

CAMBRIDGE INTERNATIONAL EXAMINATIONS GCE Advanced Subsidiary Level

# MARK SCHEME for the May/June 2014 series

# 8291 ENVIRONMENTAL MANAGEMENT

8291/13

Paper 1, maximum raw mark 80

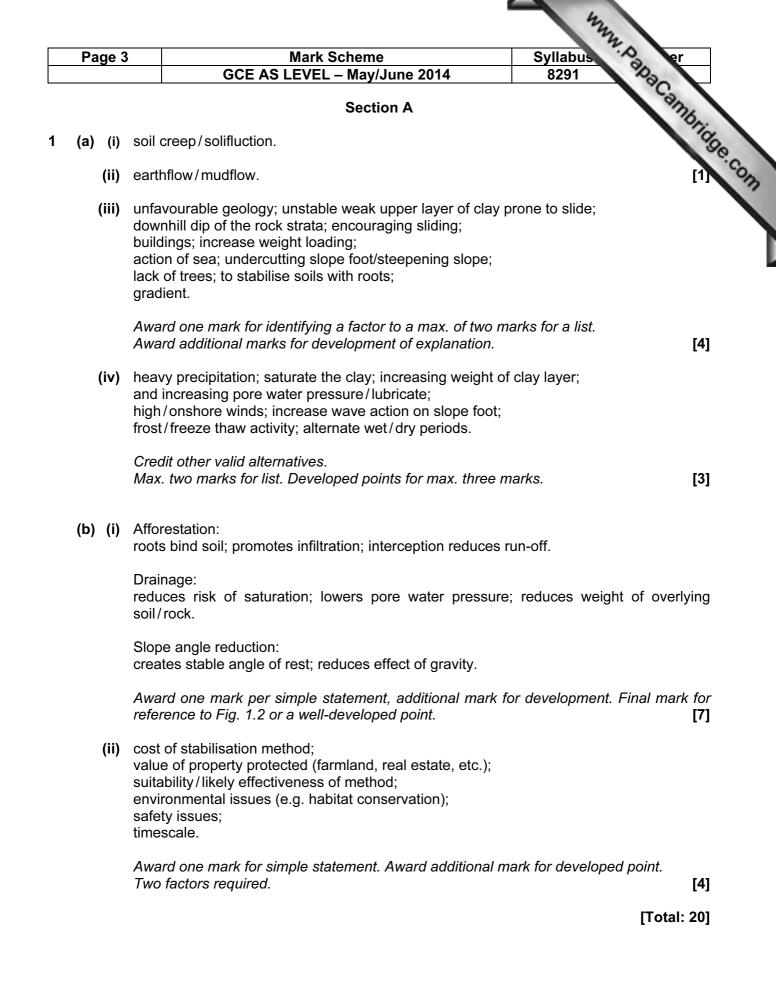
This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began,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

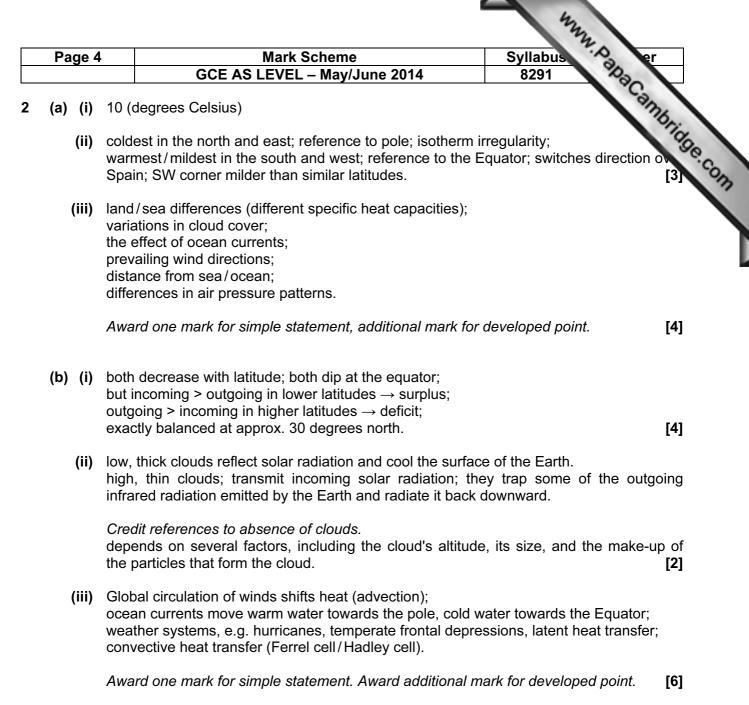
Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2014 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

The second				
Page 2	2	Mark Scheme	Syllabus & er	
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General no	tes		Phil	
Symbols us	ed in E	Environmental Management mark schemes.		
1		Mark Scheme       Syllabus         GCE AS LEVEL – May/June 2014       8291         s       In Environmental Management mark schemes.         separates alternatives for a marking point – other valid ways of expressing the same dea are also credited		
• ን	sepa	eparates points for the award of a mark		
[3]	indic	ndicates the number of marks available		
italic	indicates that this is information about the marking points and is not required credit			
		text is also used for comments about alternatives that jected	at should be accepted, ignore	
ora		reverse argument – shows that an argument from an alternative viewpoint will be edited		
AW		alternative wording, sometimes called 'or words to that effect' – AW is used when there are many different ways of expressing the same idea		
( )		vord / phrase in brackets is not required to gain man	ks but sets the context of th	
	e.g.	response for credit e.g. (nuclear) waste – nuclear is not needed but if it was described as a domestic waste then no mark is awarded		
<u>volcanic</u>	unde	nderlined words – the answer must contain exactly this word		
ecf	error carried forward – if an incorrect answer is given to part of a question, and t answer is subsequently used by a candidate in later parts of the question, this indicate that the candidate's incorrect answer will be used as a starting point for marking the later parts of the question.			





[Total: 20]

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#### Section B

Cambridge.com (a) Description of relationship; reference to Fig. 3.1; weakness of correlation / evidence and a second sec 3 population density; MEDC versus LEDC; level of preparedness; time of location / physical factors, e.g. Tsunami.

Please use level descriptors 1

- (b) The question requirements are:
  - to select two natural tectonic disasters
  - to assess the success of a variety of strategies for limiting damage / loss of life

Indicative content:

Natural disasters may arise from volcanic activity or earthquakes, and secondary consequences of these, e.g. tsunami, landslides, lahars.

Relevant strategies will depend on examples chosen, e.g. for a volcanic eruption: monitoring, evacuation drills, diversion of lava flows, cooling lava flows with water; zoning.

Tsunamis: early warning broadcasts on media; evacuation routes; houses on stilts; boats for evacuation.

Earthquakes: protection drills; special constructed earthquake-proof buildings (Aseismic buildings).

#### Please use level descriptors 2

[30]

[10]

[Total: 40]

(a) All three display a similar rising trend (a positive correlation). 4 However global surface temperatures fluctuate more. Fluctuations are independent so no pattern. Ocean heat content fluctuates over a longer cycle than surface temperatures. Carbon dioxide concentrations more uniform rise.

Please use level descriptors 1

[10]

		32
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<ul> <li>to de</li> <li>to re</li> <li>to re</li> <li>to m</li> </ul>	stion requirements are: escribe and explain the likely impact of global warmin efer to case studies nake an assessment of impact/likelihood e content:	ng on the natural environ

- (b) The question requirements are:
  - to describe and explain the likely impact of global warming on the natural environ.
  - to refer to case studies
  - to make an assessment of impact/likelihood

Rising sea levels (coastal erosion, coastal flooding, etc.). Melting ice caps/melting permafrost. More extreme weather, e.g. drought, rainfall variability, hurricane activity. Indirect effect on mass movements, soil development, etc. Credit loss/gain of habitat/migrations/extinctions/breeding behaviour. Effect on distribution of plant species/staple crops/biomes.

Please use level descriptors 2

[30]

[Total: 40]

5 It might be possible to predict the likely track of a cyclone by using the historical data. Frequency data related to ocean temperature allows you to predict the likely number of storms in a season. Limited value of the data.

Climatic conditions data/weather forecasting/radar tracking/satellite imagery/air pressure monitoring/sending monitoring equipment into the storm/linking size to likely destructiveness.

Please use level descriptors 1

[10]

- (b) The question requirements are:
  - to describe and explain coping strategies for countries affected by hurricanes
  - to distinguish between the strategies adopted by LEDCs and MEDCs
  - to make a judgement as to the extent that MEDCs might prove more able to cope

Indicative content:

Strategies discussed might include: forecasting/predicting, planning and preparation, responses such as evacuation routes, emergency services support, early warning systems, storm shelters, etc.

Options for LEDCs may be limited by resources and technology. The extent may depend on other factors than level of development such as population density, magnitude of event, political decision making, position of settlement relative to coastline, ability to recover (finances, etc.).



[30]

[Total: 40]

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### Section A and Section B, part (a) descriptor levels:

Descriptor	Award Mark
Consistently meets the level criteria	Mark at top of level
Meets the criteria, but with some inconsistency	Middle, mark to just below top mark
Meets most of level criteria, but not all convincingly	Just below middle, mark to just above bottom mark
On the borderline of this level and the one below	Mark at bottom of level

## Level descriptors 1

#### 6-8 marks/8-10 marks

The response:

- contains few errors
- shows a very good understanding of the question
- shows a good use of data or the information provided, where appropriate
- provides a balanced answer

#### 3-5 marks/5-7 marks

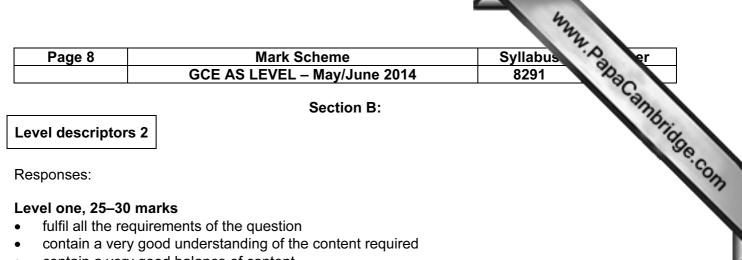
The response:

- may contain some errors
- shows an adequate understanding of the question
- shows some use of data or the information provided, where appropriate
- may lack balance

#### 1–2 marks / 1–4 marks

The response:

- may contain errors
- shows limited understanding of the question
- shows little or no use of the data or information, where appropriate
- lacks balance



- contain a very good balance of content
- contain substantial critical and supportive evaluations
- make accurate use of relevant vocabulary

#### Level two, 19-24 marks

- fulfil most of the requirements of the question
- contain a good understanding of the content required
- contain a good balance of content
- contain some critical and supportive evaluations
- make good use of relevant vocabulary

#### Level three, 13–18 marks

- fulfil some requirements of the question
- contain some understanding of the content required
- may contain some limited balance of content
- may contain brief evaluations
- make some use of relevant vocabulary

#### Level four, 6–12 marks

- fulfil limited requirements of the question
- contain limited understanding of the content required
- may contain poorly balanced of content
- may not contain evaluations
- make limited use of relevant vocabulary

#### Level five, 1–5 marks

- fulfil a few of the requirements of the question
- contain a very limited understanding of the content required
- are likely to be unbalanced and undeveloped
- evaluative statements are likely to be missing
- make no use of relevant vocabulary