and ways of life – for example if people are a lot less happy working in a mine than they were as hunters, they haven't only benefitted
- the current levels of general well-being and happiness – have they improved?
- the impact on the environment
- other reasonable response

(i) Assessment of the identification of additional information

Mark	Description
Level 2: Reasonable Response **2 marks**	Identification of clearly relevant infor description; usually two or more exa
Level 1: Basic Response **1 mark**	Identifies some information but the r the description is very brief or lacks
0 marks	No creditworthy material.

(b) A foreign mining company proposes to transport rocks containing rare earth metals to your country, and process them in your country to make useable rare earth metals. You must decide whether to support this proposal or not.

What information do you need to help you make your decision and how will it help you to decide? [10]

Additional Information

Possible types/areas of additional information likely to be suggested by candidates include:

- viability of the project
- size and plan – to help assess its general impact on the locality and people in the area
- distance – potential fuel and other costs
- economic benefits
- cost – how expensive to build and who will pay
- profits – who will benefit from the profits and are they likely to be very high
- incentives - is there going to be any compensation for loss of amenity or impact on the visual environment
- public views - the opinion of other local people about this type of project
- impact of the building project - possible disruption that creating the plant is going to cause and for how long
- benefits to the environment - possible positive impact on the environment in general due to reduction in fuel emissions from more efficient gadgets or other benefit
- other reasonable response

Possible Typical Response

I would need to know why the company is not doing the processing in their own country – if they are just exporting their dirty jobs to my country I would protest.
I would need to know whether there will be jobs for people in my country and I would need to know the extent of the environmental damage – is it offset by the gain to the economy? Is the foreign company paying to restore the environment? If so, I would be less likely to protest.
Will there be regulation and monitoring to check the damage? This would make me happier, but only if I knew someone would take action if
Where will the radioactive waste be stored? If in my country I'd protest because radioactive waste can be damaging for many years.

(i) Assessment of the identification of additional information

Mark	Description
Level 2: Reasonable Response **2 marks**	Identification of clearly relevant inf description; usually two or more ex
Level 1: Basic Response **1 mark**	Identifies some information but the the description is very brief or lack
0 marks	No creditworthy material.

Further Guidance

Note that the questions should be focused on the issue of support for the proposal. Note also that candidates should ask for new or further development of information, not for information or arguments which have already been provided in the stimulus material.

3 (a) Under the heading, 'What is the problem?' the author writes, 'So the world needs new sources of rare earth metals. Or we we'll have to do without our iPods and cellphones.'

How reasonable is this part of the argument? Justify your answer. [3]

Candidates are likely to evaluate the perspective/argument using the following arguments:

Reasonable

- It's reasonable to some extent, because there will be a shortage of goods such as iPods which are made with rare earth metals if the supply runs out.
- Other uses may be more important
- We have no other choice
- Other reasonable response

Unreasonable

- it's unreasonable because it suggests only two extreme alternatives
- a false alternative
- there are other solutions - our existing iPods and cell phones will keep working for quite a while
- we could recycle
- we could buy gadgets made in China.
- exaggeration
- Other reasonable response

Marks	Description of Performance
Level 3: Strong Response	Strong, clearly argued and supported discussion of the reasonableness of the perspective. Coherent, structured evaluation of the perspective. The response is likely to contain at least 1 developed evaluative points, with

3	some undeveloped points; 2/3 undeveloped p enter this band. The response is balanced. A conclusion is reached.
Level 2: Reasonable Response 2	Some discussion of the reasonableness of th and evaluative points are likely to be partially response is likely to 1/2 undeveloped points; may be sufficient to enter this band. An overa is attempted.
Level 1: Basic response 1	Basic or limited discussion of the reasonable Judgements and evaluative points are likely to be asserted, and lack clarity and relevance. The response is likely to contain only 1 undeveloped evaluative point. The material may be very generalised and tangential.
0	No creditworthy material

(b) 'But without rare earth metals OUR way of life will be threatened, so we need more rare earth metal mines in more countries.'

How acceptable is it to see our way of life as more important than other people's ways of life? Justify your answer. [3]

Candidates are likely to evaluate the perspective/argument using the following arguments:

Reasonable

- It is natural to see our way of life as more important than others' – just as our families, friends and communities are more important to us than strangers - in some situations it is ok to place our own way of life first
- People tend to look after their own interests
- Survival of our culture and way of life has value as much as others
- Other reasonable response

Unreasonable

- others' ways of life are important in terms of general human rights and equality
- others should not be endangered for trivial things
- it's not morally acceptable to exploit others and threaten their way of life just so that we can have gadgets
- Other reasonable response

Marks	Description of Performance
Level 3: Strong Response 3	Strong, clearly argued and supported discussion of the reasonableness of the perspective. Coherent, structured evaluation of the perspective. The response is likely to contain at least 1 developed evaluative points, with some undeveloped points; 2/3 undeveloped points may be sufficient to enter this band. The response is balanced. A clear assessment or conclusion is reached.
Level 2: Reasonable Response 2	Some discussion of the reasonableness of the perspective. Judgements and evaluative points are likely to be partially supported or asserted. The response is likely to 1/2 undeveloped points; 2/3 brief undeveloped points may be sufficient to enter this band. An overall assessment or conclusion

	is attempted.
Level 1: Basic response 1	Basic or limited discussion of the reasonable Judgements and evaluative points are likely t clarity and relevance. The response is likely t evaluative point. The material may be very ge
0	No creditworthy material

(c) ***green_crusader says, ,*** **'Recycling all the old gadgets we might solve the problem.'**

How likely is it that recycling will solve the problem of rare earth metals? [3]

Candidates are likely to discuss the following arguments for recycling working:

- because it would be an alternative source of rare earth metals
- it is a source that might be cleaner than mining new rare earth minerals that many people would support, especially environmentalists
- recycling and reuse also reduces the problem of depletion altogether
- other reasonable response

Candidates are likely to discuss the following arguments for recycling not working:

- recycling doesn't create enough material
- some is lost in the process
- expansion of supply is not possible
- one country dominating the supply and then refusing to sell it will still exist
- other reasonable response

Marks	Description of Performance
Level 3: Strong Response 3	Strong, clearly argued and supported discussion of the reasonableness of the perspective. Coherent, structured evaluation of the perspective. The response is likely to contain at least 1 developed evaluative points, with some undeveloped points; 2/3 undeveloped points may be sufficient to enter this band. The response is balanced. A clear assessment or conclusion is reached.
Level 2: Reasonable Response 2	Some discussion of the reasonableness of the perspective. Judgements and evaluative points are likely to be partially supported or asserted. The response is likely to 1/2 undeveloped points; 2/3 brief undeveloped points may be sufficient to enter this band. An overall assessment or conclusion is attempted.
Level 1: Basic response 1	Basic or limited discussion of the reasonableness of the perspective. Judgements and evaluative points are likely to be asserted, and lack clarity and relevance. The response is likely to contain only 1 undeveloped evaluative point. The material may be very generalised and tangential.
0	No creditworthy material

(d) ***Professor_K_Schmidt*** **argues that we should restrict our use of rare earth metals and use them for medical and clean technologies rather than gadgets and guns. How well does his reasoning work? [9]**

In your answer you should support your point of view wit and you may consider:

- **the reasonableness of any opinions he holds**
- **the likeliness of any consequences he predicts**
- **the probability that any solutions he suggests will act**
- **whether you accept any values and why**
- **any other relevant issues**

Candidates are expected to evaluate the reasoning. They should make a supported judgement with some explanation about well the reasoning works.

Candidates may consider the following types of issue:

- quality of the argument
    - clarity
    - tone – emotive; exaggerated; precise
    - language
    - balance
- quality of the evidence
    - relevance
    - sufficiency – range/type/depth/detail
    - source
    - date – how recent
    - factual, opinion, value, anecdote
    - testimony – from experience and expert
- knowledge claims
- sources of bias
- likelihood of claims and consequences of their ideas
- acceptability of their values to others
    - how likely other people are to agree with their perspective/view

The following levels of response should be used to award marks.

Level and Marks	Description of Level
L5: Very Good Response **9**	Very good, well supported judgements. Coherent, structured evaluation of how well the reasoning works. The response is likely to contain at least 3/4 developed evaluative points, possibly with some undeveloped points. The response is balanced. A clear, convincing assessment or conclusion is reached.
L4: Strong Response **7–8**	Strong, clear judgements. Structured evaluation of how well the reasoning works. The response is likely to contain at least 2 developed evaluative points, possibly with 1/2 undeveloped points. A range (3/4+) of brief but clearly appropriate/explained undeveloped points may be sufficient to enter this band at the lower level. The response is balanced. An overall assessment or conclusion is reached.
L3: Reasonable Response	Reasonable judgements. Some evaluation of how well the reasoning works. Judgements and evaluative points are likely to be partially supported or asserted. The response is likely to contain at least 1

5–6	developed evaluative points, possibly with 1/ brief undeveloped points may be sufficient to level. An overall assessment or conclusion is be convincing.
L2: Basic Response **3–4**	Basic examination of reasoning. Judgements likely to be partially supported or asserted, an times. The response is likely to contain at lea evaluative points.
L1: Limited Response **1–2**	Limited, if any, unsupported discussion. The response is likely to consider the statement very briefly or tangentially. There is very little clarity in the argument. The response is likely to repeat the arguments simply or assert agreement/disagreement with the views expressed. The response may not contain any clear evaluative points.
0	No relevant or creditworthy material

Further Guidance

- *Developed points usually have at least two aspects and contain some extension/explanation/exemplification e.g. YY's reasoning is not very good because it doesn't have facts to back it up; for example scientific research and information about the subject would make it better*
- *Undeveloped Points are usually a simple statement or assertion that is not taken much further and may appear to be 'list-like' e.g. YY's argument is not very good because there are no facts to back up the idea*

4 It is 2020 and the shortage of rare earth metals has become a enough rare earth metals for one of the following uses.

Gadgets
Medical technology
Defence technology

You must decide which one of these uses of rare earth metal this decision.

In your answer you should:

- **state your decision;**
- **give reasons for your decision;**
- **give reasons why you did not choose the other uses;**
- **use relevant examples;**
- **show that you have considered different personal, national and global perspectives**

Candidates are expected to compare and assess the priority for use of rare earth metals. A judgment should be made about which priority is the most important. The candidates are expected to use and develop the material found in the Sources, but should go beyond simply repeating or recycling without adaptation. Other material may be introduced but it is not necessary to gain full marks.

The arguments used to consider different levels of response are likely to include:

- amount of impact - how much difference can be made
- extent of impact – how far a difference can be made within and across countries
- how long it takes to make a difference
- the effects of culture and values on criteria for decision making e.g. value attached to environment or new technologies
- consequences
- ease of action and difficulties in reducing use
- the influence of individuals and groups
- the role of vested interests and power differences
- potential conflict
- long term and short term factors
- governmental responses and action
- other reasonable response

Level and Marks	Description of Level
L5: Very Good Response **16–18**	Very good, well supported and logical reasoning and judgements about priorities. Coherent, structured argument and evaluation with at least two types of action compared. The response is likely to contain a range of clearly reasoned arguments and/or evidence to support the views expressed, with at least 3 developed points, and some undeveloped points. The response is balanced. A clear, balanced and convincing assessment or conclusion is reached.
L4: Strong Response	Strong, supported reasoning and judgements about priorities. Some clear and fairly coherent argument and evaluation with at least two types of action compared. The response is likely to contain a range of reasoned

12–15	arguments and/or evidence to support the views e developed points, and some undeveloped points. A balanced assessment or conclusion is reached. Lower in the band a greater proportion of argume undeveloped and there will be uneven treatment action.
L3: Reasonable Response **8–11**	Reasonable argument and judgement about priori likely to contain some arguments and/or evidence expressed, with at least 1 developed point, and some undeveloped points. There is very little structure. An assessment or conclusion is attempted. Lower in the band some arguments may begin to lack clarity, and/or be partial and generalised.
L2: Basic Response **4–7**	Basic argument about priorities. Arguments are unlikely to be supported and mainly asserted or exaggerated. There is little clarity of argument and no structure. Some attempt to make a judgement about the most likely level may be present; it may be implicit. The response is likely to contain only 1/2 undeveloped points. Lower in the band the arguments are likely to be very generalised, lack relevance to the issue and lack focus on the question.
L1: Limited Response **1–3**	Limited, if any, argument about priorities. There is very little clarity in the argument. The response is likely to assert a very simple view or describe fuel shortages and their causes in general. The response may not contain any relevant points about priorities and be very generalised and tangential.
0	No relevant or creditworthy material

Further Guidance - developed points usually have at least two aspects and contain some extension/explanation/exemplification; undeveloped points are usually a simple statement or assertion that is not taken much further and may appear to be 'list-like'