OCR
RECOGNISING ACHIEVEMENT

GCE

Geography

Advanced GCE **A2 H483**

Advanced Subsidiary GCE **AS H083**

Mark Schemes for the Units

January 2009

H083/H483/MS/R/09J

F761 Managing Physical Environments

Question				Expected Answers	Mks	Rationale
Section A						
1	(a)		**Study Fig. 1, a photograph of part of the Blyde River, South Africa.**			
		(i)	**Identify the <u>four</u> features of river erosion, A, B, C and D, shown in Fig. 1.**	A = Waterfall B = Pot hole; former plunge pool; C = Undercut/notch or derivatives of; do not accept cave D = Gorge; (river) cliffs; valley	4	Point mark; 1 mark for each correct answer.
		(ii)	**Explain how channel processes have influenced <u>one</u> of the features.**	**Indicative content:** Processes such as: river erosion by hydraulic action, corrasion, solution. **Level 2:** Clear understanding of the range of appropriate processes with detailed explanation of their role. Use of technical language to identify different processes. **(6-5 marks)** **Level 1:** Some appreciation of the processes involved with limited understanding of their role. Gaps in technical language. **(4-1 marks)**	6	Do not double penalise – if identify an incorrect answer in ai but correctly explain in aii, award the marks. LII explains the processes and links this with landform. LI there is no link between process and landform. Would expect all three criteria of m/s for top of level 2. Different processes should be the different mechanisms of erosion and these should be named but not necessarily explained. Does not need to be about waterfall in photo.
	(b)		**Show how <u>two</u> factors influence river deposition.**	**Indicative content:** Factors include: river energy in relation to velocity/volume, sediment supply, human activity. **Level 2:** Identifies two factors and shows their influence. **(6-5 marks)** **Level 1:** identifies valid factor(s) One factor done well may reach the top of this level. **(4-1 marks)**	6	Factor = 1 mark; development award further marks. Can have 4 marks for one factor done well and a further mark for statement of another factor. Velocity, for example, might be explained by two different factors (e.g. bed roughness, gradient) but this is acceptable as 2 different factors.

Question			Expected Answers	Mks	Rationale
					Accept answers that say why deposition won't happen. 2 named factors = 2 marks. If more than 2 factors given, accept the best two.
	(c)	**With reference to one or more located examples, explain how river basins can provide opportunities for human activities.**	**Indicative content:** Activities include industrial development, transportation, residential development, energy, recreation and leisure, conservation. **Level 3:** Uses well chosen example(s) to explain a number of opportunities for human activity. Links explicitly explained. Answer is well structured with almost faultless grammar and spelling. Geographical terminology is used accurately. **(9-8 marks)** **Level 2:** Clearly identified example(s) used to explain some valid opportunities for human activity. Links stated. Answers may have poor structure with some inaccurate spelling and inaccurate use of geographical terminology. **(7-5 marks)** **Level 1:** Limited/no use of examples. Descriptive observations of opportunities for human activities. No links established. Communication is basic with little structure and inaccurate spelling. **(4-1 marks)** If no located example, top of level 1 Max.	9	Examples: don't penalise candidates that use just one river basin as these can still achieve full marks. If candidate identifies a located river basin but nothing else is well done they can achieve 1 mark for the named, located river basin. (eg 'The Rhine' is not located so would not achieve one mark). One type of activity only prevents access to level 3 ('opportunities'). Some explanation of what it is about this river that makes the activity suitable is needed for level 3 – i.e. place specific. What it is about that place that makes it suitable for that activity. Annotated sketch maps: candidates shouldn't repeat annotations in the essay and we should not double credit.
			Total	**25**	

F761 — **Mark Scheme** — **January 2009**

Question				Expected Answers	Mks	Rationale
2	(a)		Study Fig. 2, a photograph of Dunmore Head, Dingle Peninsula, western Ireland.			
		(i)	Identify the <u>four</u> landforms of coastal erosion, A, B, C and D, shown in Fig. 2.	A = Headland; cliff; B = Bay; cove; C = Stack/stump; wave/shore platform D = Cliff; slumped cliff; headland; cliff foot.	4	Point mark; 1 mark for each correct answer. B = do not allow beach or bay beach C = do not accept rock If headland/cliff is given for both A and D 2 marks can be awarded.
		(ii)	Explain how wave action has given rise to <u>one</u> of these landforms.	**Indicative content:** Processes such as: wave erosion by hydraulic action, corrosion, solution, pounding, role of wave refraction may also be relevant. **Level 2:** Clear understanding of the range of appropriate processes with detailed explanation of their role. Use of technical language to identify different processes. **(6-5 marks)** **Level 1:** Some appreciation of the processes involved with limited understanding of their role. Gaps in technical language. **(4-1 marks)**	6	Be aware not to double penalise a wrong answer in ai) and correct explanation. L2 – connection between processes and their role in giving rise to landform. List of processes but not related to landform is level one. If attrition is stated, its role in the erosional landform (e.g. cliff) is needed. If beach is explained, accept LSD.
	(b)		Show how <u>two</u> factors influence coastal deposition.	**Indicative content:** Factors include: wave characteristics, sediment supply, human activity, sea level change, water depth, direction of wind and fetch, beach gradient/profile. **Level 2:** Identifies two factors and shows their influence. **(6-5 marks)** **Level 1:** Identifies valid factor(s) One shown well may reach the top of this level. **(4-1 marks)**	6	Longshore drift needs to be linked to deposition. Answers might explain why there is a lot of deposition or why there is not a lot of deposition.

Question		Expected Answers	Mks	Rationale
(c)		**With reference to one or more located examples, explain how coastal areas can provide opportunities for human activities.**					
		Indicative content: Activities include industrial development, transportation, residential development, energy, recreation and leisure, conservation. **Level 3:** Uses well chosen example(s) to explain a number of opportunities for human activity. Links explicitly explained. Answer is well structured with almost faultless grammar and spelling. Geographical terminology is used accurately. **(9-8 marks)** **Level 2:** Clearly identified example(s) used to explain some valid opportunities for human activity. Links stated. Answers may have poor structure with some inaccurate spelling and inaccurate use of geographical terminology. **(7-5 marks)** **Level 1:** Limited/no use of example(s). Descriptive observations of opportunities for human activities. No links established. Communication is basic with little structure and inaccurate spelling. **(4-1 marks)** If no located example, top of level 1 Max.	9	Level 2 the mark awarded will be dependent on the number of different activities.
		Total	**25**	

Question				Expected Answers	Mks	Rationale
3	**(a)**		**Study Fig. 3, a climate graph for Tomsk, Russia.**			
		(i)	**Identify the main features of the climate at Tomsk, Russia, shown in Fig. 3.**	**Indicative content:** Features include: large temperature range, summer max, winter min, low precipitation total with some seasonal variation including summer max and winter min. **Level 2:** Clear identification of valid features of the annual pattern. Use of technical language to identify feature (s). Uses data as evidence. **(4-3 marks)** **Level 1:** Basic description of valid feature (s). Limited use of technical language to identify feature (s). Data quoted. **(2-1 marks)** Max 3 marks if only temperature or precipitation features are identified.	**4**	Level two will have an overview of the climate; level one will pick off months and ppt/climate with no general overview. Level two recognises an element of an annual pattern. E.g. 'wide range of temperature' and then refers to temp range and ppt range with data this will achieve top of level 2. Might recognise seasonal pattern/summer and winter.
		(ii)	**Explain how vegetation has adapted to such climatic conditions.**	**Indicative content:** Adaptations include coniferous habit, thick bark, evergreen, low height, pollination by wind, prostrate, small leaves, cushion plants, perennials, pre-formed flower beds, dark leaves, parabolic shape, waxy cuticle, use of rhizomes and bulbs. Low temperatures, frost, short thermal growing season, water unavailable as frozen are all relevant. **Level 2:** Uses specific adaptations with clear link to climatic characteristics. Good use of technical language. **(6-5 marks)**	**6**	Annuals are rare, not deep roots. Can award up to four marks for a list of adaptations in level one. A level one answer might begin to explain but the link to climate is not clear.

Question				Expected Answers	Mks	Rationale
				Level 1: Description(s) of the adaptation(s). One explained well could reach the top of level one. **(4-1 marks)**		
	(b)		**Suggest two ways in which human activity makes cold environments ecologically vulnerable.**	**Indicative content:** Ways include: tourism pressures, resource exploitation, human induced climate change. **Level 2:** Identifies two ways and suggests their influence. **(6-5 marks)** **Level 1:** Identifies valid factor(s). One suggested well may reach the top of this level. **(4-1 marks)**	6	Could have two ways from one human activity. The 'ways' is referring to the effect on ecology. If two ways are stated award two marks.
	(c)		**Explain the impact of weathering on the physical landscape of one located cold environment.**	**Indicative content:** Weathering by freeze-thaw is the main process, although chemical processes such as carbonation are also significant. Biological weathering also acceptable. Scree is a common feature of the landscape. Weathering can also modify landforms produced by other processes, such as those relating to ice. Weathering also provides debris for use as an abrasive tool by ice/water/wind based processes. **Level 3:** Uses well chosen example to explain a number of impacts on the landscape. Links to the landscape explicitly explained. Answer is well structured with almost faultless grammar and spelling. Geographical terminology is used accurately. **(9-8 marks)** **Level 2:** Clearly identified example used to explain some valid impacts on the landscape. Explicit links to the landscape stated. Answers may have poor structure with some inaccurate spelling and inaccurate use of geographical terminology. **(7-5 marks)**	9	'disintegration/break up of rock' could lift to level 2. Do not credit erosion. Located, named environment can gain one mark. Process only, no link to their impact then this will stay in level one. High mountain environments in GB acceptable.

Question			Expected Answers	Mks	Rationale
			Level 1: Limited/no use of example. Descriptive observations of impacts on the landscape. No explicit links to the landscape established. Communication is basic with little structure and inaccurate spelling. **(4-1 marks)** If no located example, top of level 1 Max.		
			Total	**25**	

Question				Expected Answers	Mks	Rationale
4	(a)		Study Fig. 4, a climate graph for Salah, Algeria.			
		(i)	Identify the main features of the climate at Salah, Algeria, shown in Fig. 4.	**Indicative content:** Features include: fairly high temperature range, summer max, winter min, very low precipitation throughout the year but max in winter (February). **Level 2:** Clear description of valid features of the climate. Use of technical language to identify features. Uses data as evidence. **(4-3 marks)** **Level 1:** Basic description of valid feature(s). Limited use of technical language to identify feature(s). Quotes data. **(2-1 marks)** Max 3 marks if only temperature or precipitation features are identified.	4	
		(ii)	Explain how vegetation has adapted to such climatic conditions.	**Indicative content:** Adaptations include low density, low height, succulence, and limited diversity, tap roots, stomata (sunken, closed, underneath), rolled leaves, halophytic, waxy cuticle, small leaves, hairy leaves. Lack of rainfall, unreliability of rainfall, high temperatures, high evapotranspiration rates are all relevant. **Level 2:** Uses specific adaptations with clear link to climatic characteristics. Good use of technical language. **(6-5 marks)**	6	

Question				Expected Answers	Mks	Rationale
				Level 1: Description(s) of the adaptation(s). One explained well could reach the top of level one. **(4-1 marks)**		
	(b)			**Suggest <u>two</u> ways in which human activity makes hot arid/semi-arid environments ecologically vulnerable.**	6	Could have two ways from one human activity. The 'ways' is referring to the effect on ecology. If two ways are stated award two marks.
				Indicative content: Ways include: population pressure, overgrazing, removal of vegetation for fuel wood. **Level 2:** Identifies two ways and suggests their influence. **(6-5 marks)** **Level 1:** Identifies valid way(s). One outlined well may reach the top of this level. **(4-1 marks)**		
	(c)			**Explain the impact of weathering on the physical landscape of <u>one</u> located hot arid/semi-arid environment.**	9	'disintegration/break up of rock' could lift to level 2. Do not credit erosion. Located, named environment can gain one mark. Process only, no link to their impact then this will stay in level one.
				Indicative content: Weathering by insolation/exfoliation, salt crystal growth, hydrations are likely to be the most common processes, although others may also occur. Scree, exfoliation domes, alveoles is a common feature of the landscape. Weathering can also modify landforms produced by other processes, such as those relating to water/wind. Weathering also provides debris for use as an abrasive tool by water/wind based processes. **Level 3:** Uses well chosen example to explain a number of impacts on the landscape. Links explicitly explained. Answer is well structured with almost faultless grammar and spelling. Geographical terminology is used accurately. **(9-8 marks)**		

Question			Expected Answers	Mks	Rationale
			Level 2: Clearly identified example used to explain some valid impacts on the landscape. Links stated. Answers may have poor structure with some inaccurate spelling and inaccurate use of geographical terminology.		
			(7-5 marks)		
			Level 1: Limited use of example. Descriptive observations of impacts on the landscape. No links established. Communication is basic with little structure and inaccurate spelling.		
			(4-1 marks)		
			If no located example, top of level 1 Max.		
			Total	**25**	

Question	Expected Answers	Mks	Rationale
Section B			
5 **With reference to specific river basins, examine how their management is often about balancing socio-economic and environmental needs.**	**Indicative content:** Socio-economic needs include the demand for housing, jobs, energy, water, food and transportation systems. Environmental needs include conservation, regeneration, sustainable management. To achieve a balance between the needs, careful and detailed management is required. **AO1 Knowledge and understanding** **Level 3:** Detailed knowledge and understanding of socio-economic and environmental needs in river basins and how these may be managed in a balanced way. Cause and effect is well understood and there is effective use of detailed exemplification. **(13-11 marks)** **Level 2:** Some knowledge and understanding of socio-economic and environmental needs in river basins and how these may be managed in a balanced way. Cause and effect is understood and there is use of exemplification. **(10-7 marks)** **Level 1:** Limited knowledge and understanding of socio-economic and environmental needs in river basins and how these may be managed in a balanced way. Cause and effect is not well understood and there is limited exemplification. **(6-1 marks)** If no located example, top of level 1 Max. **AO2 Analysis and application** **Level 3:** Clear application of knowledge and understanding to the demands of the question. **(5 marks)**	25	Comments about the extent to which these needs (socio-economic and environmental) are balanced will enhance AO2. AO3 – conclusion is just one criteria. If all other criteria for a level are done very well but conclusion is missing can still score in top level. The conclusion is not the hurdle between levels, nor is it the requirement for the top of the level. Conclusions might appear at the end of an example, so be aware of this. Answers that are imbalanced and focus only on, eg, environmental, can achieve top of level 2 in AO1 if it is detailed and very good. Both are needed for level 3 in AO1. No located example is max of level 1 on AO1. Max of 21/25 if only one river basin is used. On AO2 the max. number of marks is 4 with one basin. Max. of 10 marks for AO1 if one basin. AO3 marks can still achieve level 3.

Question	Expected Answers	Mks	Rationale
	Level 2: Some application of knowledge and understanding to the demands of the question. **(4-3 marks)**		
	Level 1: Limited application of knowledge and understanding to the demands of the question. **(2-1 marks)**		
	AO3 Skills and communication		
	Level 3: Answer is well structured with effective use of grammar and spelling. Geographical terminology is used accurately. Clear conclusion(s) is/are drawn. **(7-6 marks)**		
	Level 2: Answer may have poor structure with some inaccurate spelling and inaccurate use of geographical terminology. Limited conclusion(s) is/are drawn. **(5-4 marks)**		
	Level 1: Communication is basic with little structure and inaccurate spelling. No conclusion is drawn. **(3-1 marks)**		
	Total	**25**	

Question	Expected Answers	Mks	Rationale
6 **With reference to specific coastal areas, examine how their management is often about balancing socio-economic and environmental needs.**	**Indicative content:** Socio-economic needs include the demand for housing, jobs, energy, water, food and transportation systems. Environmental needs include conservation, regeneration, sustainable management. To achieve a balance between the needs, careful and detailed management is required. **AO1 Knowledge and understanding** **Level 3:** Detailed knowledge and understanding of socio-economic and environmental needs in coastal areas and how these may be managed in a balanced way. Cause and effect is well understood and there is effective use of detailed exemplification. **(13-11 marks)** **Level 2:** Some knowledge and understanding of socio-economic and environmental needs in coastal areas and how these may be managed in a balanced way. Cause and effect is understood and there is use of exemplification. **(10-7 marks)** **Level 1:** Limited knowledge and understanding of socio-economic and environmental needs in coastal areas and how these may be managed in a balanced way. Cause and effect is not well understood and there is limited exemplification. **(6-1 marks)** If no located example, top of level 1 Max.	25	

Question	Expected Answers	Mks	Rationale
	AO2 Analysis and application **Level 3:** Clear application of knowledge and understanding to the demands of the question. **(5 marks)** **Level 2:** Some application of knowledge and understanding to the demands of the question. **(4-3 marks)** **Level 1:** Limited application of knowledge and understanding to the demands of the question. **(2-1 marks)** **AO3 Skills and communication** **Level 3:** Answer is well structured with effective use of grammar and spelling. Geographical terminology is used accurately. There is a clear conclusion. **(7-6 marks)** **Level 2:** Answer may have poor structure with some inaccurate spelling and inaccurate use of geographical terminology. There is a limited conclusion. **(5-4 marks)** **Level 1:** Communication is basic with little structure and inaccurate spelling. There is no attempt at a conclusion. **(3-1 marks)**		
	Total	**25**	

Question		Expected Answers	Mks	Rationale
7	With reference to located examples, discuss the opportunities and challenges for development in cold environments.	**Indicative content:** Opportunities include resource exploitation, including agriculture, recreation and tourism. Challenges include environmental constraints, costs/remoteness, and conflicts with indigenous populations. Relationships exist between the nature of the challenges and the desire/ability to overcome them in order for development to take place. This might reflect, for example, the value of resources and the technological advances enabling their exploitation. **AO1 Knowledge and understanding** **Level 3:** Detailed knowledge and understanding of challenges and opportunities in cold environments and the relationships between them. Cause and effect is well understood and there is effective use of detailed exemplification. **(13-11 marks)** **Level 2:** Some knowledge and understanding of challenges and opportunities in cold environments and the relationships between them. Cause and effect is understood and there is use of exemplification. **(10-7 marks)** **Level 1:** Limited knowledge and understanding of challenges and opportunities in cold environments and the relationships between them. Cause and effect is not well understood and there is limited exemplification. **(6-1 marks)**	25	

Question	Expected Answers	Mks	Rationale
	If no located example, top of level 1 Max. **AO2 Analysis and application** **Level 3:** Clear application of knowledge and understanding to the demands of the question. **(5 marks)** **Level 2:** Some application of knowledge and understanding to the demands of the question. **(4-3 marks)** **Level 1:** Limited application of knowledge and understanding to the demands of the question. **(2-1 marks)** **AO3 Skills and communication** **Level 3:** Answer is well structured with effective use of grammar and spelling. Geographical terminology is used accurately. There is a clear conclusion. **(7-6 marks)** **Level 2:** Answer may have poor structure with some inaccurate spelling and inaccurate use of geographical terminology. There is a limited conclusion. **(5-4 marks)** **Level 1:** Communication is basic with little structure and inaccurate spelling. There is no attempt at a conclusion. **(3-1 marks)**		
	Total	**25**	

Question		Expected Answers	Mks	Rationale
8	With reference to located examples, discuss the opportunities and challenges for development in hot arid/semi-arid environments.	**Indicative content:** Opportunities include resource exploitation, including agriculture, recreation and tourism. Challenges include environmental constraints, costs/remoteness, and conflicts with indigenous populations. Relationships exist between the nature of the challenges and the desire/ability to overcome them in order for development to take place. This might reflect, for example, the value of resources and the technological advances enabling their exploitation. **AO1 Knowledge and understanding** **Level 3:** Detailed knowledge and understanding of challenges and opportunities in hot arid/semi-arid environments and the relationships between them. Cause and effect is well understood and there is effective use of detailed exemplification. **(13-11 marks)** **Level 2:** Some knowledge and understanding of challenges and opportunities in hot arid/semi-arid environments and the relationships between them. Cause and effect is understood and there is use of exemplification. **(10-7 marks)** **Level 1:** Limited knowledge and understanding of challenges and opportunities in hot arid/semi-arid environments and the relationships between them. Cause and effect is not well understood and there is limited exemplification. **(6-1 marks)** If no located example, top of level 1 Max.	25	

Question	Expected Answers	Mks	Rationale
	AO2 Analysis and application **Level 3:** Clear application of knowledge and understanding to the demands of the question. **(5 marks)** **Level 2:** Some application of knowledge and understanding to the demands of the question. **(4-3 marks)** **Level 1:** Limited application of knowledge and understanding to the demands of the question. **(2-1 marks)** **AO3 Skills and communication** **Level 3:** Answer is well structured with effective use of grammar and spelling. Geographical terminology is used accurately. There is a clear conclusion. **(7-6 marks)** **Level 2:** Answer may have poor structure with some inaccurate spelling and inaccurate use of geographical terminology. There is a limited conclusion. **(5-4 marks)** **Level 1:** Communication is basic with little structure and inaccurate spelling. There is no attempt at a conclusion. **(3-1 marks)**		
	Total	**25**	