

Mark Scheme (Results)

Summer 2012

GCSE Geography A 5GA2F
Natural Environment

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Question Number	Acceptable Answers	Reject	Mark
1 (a)(i)	A – The coastal path has collapsed B - Traffic controls have been introduced		2
ii	The main process of mass movement shown in Figure 1a is slumping . This occurs when the ground becomes saturated . It is common where the rock underneath is clay . Material becomes unstable and slips down the slope. It can lead to the rapid retreat of the cliff .		5
iii	1. Fetch is the distance over which waves can build up due to the wind (1). Accept distance waves can build up. (1) Answer must refer to distance/length		1
	2. Point mark Must have relationship between fetch and recession for max Increased fetch means waves greater energy (1) Increased fetch allows the wind to pick up the waves (1) This will cause greater recession (1) Reduced fetch means less distance to build up waves (1) Waves have less energy (1) Waves are less destructive (1) Could result in lower erosion rates (1) Destructive waves – closer together/faster rate (1) More violent/destructive create greater recession (1) Constructive waves building up sediment (1) Preventing/reducing recession (1)	Do not accept coastal recession a result of coastal management or geology Do not double reward mirror images Do not credit effects	3
bi	A – North to South		1
ii	B – 2km		1
iii	2 marks for appropriate diagram 1 mark for appropriate label(s) Max 2 if not to rough scale context of box 1 or not put coastline draws spit extension Spit could be longer (1) could be in different position (1) be eroded (1) could include a marsh (1) have a curved end (1)	Do not double credit label and diagram Do not credit labelling of "spit" or "coastline" as in key	3
iv	C) The coastlines change direction		1
c	Credit labels on a diagram up to 2 marks/with annotations up to 4 marks. Max 3 for descriptive statements without an		4

	<p>outline. Point mark Sequence of diagrams – no labels (1) Erosion of cliff to form a cave (1) Cave is eroded and enlarges (1) Cave erodes through to form an arch (1) Collapsed roof of arch (1) due to hydraulic action (1), leaving a stack (1)</p>		
d	<p>Point mark Max 3 without specific management detail One mark reserved for named management methods Max 3 for descriptive statements without an outline Specific locational contextualisation include rate of recession; dates; geology; cost or number of techniques List methods, max 1 Use of sea walls (1) to deflect energy (1) OR Use of groynes (1) to stop longshore drift (1) and build beaches (1).</p>		4

Question Number	Acceptable Answers	Reject	Mark
2 (a)(i)	<p>B – Little flooding occurred around the River Satluj D – Most flooding occurred within 500km of the River Indus</p>		2
Ii	<p>Flooding in Pakistan was caused by 200mm of rain which fell in 24 hour periods in July. The number of people who died was less than 2000. More than 1.8 million homes were destroyed. The flooding had a major effect on farmers.</p>		5
iii	<p>Max 3 without some development of a point/explanation Max 3 if only one method Flood warning – allows people advance warning (1) giving time to prepare/evacuate (1) knowing what to do (1) or where to go (1). Washlands – Allow water to be stored in a field (1), taking water away from the main channel (1) therefore reducing discharge in main channel (1). Controlled flooding (1).</p>		4
bi	D - The fastest flow		1
ii	C – Slip-off slope		1
iii	D – On the outside of a bend		1
iv	<p>Up to 2 marks for appropriate diagram 1 mark for appropriate label(s) Expect ox bow lakes, and exaggerated/migrating meanders. Could give incised meander.</p>	Do not double credit label and drawing	3

v	<p>Credit labels on a diagram up to 2 marks. Max 3 for descriptive statements without outline Max 2 if just floodplain or levees Point mark</p> <p>Reference to flooding within a context (1) Deposition on adjacent banks (1) Larger material deposited near channel (1) to form a raised bank/levee (1) Smaller deposits carried across land adjacent to river and deposited to form a floodplain (1) Deposition onto land adjacent to river due to energy loss Repeated flooding leads to build up of floodplain (1)</p>	Do not double credit comments on man-made levees	4
c	<p>Point mark Max 3 without specific management detail One mark reserved for named management methods Max 3 for descriptive statements without an outline.</p> <p>E.g. Embankments (1) raise the height of the channel (1) increasing channel capacity (1) Dams (1) regulates discharge from moving downstream (1) allowing flood water levels to be controlled (1) Monitoring of levels (1)</p>		4

Question Number	Acceptable Answers	Reject	Mark
3 (a) (i)	<p>C – There are large rivers in Iceland E – HEP stations are in remote areas</p>		2
ii	<p>Over 80% of Iceland’s electricity supply comes from hydro-electric power. Hydro-electric and geothermal are renewable sources of energy. The mountainous environment provides the ideal location for hydro-electric power stations. The streets of Reykjavik are kept snow free by using geothermal energy.</p>		5
iii	D – Underneath a glacier		1
Iv	<p>Point mark Max 3 without examples Reserve 2 marks for examples Max 3 if only one example Examples include places</p> <p>Skiing/snowboarding (1) on the Alpine slopes in Italy (1) Walking/Hiking (1) around the Fjord lands of Norway (1) Research (1) on the Hekla volcano in Iceland (1). Army/military testing or training (1) in Antarctica (1)</p>		4
bi	C – Plucking		1

ii	D – Freeze thaw		1
iii	Up to 2 marks for appropriate diagram 1 mark for appropriate label(s) Should show a corrie shaped hollow with water (corrie lake) filling it, or could be enlarged corrie, or could focus on corrie glacier moving out of the corrie.	Do not double credit label and drawing	3
iv	Credit labels on a diagram up to 2 marks. Max 3 for descriptive statements without outline Point mark Max 3 without outline Formation of truncated spurs; Movement of glacier through the valley (1) due to gravity (1) Erosion of the valley sides (1) due to abrasion/plucking (1) Removal of interlocking spurs (1) as a result of continued erosion over time (1) leaving truncated spurs on the side of the U-shaped valley (1)		4
c	Point mark. Max 3 if no specific detail on effects of avalanche. Specific includes numerical detail on the effects Burial of people/settlements/vegetation. Property damage as avalanche hits buildings causing structural damage. Loss life or injury as people are trapped or hit by avalanche In Galtur avalanche many people were killed in the Wasser Leitur area.		4

Question Number	Acceptable Answers	Reject	Mark
4 (a)(i)	A – the African and Eurasian plates collided C – L’Aquila is near a plate boundary		2
ii	In L’Aquila over 70000 people lost their homes. The overall cost of the earthquake is estimated at 4 billion Euros. Shaking can cause poorly constructed buildings to collapse . Local government must have strict building codes to stop this. Education is important for people who live dangerous tectonic areas.		5
b	Point mark Max 3 without examples. One mark reserved for a named volcano/volcanic region People unaware of threat/poorly educated of hazards (1) No eruption in recent history therefore perceive the volcano to be dormant/extinct (1) People have faith in government action (1) The soil is fertile so they can increase yields (1)		4

	<p>Less developed countries, people do not have the means to move away (1)</p> <p>Employment from the mining of minerals such as gold/copper/diamonds (1)</p> <p>People are benefitting from a local tourist industry (1) for example many people visit the Bay of Naples in Sorrento to see Mt Vesuvius (1)</p>		
ci	C – Oceanic		1
ii	D – West		1
iii	<p>Up to 2 marks for diagram</p> <p>1 mark for appropriate label(s)</p> <p>Should show chain islands/seamounts</p> <p>Shifting plate</p> <p>Stationary hotspot</p> <p>Could show erosion of present day volcano</p> <p>Could show build up of present day volcano due to eruption</p> <p>Development of an atoll</p>		3
Iv	A – In the middle of tectonic plates		1
d	<p>Max 3 if descriptive statements without an outline</p> <p>Max 2 for a list of features</p> <p>Point mark</p> <p>E.g. Features of divergent plate boundary to include:</p> <p>Mid ocean ridge – formed due to successive eruptions on the sea floor which build up over time, with the help of divergent plate movement.</p> <p>Volcanic cones – made up from successive eruptions, made of basaltic material. Eruptions are gentle and lava producing</p> <p>Faults – as plates move apart faults develop in crust</p> <p>Earthquakes – shallow earthquakes due to rising magma or along fault lines.</p> <p>Lava plateaux's – formed from successive lava flows.</p> <p>Continental rift valley (1)</p>	Reference to convergent or conservative plate boundary	4
E	<p>Point mark</p> <p>Max 3 if no specific detail/points.</p> <p>Max 3 w/o outline. Must have both forecasting and building design for full marks</p> <p>A seismic building design (credit named types) leads to reduced impact of shaking (1)</p> <p>Land use planning allows space between buildings in case of collapse (1)</p> <p>Formation of hazard maps to educate locals/authority based on local fault lines. (1)</p> <p>Specific references to method</p> <p>Building reinforcing/cross bracing (1)</p> <p>Hazard mapping (1)</p> <p>Animal behaviour (1)</p> <p>Radon gas (1)</p> <p>Generic idea – strengthen building to reduce fatalities (1), how for a second mark (1)</p>		<p>4</p> <p>3+1</p> <p>2+2</p>

Question Number	Acceptable Answers	Reject	Mark
5(a)(i)	B – it reduces landfill E – it stops trees being cut down		2
Ii	Using recycled material means that fewer natural resources are used. Recycled paper can be used to make toilet paper. Recycled glass is used for road building. It can also be turned into sand for golf bunkers. Pen covers can be made from recycled plastic cups.		5
Iii	Point mark Max 3 if not specific local scheme E.g. Material collected in boxes through weekly collections (1) Different coloured bins (1) Separation/different types of material exemplification (1) Facilities at local recycling centre (1) Reference to different types of materials which can be recycled		4
Bi	D – North America		1
Ii	B – Europe uses more energy than South America D – South of the equator Australasia uses the greatest amount of energy		2
Ci	Coal/Gas/Oil/Nuclear/Wood/Peat		1
Cii	Max 3 for one type Advantages – Energy supply will not run out (1) Relatively cheap (1) Less emissions/reduces climate change (1) Do burn fossil fuels (1) Disadvantages – High cost of set up (1) May disrupt wildlife (1) May not be an effective energy provider/unreliable (1)	Do not allow references to just cheap or expensive	4

Question Number	Indicative content	
5(d)	<p>Must focus on solutions to energy waste in the home. Do not accept reference to national/regional schemes unless in a domestic context. If SPaG is poor then the candidate will drop to the bottom of that level.</p> <p>Solutions to domestic energy waste Cavity wall insulation Loft insulation Energy efficient light bulbs Double glazing Use of an energy meter</p>	
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	A basic answer Simple descriptive statements about energy waste. Standard of spelling, punctuation and grammar will have reasonable accuracy and limited use of specialist terms.
Level 2	3-4	A clear answer Level two is reached by there being a clear link to solutions to energy waste in the home. The points will still be descriptive in nature. The top of the level is reached by there being a number of clear descriptive statements about domestic solutions to energy waste. There will be no specific points, data numeric reference. Possibly some attempt at limited explanation. Standard of spelling, punctuation and grammar will be fairly accurate in the context of the question and will have some specialist terms. Usually no reference to costs/ percentage improvement in energy reduction
Level 3	5-6	An explicit answer Evidence of explanation OR a specific point about domestic solutions to energy wastage and other descriptive points. Standard of spelling, punctuation and grammar will have consistent accuracy and there will be use of a range of specialist terms. Specific point – e.g. 2 degrees temperature reduction (accept 1 to 3)

Question Number	Acceptable Answers	Reject	Mark
6(a)(i)	B – do not take water from dirty rivers E – drinking dirty water can make you ill		2
ii	Some people who live in LICs may suffer from a poor water supply. They may have to travel long distances to get clean water. Piped water into villages would save time when fetching water. This may mean that children can go to school instead of collecting water. However supplying piped water to remote villages can be expensive .		5

iii	<p>Point mark Max 3 if only one example Reserve one mark for a named type of appropriate technology Focus must be on improving supply.</p> <p>E.g. Boreholes (1) Well (hand dug) (1) allow villagers to gain clean water directly from an aquifer (1). Small scale dam – often built and maintained by the local community (1) enables water storage (1) which can help with agriculture (1) Recycled sewage water – enables multiple uses of water (1) therefore reducing water wastage (1). Credit reference to a named water borne disease e.g. cholera/dysentery</p>		4
bi	D – Murcia		1
ii	A – Water deficits are found in east of Spain D – Water surpluses are found in north-west Spain		2
Ci	Reservoir/Aquifer/River/Well		1
Ii	<p>Point mark Allow two marks for named demands e.g. golf courses, pools, beach showers; water parks.</p> <p>E.g. Tourists create extra demand for (drinking water, water for cooking) (1) therefore increased strain on supply (1). Tourist activities such as water parks (1) can lead to increased demand in barren areas (1). People on golf holidays create extra demand (1) as courses need to be watered (1).</p>		4

Question Number	Indicative content
6(d)	<p>Can refer to any water management scheme from either HIC or LIC. Need to focus on the positive and negative effects of the scheme. Reject reasons for the scheme. If SPaG is poor then the candidate will drop to the bottom of that level.</p> <p>Positive effects Increased water supply to agriculture/industry Reduction in flooding Monitoring and control of discharge Creation of energy.</p> <p>Negative effects Loss of habitats/species Flooding of land behind reservoir Siltation of the dam Loss of alluvial material downstream – effects on agriculture Relocation of homes due to construction Earthquake threat</p>

Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	A basic answer Simple statements about a water management scheme. Standard of spelling, punctuation and grammar will have reasonable accuracy and limited use of specialist terms.
Level 2	3-4	A clear answer Level two is reached by there being a clear link to the positive and negative impacts of a water management scheme on people. The points will still be descriptive in nature. The top of the level is reached by there being a number of clear descriptive statements and there may be an attempt at limited explanation. No reference to numeric values. Standard of spelling, punctuation and grammar will be fairly accurate in the context of the question and will have some specialist terms.
Level 3	5-6	An explicit answer. For Level 3 there will be a specific point about the positive and negative impacts of a water management scheme on people. For level 3 there will be a specific point about the positive or negative impacts of a water management scheme OR an explanation. Standard of spelling, punctuation and grammar will have consistent accuracy and there will be use of a range of specialist terms.

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