

GCE

Geography

Unit F761: Managing Physical Environments

Advanced Subsidiary GCE

Mark Scheme for June 2014

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All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

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

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These are the annotations, (including abbreviations), including those used in scoris, which are used when marking

Annotation	Meaning of annotation
BP	Blank Page – this annotation must be used on all blank pages within an answer booklet (structured or unstructured) and on each page of an additional object where there is no candidate response.
✓	Correct point (only to be used in the Standardisation sample and on point-marked questions)
~	Omission mark. Further development needed, missing point or link between points.
L1	Level one – to be used on the final, 9 mark part of Section A questions only.
L2	Level two – to be used on the final, 9 mark part of Section A questions only.
L3	Level three – to be used on the final, 9 mark part of Section A questions only.
?	Unclear, inaccurate, dubious validity.
IRRL	Irrelevant, a significant amount of material that does not answer the question
NE	No example(s) used or provided.
R	Rubric Error (place at start of Question not being counted)
<u>}</u>	Highlighting an issue eg irrelevant paragraph. Use in conjunction with another stamp eg or
SEEN	Point has been seen and noted

Examiners <u>must</u> include annotations on each response in Section A questions unless it receives full marks.

In Section B, each page of writing <u>must</u> have some annotation.

In 9 mark questions, the Level awarded annotation should be positioned in left margin adjacent to the evidence for the award of that level. The wavy line or highlighting annotations may be used as well if the evidence covers more than one line of text.

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MARK SCHEME

Q	uesti	on	Answer/Indicative Content	Marks	Guidance	
					Content	Levels of response
1	(a)		Study Fig. 1, an OS map extract of a river environment in Eastern England.			
		(i)	 Use Fig. 1 to identify and locate four different types of human activity shown. Valid activities include: industry - oil refinery, works, lighthouse transportation - docks, road, railway residential - areas of housing recreation/leisure/tourism - golf course, museum, beach conservation - nature reserve agriculture - farms services - school, cemetery 	4	Location must also be provided; may be grid reference, direction, name of place on the map. e.g. oil refinery 1617/1717 docks near South Killingholme Haven housing 1714 golf course 1715 nature reserve 173170 agriculture Luxmore Farm school180149	Point mark 1 mark for each correctly located type of activity. Max 2 for valid activities which are not located. 4 activities with some, but not all, correctly located = 3.
		(ii)	Suggest reasons for the location of two of these activities. Reasons include: flat land access to sea deep/sheltered water water supply rare/threatened habitats demand	6	Reasons will depend on which activities are chosen. Good answers may use map evidence to support their suggestion. No double penalty.	 Level 2 (5–6 marks) Suggests at least one appropriate reason for each activity. Causal links are clearly explained. Good use of technical language. Level 1 (0–4 marks) Suggests at least one appropriate reason. Links may be stated rather than explained. Gaps in technical language. One explained well may reach the top of this level.

Question	Answer/Indicative Content	Marks		Buidance
			Content	Levels of response
(b)	Show how slope processes influence the formation of fluvial landforms. Slope processes may include: • soil creep • landslides • slumping • rockfall • weathering • rainsplash Landforms may be directly affected, for example the steepness of valley sides, retreat of waterfalls. Supply of sediment to the channel is also relevant, linked to depositional landforms such as deltas, as well as sediment being an abrasive tool in erosional landforms such as the river channel.	6	No credit for simply naming process(es)	Level 2 (5–6 marks) Shows the influence of slope processes on at least two landforms. Cause-effect links are stated and clearly shown with specific process mechanisms applied. Good use of technical language. Level 1 (0–4 marks) Shows the influence of slope process(es) on at least one landform. Cause-effect links may be implied. Likely to refer to generic process(es). One shown well may reach the top of this level.

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Question	Answer/Indicative Content	Marks	Guid	lance
			Content	Levels of response
(C)	 With reference to one or more located river basins, explain how they can be protected from the effects of flooding. Methods include: channel modification – widening, deepening, straightening, diversions, concreting catchment management – land use zoning, afforestation education – early warning systems, evacuation drills relief - aid, insurance 	9	One method of protection explained well can achieve the top of L3.	Level 3 (8–9 marks) Uses clearly identified example(s) to explain how protection is achieved. Causal links between method and flooding are clearly explained. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. Level 2 (5–7 marks) Gives clearly identified example(s) to explain how protection is achieved. Cause-effect links are stated but explanation may not be clearly linked to effects. Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. Level 1 (0–4 marks) Limited or no example. Mainly descriptive of method(s) used with cause-effect links limited or absent. Answer has little structure and has some errors in grammar and spelling. Little use of appropriate geographical terminology. If no located example then top of Level 1 Max.

Q	uesti	on	Answer/Indicative Content	Marks	Guidance		
					Content	Levels of response	
2	(a)		Study Fig. 2, an OS map extract of a coastal environment in Devon.				
		(i)	 Use Fig. 2 to identify and locate four different types of human activity shown. Valid activities include: tourism - camp site, caravan site, youth hostel, information centre recreation/leisure - museum, sports centre transportation - road, ferry, harbour, park and ride residential - settlements (towns and villages) conservation - nature reserve agriculture - farms services - church, hospital, college industry-harbour/port, lighthouse 	4	Location must also be provided; may be grid reference, direction, name of place on the map. e.g. camp/caravan site 924549 viewpoint at Berry Head museum 922562 marina 928567 residential 9154 nature reserve 934547 agriculture Southdown Farm college 928558	Point mark 1 mark for each correctly located type of activity. Max 2 for valid activities which are not located. 4 activities with some, but not all, correctly located = 3.	
		(ii)	Suggest reasons for the location of two of these activities. Reasons include: flat land access to sea deep/sheltered water water supply attractive landscape pleasant climate rare/threatened habitats demand	6	Reasons will depend on which activities are chosen. Good answers may use map evidence to support their suggestion. No double penalty.	 Level 2 (5–6 marks) Suggests at least one appropriate reason for each activity. Causal links are clearly explained. Good use of technical language. Level 1 (0–4 marks) Suggests at least one appropriate reason. Links may be stated rather than explained. Gaps in technical language. One explained well may reach the top of this level. 	

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Question	Answer/Indicative Content	Marks		Guidance
			Content	Levels of response
(b)	Show how weathering processes influence the formation of coastal landforms. Weathering may contribute to initial formation or landforms or modify them subsequently. May also provide sediment to the coastal system. Processes include freeze-thaw, salt crystallisation, biological, slaking, oxidation, carbonation/solution. Landforms include cliffs, shore platforms, arch, stack, stump, beach, spit, bar.	6	No credit for simply naming process(es)	Level 2 (5–6 marks) Shows the influence of weathering on at least two landforms. Cause- effect links are stated and clearly shown with specific process mechanisms applied. Good use of technical language. Level 1 (0–4 marks) Shows good understanding of the process(es) but without clear links to the landform(s) OR explains the formation of the landform(s) but without applying detail of the process(es.) One shown well may reach the top of this level.

Mark Scheme

Question	Answer/Indicative Content	Marks	Guid	lance
			Content	Levels of response
(C)	 With reference to one or more located examples, explain how hard engineering can protect coastal areas from the effects of natural processes. Methods include: sea walls, rip rap, revetments, gabions, off-shore breakwater - to protect against wave erosion cliff regrading, cliff drainage - to protect against mass movement groynes - to protect against longshore drift 		One method of protection explained well can achieve the top of L3.	Level 3 (8–9 marks) Uses clearly identified example(s) to explain how protection is achieved. Causal links between method(s) and natural processes are clearly explained. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. Level 2 (5–7 marks) Gives clearly identified example(s) to explain how protection is achieved. Cause-effect links are stated but explanation may not be clearly linked to effects. Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. Level 1 (0–4 marks) Limited or no example. Mainly descriptive of method(s) used with cause-effect links limited or absent. Answer has little structure and has some errors in grammar and spelling. Little use of appropriate geographical terminology. If no located example then top of Level 1 Max.

Q	uesti	on	Answer/Indicative Content	Marks	Guid	dance
					Content	Levels of response
3	(a)		Study Fig. 3, a factfile for Greenland, a cold environment.			
		(i)	 Use Fig. 3 to outline two challenges of the physical environment. Environmental challenges: low temperatures; -20°C in Feb high % ice sheet cover; 81% limited arable land; only 1% high latitude; 60°-84° 	4	The outline could include evidence from the resource, comment on the figure i.e. low/high/limited or a stated link to the impact of the challenge.	Point mark 1 mark for each correct challenge identified and 1 mark for appropriate outline, in each case.
		(ii)	 Suggest how these challenges make economic development difficult. low temperatures - difficult working/living conditions, frozen ground ice sheet cover - inaccessibility, resources buried limited arable land - hard to supply food for population, high cost of imports, high cost of living 	6	References to economic development may be generic or linked to impacts on specific types of development such as resource extraction. No double penalty.	Level 2 (5–6 marks) Clear explanation of two challenges. Explicit links to economic development. Level 1 (0–4 marks) Explanation provided but links may be stated rather than explained. One explained well may reach the top of this level.

Mark Scheme

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Question	Answer/Indicative Content	Marks	Gui	dance
			Content	Levels of response
(b)	Explain <u>two</u> ways that climate influences the vegetation of cold environments. Climate is harsh with extreme low temperatures, short growing season (thermal and hydrological), strong winds and frozen moisture. Hence, vegetation is sparse and with limited diversity. Species adapt in order to survive, for example coniferous, evergreen, small needles, dwarfism, dark colour, rosettes, short life cycle.	6	Answers may refer to two different adaptations/limitations of plants to the same climatic characteristic or two different climatic characteristics.	Level 2 (5–6 marks) Explains two ways that climate influences vegetation. Clear links established. Appropriate use of technical terminology. Level 1 (0–4 marks) Explains at least one way that climate influences vegetation. Links may be stated rather than explained. Gaps in technical language. One explained well may reach the top of this level.

Mark Scheme

Question	on Answer/Indicative Content		Guidance		
			Content	Levels of response	
(C)	With reference to one or more located examples, explain how meltwater can shape landforms in cold environments. Landforms include: Waterfalls, overspill channels, outwash plain, kames, eskers, kettles, braided channels i.e. erosion and deposition by meltwater. Role of meltwater in freeze-thaw, plucking, mass movement and nivation also relevant.	9	Answers using only one type of process may still reach the top of Level 3. Answers with only one landform, but which meet all the other Level 3 criteria, can be awarded 8.	Level 3 (8–9 marks) Uses clearly identified example(s) to explain the influence of meltwater on at least two landforms. Cause-effect links are stated and clearly explained. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. Level 2 (5–7 marks) Gives clearly identified example(s) to explain the influence of meltwater on at least one landform. Cause- effect links are stated but explanation may not be clear. Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. Level 1 (0–4 marks) Limited or no example. Descriptive observations of landforms. Cause-effect links are limited or absent. Answer has little structure and has some errors in grammar and spelling. Little use of appropriate geographical terminology. If no located example then top of Level 1 Max.	

Q	uesti	on	Answer/Indicative Content		Guidance		
					Content	Levels of response	
4	(a)		Study Fig. 4, a factfile for Namibia, a hot arid/semi-arid environment.				
		(i)	 Use Fig. 4 to outline two challenges of the physical environment. Environmental challenges: low rainfall; 2mm high % arid; 90% limited arable land; 1% low latitude; 17⁰-29⁰ 	4	The outline could include evidence from the resource, comment on the figure i.e. low/high/limited or a stated link to the impact of the challenge.	Point mark 1 mark for each correct challenge identified and 1 mark for appropriate outline, in each case.	
		(ii)	 Suggest how these challenges make economic development difficult. low precipitation - lack of water supply, difficult to crow crops high % arid – may be sand dunes; inaccessibility, mobile so hard to build on, resources buried limited arable land - hard to supply food for population, high cost of imports, high cost of living 	6	References to economic development may be generic or linked to impacts on specific types of development such as resource extraction. No double penalty.	Level 2 (5–6 marks) Clear explanation of two challenges. Explicit links to economic development. Level 1 (0–4 marks) Explanation provided but links may be stated rather than explained. One explained well may reach the top of this level.	

Mark Scheme

Question		on	Answer/Indicative Content	Marks	Gui	dance
					Content	Levels of response
	(b)		Explain <u>two</u> ways that climate influences the vegetation of hot arid/semi-arid environments. Climate is harsh with high temperatures, high evaporation rates and low/unreliable rainfall, strong abrasive winds/sand storms. Hence, vegetation is sparse and with limited diversity. Species adapt in order to survive, for example succulents, long tap roots, sunken/closed stomata, halophytes.	6	Answers may refer to two different adaptations/limitations of plants to the same climatic characteristic or two different climatic characteristics.	Level 2 (5–6 marks) Explains two ways that climate influences vegetation. Clear links established. Appropriate use of technical terminology. Level 1 (0–4 marks) Explains at least one way that climate influences vegetation. Links may be stated rather than explained. Gaps in technical language. One explained well may reach the top of this level.

Mark Scheme

Question Answer/Indicative Content		Marks	s Guidance		
			Content	Levels of response	
(C)	With reference to one or more located examples, explain how wind can shape landforms in hot arid/semi-arid environments. Landforms include: Sand dunes of various types, ventifacts, desert pavements, deflation hollows, yardangs, zeugens, and pedestal rocks i.e. deposition and erosion by wind. Wind can also contribute to shaping of other landforms such as in canyon landscapes, arches.	9	Answers using only one type of process may still reach the top of the Level. Answers with only one landform, but which meet all the other Level 3 criteria, can be awarded 8.	Level 3 (8–9 marks) Uses clearly identified example(s) to explain the influence of wind on at least two landforms. Cause-effect links are stated and clearly explained. Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. Level 2 (5–7 marks) Gives clearly identified example(s) to explain the influence of wind on at least one landform. Cause-effect links are stated but explanation may not be clear. Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. Level 1 (0–4 marks) Limited or no example. Descriptive observations of landforms. Cause-effect links are limited or absent. Answer has little structure and has some errors in grammar and spelling. Little use of appropriate geographical terminology.	

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Q	uestion	Answer/Indicative Content	Marks	Guidance		
				Content	Levels of response	
5		 With reference to one or more located river basins, examine the varied impacts of flooding. Impacts include: social - disruption to life, evacuation, homelessness, disease, political unrest, death, injury economic - damage to buildings, loss of trade for businesses, disruption to transport, insurance costs, cost of defences/long term management 	25		Levels of responseAO1 Knowledge and understandingLevel 3 (11–13 marks) Detailed knowledge and understanding of the varied impacts of flooding. Cause-effect links are clearly explained. There is effective use of detailed exemplification with impacts being explicitly linked to flooding.Level 2 (7–10 marks) Some knowledge and understanding	
		 environmental - channel modification, soil erosion, loss of habitats Scale of impacts will also vary. Impacts may also be positive, for 			of the impacts of flooding. Cause- effect links are stated but not clearly explained. There is use of exemplification with some linkages made between impacts and flooding.	
		example deposition of nutrients on floodplains. Impacts may also be primary or secondary. Impacts are often different between LEDCs and MEDCs.			Limited knowledge and understanding of impacts of flooding. Cause-effect links are limited or absent. There is limited exemplification of impact-flooding linkages. If no located example then top of Level 1 Max.	
					Level 1 Max.	

Mark Scheme

	J	une	20	14
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Question		on	Answer/Indicative Content	Marks	Guidance		
					Content	Levels of response	
						AO2 Analysis and application	
					Several explicit comments made about variation, including in the body of the answer.	Level 3 (5 marks) Clear analysis and application of knowledge and understanding of the varied impacts of flooding.	
					Some references to variations, possibly just in the introduction and/or conclusion.	Level 2 (3–4 marks) Some analysis and application of knowledge and understanding of the varied impacts of flooding.	
					Limited or no explicit comments, although variation may be implied by the content.	Level 1 (0–2 marks) Limited analysis and application of knowledge and understanding of the varied impacts of flooding.	

Question Answer/Indicative Content Marks Guidance		Guidance		
		Content	Levels of response	
			AO3 Skills and communication	
		Content	<td colsp<="" td=""></td>	
			Content	

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Question	Answer/Indicative Content	Marks	Guidance		
			Content	Levels of response	
6	 With reference to one or more located coastlines, examine the varied need for protection from natural processes. The need for protection includes: economic - high value of land and property, density of human activities, important transport links social - threat to life, feelings of vulnerability, long occupation environmental - high wave energy, vulnerable geology, rare habitats/species Processes include: erosion longshore drift mass movement weathering 	25	Variety may come from within categories as well as between.	 AO1 Knowledge and understanding Level 3 (11–13 marks) Detailed knowledge and understanding of the varied need for protection. Cause-effect links are clearly explained. There is effective use of detailed exemplification with need being explicitly linked to reasons. Level 2 (7–10 marks) Some knowledge and understanding of the need for protection. Cause- effect links are stated but not clearly explained. There is use of exemplification with some linkages made between need and reasons. Level 1 (0–6 marks) Limited knowledge and understanding of the need for protection. Cause-effect links are limited or absent. There is limited exemplification of need-reason linkages. If no located example then top of Level 1 Max. 	

Mark Scheme

	J	une	20	14
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Question		on	Answer/Indicative Content	Marks	Guidance		
					Content	Levels of response	
						AO2 Analysis and application	
					Several explicit comments made about variation, including in the body of the answer.	Level 3 (5 marks) Clear analysis and application of knowledge and understanding of the varied need for protection.	
					Some references to variations, possibly just in the introduction and/or conclusion.	Level 2 (3–4 marks) Some analysis and application of knowledge and understanding of the varied need for protection.	
					Limited or no explicit comments, although variation may be implied by the content.	Level 1 (0–2 marks) Limited analysis and application of knowledge and understanding of the varied need for protection.	

Question Answer/Indicative Content Marks Guidance		Guidance	
			Content Levels of response
			AO3 Skills and communication
			AO3 Skills and communicationLevel 3 (6–7 marks)Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. Clear conclusion(s) are drawn.Level 2 (4–5 marks)Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. Conclusion(s) are attempted.Level 1 (0–3 marks)Answer has little structure and has some errors in grammar and spelling. Little use of appropriate geographical terminology. No conclusion(s) are attempted.

Question Answer/Indicative Content	Marks		Guidance	
		Content	Levels of response	
Question Answer/Indicative Content With reference to one or more located examples, describe and explain the exploitation of cold environments for short-term gain. Short-term gain typically involves economic needs being focused upon at the expense of social and environmental needs i.e. it is unsustainable. The finite nature of some resources may also make their extraction short-term. Exploitation may include raw material extraction, over-development of tourism, construction. This is likely to cause environmental damage, perhap by pollution, and have negative social impacts, such as conflicts with the indigenous population.	25 25	Content		

Mark Scheme

Question	Answer/Indicative Content	Marks	Guidance		
			Content	Levels of response	
			Several explicit comments made about the short-term/unsustainable nature of the gain, including in the body of the answer. Some references to the short- term/unsustainable nature of the gain, possibly just in the introduction and/or conclusion. Limited or no explicit comments, although the short- term/unsustainable nature of the gain may be implied by the content.	AO2 Analysis and application Level 3 (5 marks) Clear analysis and application of knowledge and understanding of the short-term nature of the gain. Level 2 (3–4 marks) Some analysis and application of knowledge and understanding of the short-term nature of the gain. Level 1 (0–2 marks) Limited analysis and application of knowledge and understanding of the short-term nature of the gain.	

Mark Scheme

Question	Answer/Indicative Content	Marks	Guidance	
			Content	Levels of response
8	 With reference to one or more located examples, describe and explain the exploitation of hot arid/semi-arid environments for short-term gain. Short-term gain typically involves economic needs being focused upon at the expense of social and environmental needs i.e. it is unsustainable. The finite nature of some resources may also make their extraction short-term. Exploitation may include raw material extraction, over-development of tourism, construction, irrigation for agriculture. This is likely to cause environmental damage, perhaps by pollution, and have negative social impacts, such as conflicts with the indigenous population. 	25		 AO1 Knowledge and understanding Level 3 (11–13 marks) Detailed knowledge and understanding of exploitation. Cause-effect links are clearly explained. There is effective use of detailed exemplification with human uses being explicitly linked to negative impacts. Level 2 (7–10 marks) Some knowledge and understanding of exploitation. Cause-effect links are stated but not clearly explained. There is use of exemplification with human uses being explicitly linked to negative impacts. Level 1 (0–6 marks) Limited knowledge and understanding of exploitation. Cause-effect links are limited or absent. There is limited exemplification of human uses being explicitly linked to negative impacts. If no located example then top of Level 1 Max.

Mark Scheme

Question	Answer/Indicative Content	Marks	Guidance		
			Content	Levels of response	

Question	Answer/Indicative Content	Marks	Guidance	
			Content	Levels of response
				AO3 Skills and communication
				Level 3 (6–7 marks) Answer is well structured with accurate grammar and spelling. Good use of appropriate geographical terminology. Clear conclusion(s) are drawn. Level 2 (4–5 marks) Answer has sound structure but may have some errors in grammar and spelling. Some use of appropriate geographical terminology. Conclusion(s) are attempted.
				Level 1 (0–3 marks) Answer has little structure and has some errors in grammar and spelling. Little use of appropriate geographical terminology. No conclusion(s) are attempted.

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