

Mark Scheme (Results)

January 2012

GCSE Geography (5GA2H) Paper 01
NATURAL ENVIRONMENT

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Question Number	Acceptable Answers	Reject	Mark
1 (a)(i)	X = Cliff/Overhang Y = Wave-cut platform/Beach		2

Question Number	Acceptable Answers	Reject	Mark
ii	Point mark. Max 2 for one landform e.g. Cliffs – vertical (1), jointed (1), made of chalk/limestone (1), have a layer of soil/vegetation on top (1). Wave-cut platform – flat (1), sits above sea at low tide (1) Could also credit circular shape of wave cut notch (1) Use of data (scale) (1)	Explanation of landform	3

Question Number	Acceptable Answers	Reject	Mark
iii	Max 2 an explanation or a cause/effect link Freeze thaw – diurnal changes in temperature around 0 degrees (1). Water in crack widened due to freezing (1), 9% volume increase (1) thawing leaves crack prised open – removes water (1), process repeats (1) Exfoliation – heating and cooling of cliff face causes expansion and contraction leading to breakdown (2). Could also refer to animal burrowing/plant action.		3

Question Number	Acceptable Answers	Reject	Mark
iv	Maximum 2 marks for description. Explanations credited at 1 mark each. Max 3 marks without a process or full sequence. Max 3 without reference to headland and bays. E.g. Differential erosion due to perpendicular geology (reference to hard and soft geology which is perpendicular to the coast). Harder rock is more resistant therefore forms land which sticks out into the sea (headlands). Softer rock is eroded (hydraulic action/abrasion/corrosion) at a quicker rate to form a bay. An extension to sequence could refer to development of headlands into stacks/stumps or beaches within bays		4

Question Number	Acceptable Answers	Reject	Mark
Bi	Point mark. Max 2 without data. UK has largest (1) Reference to evidence/data (Length of eroding coast line) (1) Smallest values in Belgium (1) Great variation between countries (1)		3

Question Number	Acceptable Answers	Reject	Mark
ii	Outline required. Credit explanations at one mark. Max 3 with reference to only advantages or disadvantages Advantages – cheaper than hard engineering (1). More sustainable to environment (1), and does not require quarrying of rock (1). Less visually obtrusive (1). Doesn't require as much maintenance. Disadvantages – less effective than hard engineering (1) as it does not always stop erosion from occurring (1), cost of maintenance could be high in the long term (1) with repeated outlays due to annual upkeep (1)	Do not credit opposites.	4

Question Number	Indicative content	
1(c)	Candidates to focus on methods of forecasting e.g. Met Office in UK or work of DEFRA, or planning to ensure preparation or defences, and building design e.g. houses on stilts. Must refer to prevention and prediction for max. Max level 1 for just erosion 'e.g. groynes'	
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	A basic answer which has simple descriptive statements about reducing coastal flooding.
Level 2	3-4	To reach Level 2 there should be explanation about an example or a specific point. The top of the level requires at least two specific points or a specific point and an explanation, which could be part of one or more examples, or two explanations
Level 3	5-6	An explicit answer with a range (at least two) of specific and explained points which could be from different examples.

Question Number	Acceptable Answers	Reject	Mark
2 (a)(i)	X = Levee/Embankment/Bank Y = Floodplain (allow silt/alluvium)		2

Question Number	Acceptable Answers	Reject	Mark
ii	Point mark. Must refer to both landforms for max. Levee is raised above river channel (1), and composed of larger sediments (1). Found adjacent to river (1). Floodplain is wide (1) and fairly flat (1) and composed of smaller sediments (1). Accept reference to silt. Use of data (scale) (1)	Explanation of landform	3

Question Number	Acceptable Answers	Reject	Mark
iii	Max two without explanation and a cause/effect link. Mass movement – relate to slumping, slides, or creep. Saturation of ground (1), lubrication along a weakness/plane in bank (1) and collapse into river (1) Credit process names (1)		3

Question Number	Acceptable Answers	Reject	Mark
iv	Maximum 2 marks for description. Explanations credited at 1 mark each. Max 3 marks without a process and full sequence. Credit annotations on diagrams. Meander erodes on the outside of the bend. This causes an elongation of meander and thinning of meander neck. During a large flood event meander neck is eroded (abrasion/H.A./corrosion) through. Over time material is deposited at the entrance to the meander loop cutting it off. Meander scar will dry up leaving an ox bow.		4

Question Number	Acceptable Answers	Reject	Mark
Bi	Point mark. Max 2 without data. Overall increasing costs (1) with variations (1) accept 2008-2009 (1) Reference to data (flood damage costs) (1)		3

Question Number	Acceptable Answers	Reject	Mark
iii	<p>Outline required. Credit explanations at one mark. Max 3 with reference to only advantages or disadvantages Advantages – cheaper than hard engineering (1). More sustainable to environment (1), and does not require mass altering of river channel (1). Less visually obtrusive (1). Disadvantages – less effective than hard engineering (1) as it does not always stop erosion/flooding from occurring (1), cost of maintenance could be high in the long term (1) with repeated outlays due to annual upkeep (1)</p>	Do not credit opposites	4

Question Number	Indicative content	
2(c)	Candidates to focus on methods of forecasting e.g. Met Office in UK or work of DEFRA, or planning to ensure preparation or defences, and building design e.g. houses on stilts. Must refer to prediction and prevention for max.	
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	A basic answer which has simple descriptive statements about reducing river flooding.
Level 2	3-4	To reach Level 2 there should be explanation about an example or a specific point. The top of the level requires at least two specific points or a specific point and an explanation, which could be part of one or more examples, or two explanations
Level 3	5-6	An explicit answer with a range (at least two) of specific and explained points which could be from different examples.

Question Number	Acceptable Answers	Reject	Mark
3 (a)(i)	X = Arête/Ridge/Steep back wall of corrie Y = U-shaped valley/Glacial trough/Valley floor /moraines		2

Question Number	Acceptable Answers	Reject	Mark
ii	Point mark. Arete is steep sided (1) has a pointed (knife edge) ridge (1). U-shaped valley has vertical walls (1), flat base (1). It is approximately 200m high (accept 150m – 230m) (1) or 300m wide (accept 150m – 350m) (1)	Do not accept it is U-shaped. No explanation of landforms.	3

Question Number	Acceptable Answers	Reject	Mark
iii	Max 2 without explanation. Freeze thaw – diurnal changes in temperature around 0 degrees (1). Water in crack widened due to freezing (1), 9% volume increase (1) thawing leaves crack prized open – removes water (1), process repeats (1)		3

Question Number	Acceptable Answers	Reject	Mark
iv	Maximum 2 marks for description. Explanations credited at 1 mark each. Max 3 marks without a process and full sequence. Corrie is formed as ice accumulates near mountain peak. Accumulated ice rotates and abrades and plucks the mountain side. This will lead to classic steep back wall and circular depression. Rock lip forms as the ice rotates out of corrie. Explanation can be achieved through process or through movement.		4

Question Number	Acceptable Answers	Reject	Mark
Bi	5		1

Question Number	Acceptable Answers	Reject	Mark
ii	<p>Point mark. Max 2 without data.</p> <p>Number of deaths is generally around 25 per year (1) However 2006 was an anomalously high year (1) at 57 deaths (1). Has a gradual rise with a sudden drop (1) every 3-4 years. Credit use of data (deaths) with 1 mark. No pattern (1)</p>		3

Question Number	Acceptable Answers	Reject	Mark
iii	<p>Point mark. Outline required, so explanations credited at 1 mark. Must refer to people and environment for max.</p> <p>E.g. Avalanches bury settlements leading to deaths and injury (1). Avalanches knock down trees (1) leading to animal habitat deaths (1) and future vulnerability to further avalanches (1)</p>		3

Question Number	Indicative content	
biv	Candidates should refer to planning, forecasting and building design to reduce effects of avalanches. Planning includes evacuation procedure, and warning zones, forecasting refers to weather simulation and building design refers to barriers, blockades etc. Must refer to prediction and prevention for max.	
	0	No rewardable material
Level 1	1-2	A basic answer which has simple descriptive statements about reducing the effects of avalanches.
Level 2	3-4	To reach Level 2 there should be explanation about an example or a specific point. The top of the level requires at least two specific points or a specific point and an explanation, which could be part of one or more examples, or two explanations
Level 3	5-6	An explicit answer with a range (at least two) of specific and explained points which could be from different examples.

Question Number	Acceptable Answers	Reject	Mark
4 (a)(i)	Krakatoa		1

Question Number	Acceptable Answers	Reject	Mark
ii	<p>Point mark. Max 3 without map evidence.</p> <p>E.g. In chains/lines (1) along the coast (1) Clustered together (1) Along plate boundaries Some found in centre of ocean (1) Example of place (1) Map evidence includes place names, dates, plate (boundary) names.</p>		4

Question Number	Acceptable Answers	Reject	Mark
iii	Hotspot/shield volcano		1

Question Number	Acceptable Answers	Reject	Mark
iv	<p>Maximum 2 marks for description. Explanations credited at 1 mark each. Max 3 marks without a process or full sequence.</p> <p>E.g. Movement of plate towards each other leads to subduction of the denser oceanic plate. High temperatures and friction lead to the melting of the leading edge of the plate. Less dense melt rises through the mantle wedge, and pressurises the continental crust. Cracking of the continental crust due to collision provides a path for rising magma. Rising magma contains gas and is highly pressurised leading to explosive eruptions. Explanation can be achieved through reference to subduction, melting, low density rising magma, and build up of pressure.</p>	References to divergence.	4

Question Number	Acceptable Answers	Reject	Mark
Bi	9		1

Question Number	Acceptable Answers	Reject	Mark
ii	5		1

Question Number	Acceptable Answers	Reject	Mark
iii	<p>Point mark. No credit for names of scales. 1 mark for list. Max 2 for reference to one type of measurement.</p> <p>Mercalli – measures the damage of earthquakes (1) through observations by people (1) Richter – measures the magnitude of the earthquake (1) through use of seismometers (1) Accept references to seismometers</p>		3

Question Number	Acceptable Answers	Reject	Mark
iv	<p>Max 3 for a series of descriptive reasons. E.g. Earthquake proofing of buildings (1) for example cross bracing/shock absorbers on foundations (1); lack of perceived threat (1) therefore people continue to live in the area unaware of the hazard (1), lack of economic means to move (1); family/emotional connection (1); highly paid job (1).</p>	Reference to volcanic reasons such as scenic area or tourism	4

Question Number	Indicative content	
4(c)	<p>Reference to planning, forecasting and building design. Planning likely to refer to exclusion zones, emergency service readiness and warnings. Forecasting likely to refer to measures taken to measure volcanoes e.g. seismology, sulphur content or changes in relief. Building design could refer to land use planning, roofs designed to withstand ash fall (not as applicable). Max level 1 for references to earthquakes in a volcanic context. Must refer to prediction and prevention for max.</p>	
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	A basic answer which has simple descriptive statements about reducing the effects of volcanic eruptions.
Level 2	3-4	To reach Level 2 there should be explanation about an example or a specific point. The top of the level requires at least two specific points or a specific point and an explanation, which could be part of one or more examples, or two explanations
Level 3	5-6	An explicit answer with a range (at least two) of specific and explained points which could be from different examples.

Question Number	Acceptable Answers	Reject	Mark
5(a)(i)	1 mark for each correctly completed part of the footprint.	Do not credit hand drawn or inaccurate lines	2

Question Number	Acceptable Answers	Reject	Mark
ii	<40 (Air Travel) 40-80 (Household)		2

Question Number	Acceptable Answers	Reject	Mark
iii	Statement required. Any relevant transport scheme which reduces carbon Transport – reduction in miles (1) therefore emissions (1)– encourage public transport (1) More walking (1) or more cycling (1) Congestion charge (1)	Park and ride, airline fuel tax	1

Question Number	Acceptable Answers	Reject	Mark
iv	Must have the first part of definition for max. The amount of carbon (Carbon dioxide) produced (1) per capita (1)/household (1)/region (1)		2

Question Number	Acceptable Answers	Reject	Mark
v	Max 2 without explanation. Must focus on reducing energy use Can refer to any measure of energy efficiency in schools: Reference to double glazing (1) which leads to less heat escaping (1) which could lower bills (1) Shutting doors (1) to stop heat being sucked outside (1) Switching off lights when not in use (1) to save on electricity (1) Energy efficient light bulbs (1) Locally grown food used (1) to reduce food transportation miles (1)	Renewable energy sources	4

Question Number	Acceptable Answers	Reject	Mark
Bi	France		1

Question Number	Acceptable Answers	Reject	Mark
ii	Max 2 without map evidence HIC produce more waste, LIC produce less waste (1) Use of data (1) Exception of Egypt or Morocco in Africa (1)		3

Question Number	Acceptable Answers	Reject	Mark
iii	Max 2 without explanation. E.g. Throw away societies – have more disposable income (1) Can purchase more items (1). Do not re-use/fix but replace (1) therefore more ends up in landfill (1). An exemplification of this (1). Comparison to LICs worthy of credit.	Mirrored/opposite statements	4

Question Number	Indicative content	
5(c)	Scale must be local not national. Likely to focus on domestic waste recycling with outline of this process. Need to explain how the recycled product has been reused for max marks. QWC assessed by examiners to assess whether students achieve top of level. Max level 1 for recycling on a national scale e.g. Germany	
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	A basic answer which has simple descriptive statements about recycling. Simple use of English and basic terminology.
Level 2	3-4	To reach Level 2 there should be explanation about an example or a specific point. The top of the level requires at least two specific points or a specific point and an explanation, which could be part of one or more examples, or two explanations. Some use of geographical terminology and coherent use of English.
Level 3	5-6	An explicit answer with a range (at least two) of specific and explained points which could be from different examples. Full and appropriate use of English and geographical terminology.

Question Number	Acceptable Answers	Reject	Mark
6 (a)(i)	Correctly shaded – 1 mark per correct shade of safe drinking water (%)	Do not credit hand drawn or inaccurate lines	2

Question Number	Acceptable Answers	Reject	Mark
ii	Ethiopia		1

Question Number	Acceptable Answers	Reject	Mark
iii	Max 2 without data. LICs generally have low water access/HIC's have high water access (1) Use of evidence (percentage of population with safe drinking water) (1) Exceptions such as Egypt (1)		3

Question Number	Acceptable Answers	Reject	Mark
iv	Max 2 without explanation. HICs have easy access to water (1) and are conscious about sanitation (1) therefore wash everyday (1) therefore use/have access to high amounts of water (1). Allow answers relating to LICs	Do not credit opposite/mirrored statements.	4

Question Number	Acceptable Answers	Reject	Mark
bi	Point mark Flooding of land behind dam (1) as reservoir is filled (1) Less water downstream from dam (1) due to water held behind it (1) Less flooding (1) Dam interferes with natural flow of river (1) Effect on wildlife (1) example (1) Visual pollution (1)		3

Question Number	Acceptable Answers	Reject	Mark
ii	Technology which manages water for local people (1) and is built and maintained by local people (1). Reference to sustainability (1) Reference to low cost (1)		2

Question Number	Acceptable Answers	Reject	Mark
iii	<p>Max 2 without explanation. Examples include methods or reference to places where appropriate technology being used. Max 1 list of methods</p> <p>Can relate to boreholes, water pumps Other schemes include: gravity fed schemes, rainwater harvesting, hand dug wells, water recycling, and education. E.g. gravity fed schemes draw water from source areas under the influence of gravity therefore allowing access to clean water.</p>		4

Question Number	Indicative content	
6(c)	<p>Reference to Colorado or Tigris likely. Conflict related to water transfer scheme – can be political/local/national QWC assessed by examiners to assess whether students achieve top of level. Max level 1 for a conflict over water storage e.g. Kielder</p>	
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	A basic answer which has simple descriptive statements about a conflict related to a water transfer scheme. Simple use of English and basic terminology.
Level 2	3-4	To reach Level 2 there should be explanation about an example or a specific point. The top of the level requires at least two specific points or a specific point and an explanation, which could be part of one or more examples, or two explanations. Some use of geographical terminology and coherent use of English.
Level 3	5-6	An explicit answer with a range (at least two) of specific and explained points which could be from different examples. Full and appropriate use of English and geographical terminology.

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