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Mark Scheme (Results)

January 2013

GCSE Geography A (5GA2F)
Paper 01 Natural Environment (F)

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.

- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.

- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.

- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.

- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.

- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.

- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.

- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Placing a mark within a level mark band

- The instructions below tell you how to reward responses within a level. Follow these unless there is an instruction given within a level. However, where a level has specific guidance about how to place an answer within a level, **always** follow that guidance.

- **2 mark bands**
  Start with the presumption that the mark will be the higher of the two.
  An answer which is poorly supported gets the lower mark.

- **3 mark bands**
  Start with a presumption that the mark will be the middle of the three.
  An answer which is poorly supported gets the lower mark.
  An answer which is well supported gets the higher mark.

- **4 mark bands**
  Start with a presumption that the mark will be the upper middle mark of the four.
  An answer which is poorly supported gets a lower mark.
  An answer which is well supported and shows depth or breadth of coverage gets the higher mark.

- Mark schemes will indicate within the table where, and which strands of QWC, are being assessed. The strands are as follows:

  i) ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear

  ii) select and use a form and style of writing appropriate to purpose and to complex subject matter

  iii) organise information clearly and coherently, using specialist vocabulary when appropriate.

Spelling, Punctuation and Grammar Marking Guidance

- The spelling, punctuation and grammar assessment criteria are common to GCSE English Literature, GCSE History, GCSE Geography and GCSE Religious Studies.

- All candidates, whichever subject they are being assessed on, must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.

- Spelling, punctuation and grammar marking criteria should be applied positively. Candidates must be rewarded for what they have demonstrated rather than penalised for errors.

- Examiners should mark according to the marking criteria. All marks on the marking criteria should be used appropriately.

- All the marks on the marking criteria are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the marking criteria.

- Examiners should be prepared to award zero marks if the candidate's response is not worthy of credit according to the marking criteria.

- When examiners are in doubt regarding the application of the marking criteria to a candidate's response, the team leader must be consulted.

- Crossed out work should be marked unless the candidate has replaced it with an alternative response.

- Handwriting may make it difficult to see if spelling, punctuation and grammar are correct. Examiners must make every effort to assess spelling, punctuation and grammar fairly and if they genuinely cannot make an assessment, the team leader must be consulted.

- Specialist terms do not always require the use of complex terminology but the vocabulary used should appropriate to the subject and the question.

- Work by candidates with an amanuensis, scribe or typed script should be assessed for spelling, punctuation and grammar.

- Examiners are advised to consider the marking criteria in the following way:
  - How well does the response communicate the meaning?
  - What range of specialist terms is used?
  - How accurate is the spelling, punctuation and grammar?

Question Number	Answer	Mark
1(a) (i)	C – Beach	**1**

Question Number	Answer	Mark
1(a) (ii)	Longshore drift transports **sediment** along a coastline. In Figure 1a sand has been moved in a **southerly** direction. When a coastline changes direction sand is **deposited**. This sand can build up to form a **spit** and over time it may form a **bar**.	**5** **1+1+1+1+1**

Question Number	Answer	Reject	Mark
1(a) (iii)	Point Mark Max 3 without both building design and planning. Max 3 if only description. **Building design** – homes on stilts, waterproofing measures **Planning** – land use zoning; allow reference to defence if linked to planning, evacuation (e.g. monitoring by Environment Agency). Allow forecasting as part of planning. E.g. In LICs coastal homes in areas prone to flooding are designed with stilts (1). Possessions are not destroyed as the water is able to pass below the home (1).	Coastal defences as part of building design, e.g. sea walls.	**4** **(1+1)+(1+1)** **(1+1+1)** **(1+1+1)+1**

Question Number	Answer	Mark
1(b) (i)	A – 150cm/yr	**1**

Question Number	Answer	Mark
1(b) (ii)	Point mark. Reserve only one mark for use of data (rates or erosion). Max 3 without (erosion rate) data. Must mention 3 of the 4 sites for max. Credit for data must be provided in the context of a site or location. Max 2 for just a simple list, without reference to changes along the coast. Rates of erosion have fallen at A, C and D (1). But risen at site B (1) Greater rate of decrease at site C (1) Smallest decrease at site D (1) Use of data – data is cm/yr erosion data (1) Credit change over time (2000, 2011) as well as change by site / location.	**4** **1+1+1+1** **(1+1)+(1+1)** **1+(1+1+1)**

Question Number	Answer	Mark
1(b) (iii)	C - Softer rock erodes more quickly	**1**

Question Number	Answer	Mark
1(b) (iv)	A – Corrosion	**1**

Question Number	Answer	Reject	Mark
1(b) (v)	**Offshore Reefs:** Less visually obtrusive (1) Break the energy of wave (1) before reaches the coast (1) They reduce wave energy (1). Accept other plausible ideas **Beach replenishment:** Not a permanent solution (1) Need to source sand from somewhere (1), which could cause problems elsewhere (1) Expensive over time (1). Accept other plausible ideas.	Expensive Cheap Hard without any context, e.g. expensive to construct	**2+2** **(1+1)+(1+1)**

Question Number	Answer	Reject	Mark
1(c)	Point Mark Max 3 without example. Max 3 without reference to specific detail (i.e. location specific fact). Max 3 if only descriptive. Max 2 for a list of defences. Reference to coastal management (hard/soft) e.g. Barton on Sea has regraded the cliffs (1), to allow the growth of vegetation to stabilise cliff (1). They have also added drainage (1) to reduce the impact of slumping (1) on the soft boulder clay. They have replaced the ineffective wooden groynes with rock groynes (in 1980-90's) to help build beach sediment. They also have rip rap running along the beach.	Why places are managed, rather than how	**4** **(1+1)+(1+1)** **1+(1+1+1)**

Question Number	Answer	Mark
2(a) (i)	D – Rocklea	**1**

Question Number	Answer	Mark
2(a) (ii)	Flooding can occur when there is **heavy** rainfall. Urban areas have more **impermeable** surfaces than rural areas. This will result in **less** infiltration and greater surface runoff. **Drains** can also increase the amount of water going into local rivers.	**5** **1+1+1+1+1**

Question Number	Answer	Mark
2(a) (iii)	D – People cutting down trees	**1**

Question Number	Answer	Mark
2(a) (iv)	Point Mark Max 3 without both building design and planning. Max 3 if only description. **Building design** – homes on stilts, waterproofing measures, plug sockets moved up the wall, tiled floors, waterproof render **Planning** – land use zoning; allow reference to defence if linked to planning, evacuation (e.g. monitoring by Environment Agency). Allow forecasting as part of planning. Allow Afforestation or reforestation. e.g. In LICs homes in areas prone to flooding are designed with stilts (1). Possessions are not destroyed as the water is able to pass below the home (1).	**4** **(1+1)+(1+1)** **(1+1+1)** **(1+1+1)+1**

Question Number	Answer	Mark
2(b) (i)	D – 0.4m/s	**1**

Question Number	Answer	Mark
2(b) (ii)	Point mark. Max 3 without (velocity) data. General increase in the velocity / overview of change (1) (Gradual) rise between site 1-4 (1) (Steeper) rise between site 5 to 6 (1) Decrease between site 4 and 5 (1). Use of data (1) – data is velocity in (m/s).	**4** **1+1+1+1** **(1+1)+(1+1)** **1+(1+1+1)**

Question Number	Answer	Mark
2(b) (iii)	A – Corrosion	**1**

Question Number	Answer	Mark
2(b) (iv)	Point Mark Max 3 if just descriptive. **Discharge** increases with distance downstream (1) as more water flows into river (1) from tributaries (1) water gets into the channel from soil / groundwater (1). **Gradient** reduces with distance downstream (1) as rock type changes (1). In upper course harder rocks (1) lead to steeper gradient (1) more deposition in lower course leading to flatter gradient (1).	**4** **(1+1)+(1+1)** **(1+1+1)+1**

Question Number	Answer	Reject	Mark
2(c)	Point Mark Max 3 without example. Max 3 without reference to specific detail (i.e. location specific fact). Max 3 if only descriptive. Max 2 for a list of defences. Max 3 if only descriptive. Reference to river management (hard/soft) e.g. River Nene - Has had clay embankments built adjacent to the river (1) to stop water moving onto the floodplain (1). This is 450m in length and 4-5m high (1). They have also channelised part of the channel. (1) Examples can be large scale or small scale.	Why places are managed, rather than how	**4**

Question Number	Answer		Mark
3(a) (i)	D – Arête		**1**

Question Number	Answer	Mark
3(a) (ii)	There are **three** main glaciers found on Figure 3a. There are a number of **pyramidal** peaks which are formed from the back walls of three **corries.** These are bowl-shaped and have **steep** back walls. As glaciers move they carry **moraine**.	**5** **1+1+1+1+1**

Question Number	Answer	Mark
3(a) (iii)	B – Medial	**1**

Question Number	Answer	Mark
3(a) (iv)	Point Mark Max 3 without examples. Max 3 if only described. Credit reference to an example where appropriate. e.g. People use HEP supply in upland glacial areas due to the suitability of the terrain (1). Hard rock and small valleys allow water to be damned (1). Skiing is popular in glacial upland areas due to the formation of snow in these areas (1). Glaciers can erode a variety of slopes which suit different skiing abilities (1) for example in Galtur (1). Allow references to post glaciated landscapes, e.g. hiking in the lake district(1).	**4** **(1+1+1)+1** **(1+1)+(1+1)**

Question Number	Answer	Mark
3(b) (i)	A – 2 degrees	**1**

Question Number	Answer	Mark
3(b) (ii)	Point mark. Max 3 without (temperature) data. Credit for data must be provided in the context of time. Temperatures change throughout the day (1) Fall in temp on Day 1 between 12:00 and 24:00 (1) Greatest fall on day 1 between 18:00 and 24:00 (1) Rise in temperatures on day 2 up until 18:00 (1) After which temperatures fall again (1) Steepest rise on day 2 between 06:00 and 12:00 (1) Use of data (1) – data is reference to temperature.	**4** **(1+1)+(1+1)** **(1+1+1)** **(1+1+1)+1**

Question Number	Answer	Mark
3(b) (iii)	D - Freeze thaw/physical	**1**

Question Number	Answer	Mark
3(b) (iv)	Point Mark **Lodgement** is material pressed to the floor of the glacier in advance (1) due to weight of glacier (1). Reference to advance or retreat (1) Reference to glacier overloaded with debris (1). **Ablation** is the melting of the glacier (1) when it is retreating (1) at the base of the glacial (1) pressure melting point (1). Credit other reasonable ideas.	**4** **(1+1)+(1+1)**

Question Number	Answer	Mark
3(c)	Point Mark Max 3 without example. Max 3 if only description. Max 3 if only human or physical. **Human causes** – skiing, snow disruption, controlled explosions, etc **Physical causes** - excessive snowfall, type of snow, slope conditions / gradient, melting, weather etc E.g. Galtur – physical causes – strong winds (1) caused accumulation (1) of 20 tonnes of snow (1). A melt crust formed (1) which allowed larger snow amounts to avalanche (1). Human causes - lack of avalanche protection schemes in Galtur (1) especially in the Wasser-Leiter area (1).	**4** **(1+1)+(1+1)** **1+(1+1+1)**

Question Number	Answer	Mark
4(a) (i)	A – 1	**1**

Question Number	Answer	Mark
4(a) (ii)	Many of the earthquakes were **west** of Christchurch. Most of the earthquakes were of a magnitude **below 5**. There were 5 earthquakes of magnitude **5-6**. All earthquakes were **south** of the Waimakariri river**.** The earthquakes are in a **linear** pattern.	**5** **1+1+1+1+1**

Question Number	Answer	Mark
4(a) (iii)	B – Release of pressure from the crust	**1**

Question Number	Answer	Mark
4(b)	Point Mark Max 3 without examples. Max 3 if just descriptive. Credit reference to an example where appropriate. Reasons to include – fertile soil, ignorance, family and friends, personal choice, employment, tourist opportunities, period of dormancy, belief they are safe. e.g. 2-3 million people continue to live in and around Naples although Mt. Vesuvius provides a threat. They benefit from growing olives and citrus fruit (1) on the fertile slopes of Vesuvius (1). They also believe they will be safe(1), as the most recent eruption in 1944 (1) only produced a lava flow (1).	**4** **(1+1)+(1+1)** **(1+1+1)+1**

Question Number	Answer	Mark
4(c) (i)	D – 11000	**1**

Question Number	Answer	Mark
4(c) (ii)	Point mark. Max 3 without reference to earthquake data. The overall trend is an increase in the number of EQs (1) Except between 1992-4 when number of earthquakes fell (1). There was no rise or fall in number of EQ between 1998-2000 (1) There were sharp rises in EQ between 1994-1996 and/or 2000-2002 (1) Use of data (1) – ref to no of Eq data.	**4** **(1+1)+(1+1)** **(1+1+1)** **(1+1+1)+1**

Question Number	Answer	Mark
4(c) (iii)	D- Richter	**1**

Question Number	Answer	Mark
4(d)	Point Mark Max 3 for only one feature Max 3 if only descriptions. May refer to fold mountains, volcanoes, deep sea trench, fault lines, accretionary prisms. e.g. Fold mountains form when the two plate collide (cont/cont or cont/oc or oc/oc) (1) The force of the collision leads to the up-thrust of the plates(1), leading to steep and high mountain ranges (1), for example the Andes (1). Explosive volcanoes form (1) which are composed of magma which has risen through continental crust (1), for example Mt St Helens (1). Characteristic features include: 1. Movement 2. Landforms 3. Tectonic activity	**4** **(1+1)+(1+1)** **1+1+(1+1)**

Question Number	Answer	Reject	Mark
4(e)	Point Mark Max 3 without example (e.g. names of plates, faults lines, dates, volcanoes etc) Reference to causes of EQ or Volcanic eruption. Earthquake causes include: movement of plates (1), build-up of pressure (1), breaking-up / release of plate pressure. Volcano causes include: subduction (1), melting of oceanic plate (1), rising magma (1) e.g. The Icelandic eruption (Ejyafjallajokull) occurred as a result of divergence (1) between the North American and Eurasian plates (1). There is also a hotspot underneath Iceland (1). The rising magma reacted with the glacial ice (1) which led to an eruption which generated large amount of ash (1).	Impacts and effects.	**4** **(1+1)+(1+1)** **1+1+(1+1)**

Question Number	Answer	Mark
5(a) (i)	1 mark for each correctly completed part of the stacked bar chart. (1+1). Lines should not touch divisions above below then max 1. Ignore width of bar within the column.	**2** **1+1**

Question Number	Answer	Reject	Mark
5(a) (ii)	Point mark Max 3 without reference to data (e.g. kg per person). Use of data (1) – data is waste data (kg per person). Overall increase in amount of recycled material (1) Overall decrease in not recycled (1). 2002 seems to be an anomaly (1) as recycled waste does not increase (1). There is a relatively small fluctuation in waste produced over time (1). Only credit correct data usage.	Causes / explanation of waste recycling	**4** **1+1+1+1** **(1+1)+(1+1)** **1+(1+1+1)**

Question Number	Answer	Mark
5(a) (iii)	C – making waste into a new product	**1**

Question Number	Answer	Mark
5(a) (iv)	Local councils have made recycling **easier.** They provide separate **bins** for different types of waste and regular **collections**. People's awareness of recycling has **increased,** therefore, the amount of waste going **landfill** is decreasing.	**5** **1+1+1+1+1**

Question Number	Answer	Mark
5(b) (i)	A – over 11KwH	**1**

Question Number	Answer	Mark
5(b) (ii)	D – The UK consumes between 8.1 - 11 KwH per person	**1**

Question Number	Answer	Mark
5(b) (iii)	D - Few energy appliances are used	**1**

Question Number	Answer	Mark
5(b) (iv)	Point mark Max 3 if just description Max 3 if one method/way. Likely to refer to operations or distribution. e.g. Leaving lights / machines etc on in offices (1) uses unnecessary amounts of electricity. Machines working throughout the day mean that a constant use of energy is needed (1), even if production is not high (1). Waste fuel energy in distribution of products to shops (1) Using old incandescent bulbs (1).	**4** **(1+1+1)+1** **(1+1)+(1+1)**

Question Number	Indicative content	
***5 (c) QWC i-ii-iii**	Can relate to solutions to energy wastage domestically, regionally or nationally. **Solutions to domestic energy waste** Cavity wall insulation Loft insulation Energy efficient light bulbs Double glazing Use of an energy meter/monitor **Regional / National** Housing schemes e.g. Eastcroft/CHP schemes Schemes set up by companies e.g. British Gas Government initiatives Credit other reasonable ideas.	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1–2	A very basic answer with one or two simple descriptive statements about managing energy wastage. Not likely to refer to an in any meaningful way. Very basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3–4	An answer which has some attempt to describe solutions to energy wastage, but the response is likely to be restricted to either range or depth. Candidates spell, punctuate and use the rules of grammar with reasonable accuracy.
Level 3	5–6	An answer with some range (at least two) developed points linked to solutions of energy wastage. Must have some case study / example detail and show partial explanation. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.
SPaG Level 0	0	Errors severely hinder the meaning of the response or candidate does not spell, punctuate or use the rules of grammar within the context of the demands of the question.
SPaG Level 1	1	*Threshold performance* Candidate spells, punctuates and uses the rules of grammar with reasonable accuracy in the context of the demands of the question. Any errors do not hinder meaning in the response. Where required, they use a limited range of specialist terms appropriately.
SPaG Level 2	2	*Intermediate performance* Candidate spells, punctuates and uses the rules of

		grammar with considerable accuracy and general control of meaning in the context of the demands of the question. Where required, they use a good range of specialist terms with facility.
SPaG Level 3	3	*High performance* Candidate spells, punctuates and uses the rules of grammar with consistent accuracy and effective control of meaning in the context of the demands of the question. Where required, they use a wide range of specialist terms adeptly and with precision.

Question Number	Answer	Mark
6(a) (i)	One mark per correct bar. Limited to (1) if shading not present	**2**

Question Number	Answer	Mark
6(a) (ii)	Point mark Max 3 without reference to data. All water supply in South and East high (1) above 40% (1) Figures below 40% in west (1) Exception of Trent Severn water (1) which has 50% (1) All values in the north are low (1). Use of data (1) – is groundwater data (%) Southern has the most (1) Southwest and Northumbrian have the least (1) Not evenly distributed (1) Comparative description (1) Don't not credit opposites twice.	**4** **1+1+1+1** **(1+1)+(1+1)** **1+(1+1+1)**

Question Number	Answer	Mark
6(a) (iii)	In the north west of England there is **more** rainfall. This is due to the **higher** relief in the area. The south east gets **less** rainfall than the north west. The large **population** in the south east of England puts more demand on water. Therefore, water is **transferred** from the north-west to the south east.	**5** **1+1+1+1+1**

Question Number	Answer	Mark
6(a) (iv)	A - A power shower for 10 minutes	**1**

Question Number	Answer	Mark
6(b) (i)	C – 1750	**1**

Question Number	Answer	Mark
6(b) (ii)	C - The greatest rise in deaths from cholera was between 8 and 9 months	**1**

Question Number	Answer	Mark
6(b) (iii)	C – Typhoid	**1**

Question Number	Answer	Reject	Mark
6(b) (iv)	Point mark Max 3 for only one reason. Max 3 if only descriptive. e.g. Dirty local water supply (1) which is a breeding ground for many bacteria (1). Lack of local water supply (1), means people travel long distances which may be infected (1), as piping to homes is too expensive (1).	**Reference to vector based disease e.g. mosquitoes**	**4** **(1+1)+(1+1)**

Question Number	Indicative content	
***6 (c)** **QWC** **i-ii-iii**	Scale can be local or national. Allow reference to water management in industry and agriculture **Management of water usage in HICs:** **National** Dams Reservoirs Water transfer Water restrictions e.g. hose-pipe bans **Local** Water meters Domestic appliances designed for efficient water use Allow a broad interpretation of HIC, including China.	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1–2	A very basic answer with one or two simple descriptive statements about managing water usage. Not likely to refer to an example in any meaningful way. Very basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3–4	An answer which has some attempt to describe solutions to managing water usage, but the response is likely to be restricted to either range or depth. Context is generally HICs. Candidates spell, punctuate and use the rules of grammar with reasonable accuracy.
Level 3	5–6	An answer with some range (at least two) developed points linked to solutions of energy wastage. Must have some appropriate HIC case study / example detail and show partial explanation. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.
SPaG Level 0	0	Errors severely hinder the meaning of the response or candidate does not spell, punctuate or use the rules of grammar within the context of the demands of the question.
SPaG Level 1	1	*Threshold performance* Candidate spells, punctuates and uses the rules of grammar with reasonable accuracy in the context of the demands of the question. Any errors do not hinder meaning in the response. Where required, they use a limited range of specialist terms

		appropriately.
SPaG Level 2	2	*Intermediate performance* Candidate spells, punctuates and uses the rules of grammar with considerable accuracy and general control of meaning in the context of the demands of the question. Where required, they use a good range of specialist terms with facility.
SPaG Level 3	3	*High performance* Candidate spells, punctuates and uses the rules of grammar with consistent accuracy and effective control of meaning in the context of the demands of the question. Where required, they use a wide range of specialist terms adeptly and with precision.

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