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General Certificate of Secondary Education
June 2012

Geography B 40352F

(Specification 4035)

Unit 2: Hostile world (Foundation)

Mark Scheme

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all examiners participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for standardisation each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, examiners encounter unusual answers which have not been raised they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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General Certificate of Secondary Education

AQA GEOGRAPHY B

FOUNDATION TIER MARKING SCHEME

Unit 2 – Foundation Tier (40352F)

GENERAL GUIDANCE FOR GCSE GEOGRAPHY ASSISTANT EXAMINERS

Quality of Written Communication

Where candidates are required to produce extended written material in English, they will be assessed on the Quality of Written Communication.

Candidates will be required to:

- present relevant information in a form and style that suits its purpose
- ensure that text is legible and that spelling, punctuation and grammar are accurate
- use specialist vocabulary where appropriate.

Levels Marking – General Criteria

Where answers are assessed using a level of response marking system the following general criteria should be used.

Where an answer fails to reach Level 1, zero marks should be given.

Level 1 : Basic

Knowledge of basic information
Simple understanding
Few links; limited detail, uses a limited range of specialist terms
Limited evidence of sentence structure. Frequent spelling, punctuation and grammatical errors.

Level 2 : Clear

Knowledge of accurate information
Clear understanding
Answers have some linkages; occasional detail/exemplar; uses some specialist terms where appropriate
Clear evidence of sentence structure. Some spelling, punctuation and grammatical errors.

Annotation of Scripts

- One tick equals one mark, except where answers are levels marked (where no ticks should be used). Each tick should be positioned in the part of the answer which is thought to be creditworthy.
- Where an answer is levels marked the examiner should provide evidence of the level achieved by means of annotating 'L1' or 'L2' in the left-hand margin.
- The consequent mark within this level should appear in the right-hand margin.
- Ticks must **not** be used where an answer is levels marked.
- Examiners should add their own brief justification for the mark awarded, e.g. *Just L2, reasonably accurate knowledge or some clear understanding*.
- Where an answer fails to achieve Level 1, zero marks should be given.

General Advice

Marks for each sub-section should be added in the right-hand margin next to the maximum mark available, which is shown in brackets. All marks should then be totalled in the 'box' at the end of each question in the right-hand margin. The totals should then be transferred to the boxes on the front cover of the question paper. These should be totalled. The grand total should be added to the top right-hand corner of the front cover. No half marks should be used.

It is important to recognise that many of the answers shown within this marking scheme are only exemplars. Where possible, the range of accepted responses is indicated, but because many questions are open-ended in their nature, alternative answers may be equally creditworthy. The degree of acceptability is clarified through the Standardisation Meeting and subsequently by telephone with the Team Leader as necessary.

Diagrams are legitimate responses to many questions and should be credited as appropriate. However contents which duplicate written material or vice versa should not be credited twice.

Quality of Written Communication (QWC) is part of the award of marks in levels marked answers only. In levels marked answers the quality of the geography is assessed and a level and mark awarded according to the geography. As is sometimes the case, the geography may be sound at a particular level but the examiner may not be sure as to whether there is quite enough to raise the mark within that level. In this case the examiner should consider the QWC of the answer. QWC that fulfils the criteria for the level should lead to the rise in the mark but where the QWC does not fulfil the criteria, the answer should remain at the mark first thought appropriate. In cases where QWC has been used in the award of marks, the examiner should indicate this with QWC and arrows that indicate either an upward or downward trend according to its impact on the final award of the mark.

Section A – Living with Natural Hazards

1(a)	2×1 The island of Java has more active volcanoes than major earthquakes. (1st box) Kalimantan has not had a major earthquake in the last 100 years. (3rd box)	***(2 marks)***
1(b)	**Level 1 (Basic) 1-3 marks** Refers to Figure 1 – Names plates (once only), on a plate boundary, gives a basic idea of convergence (not just plates are moving). . *E.g. Indo-Australian plate moving towards Eurasian plate. One plate pushed below another. As plates move there are shock waves*. Elaboration is very limited. Discrete statements that are not linked. **Level 2 (Clear) 4-5 marks** Gives clear indication of process, linking statements. *E.g. Indo-Australian plate subducted beneath Eurasian plate. As plates move, they snag and tension builds up. A sudden movement sends out shock waves, which causes earthquakes in Indonesia.*	***(5 marks)***
1(c)(i)	1×1 On Island of Sumatra, 300km north of equator (Accept 250-400km), 1500km NW of Jakarta, NW Indonesia (accept N+W of Indonesia). Reject 'near the equator', 'north of the equator'. Only accept near plate boundary if qualified with names and distance.	***(1 mark)***
1(c)(ii)	4×1 <u>Effects</u>: as ash and smoke from the volcano covered villages and crops (1), many people suffered breathing problems (1), electricity in some villages was cut off (1). Reject just 'smoke and ash in the air', 'lava rushed down'. <u>Responses</u>: 19 000 people were evacuated to emergency shelters (1), the government set up food kitchens for the refugees (1), gave out 7000 masks (1), monitored by scientists (1), people not allowed to return to their homes (1). (>1 Take the first) Must be from Figure 2 or can be inferred from Figure 2.	***(4 marks)***
1(c)(iii)	1x1 Reference to not thought to be dangerous/dormant/not erupted for 400 years. Accept: no trained staff, can't afford to monitor, too many volcanoes to monitor them all.	***(1 mark)***
1(d)(i)	2x1 Cross-bracing – top, shock absorber – bottom.	***(2 marks)***

1(d)(ii)	2x1 Drills increase awareness of safety actions/education in schools increases awareness of safety actions, protection from falling debris, hold on for safety. "So they know what to do" on its own needs qualification e.g. 'don't panic'. Accept other ideas taught in a lesson on earthquake preparedness e.g. 'be prepared by having an emergency kit'.	***(2 marks)***

2(a)(i)	1×1 Correctly completed bar at 10	***(1 mark)***
2(a)(ii)	1×1 5	***(1 mark)***
2(b)(i)	3×1 North-west, 15, Tropic of Capricorn (Accept Capricorn, reject Tropic on own).	***(3 marks)***
2(b)(ii)	4x1 Thunderstorms form over warm oceans (1) heating causes evaporation on the surface of the water (1), warm air rises (1), thunderstorms combine (1), more warm air rises and cool air drawn downwards (1), wind speeds increase (1) and starts to spin due to the Coriolis effect/earth's rotation (1). Accept 'this is the ideal temperature for storms to form' or 'tropical storms need warm water to form/only from when>27^{o}C'.	***(4 marks)***
2(c)(i)	2x1 True, False	***(2 marks)***
2(c)(ii)	2x 1+1 **Number** of tropical storms could increase/become more frequent (1). Also accept: length of tropical storm season could increase, more tropical storm days, more of them will be severe storms/more destructive. Accept seas are getting warmer/increases in energy levels (once only) and references to being able to spawn more tropical storms. **Distribution** of tropical storms could increase/areas that did not get tropical storms in the past could experience them (1). Accept case study examples/evidence (1).	***(4 marks)***
3(a)(i)	2×1 July, 8	***(2 marks)***
3(a)(ii)	1×1 B – only answer	***(1 mark)***

3(a)(iii)	**Level 1 (Basic) 1-3 marks** Limited elaboration from Figure 7. Limited development of ideas. Simple statements. *E.g. there are many tourists/campsites/holiday village/picnic sites* (once only), or vice-versa for area A. *More roads/railways/footpaths* (once only) *or people can easily access area and start fires or vice-versa for area A. Wind is off the land or wind is dry or vice-versa for area A. Many trees or much fuel for the fire or vice versa for area A. High summer temperatures or vice versa for area A.* **Level 2 (Clear) 4-5 marks** Clear explanation of risks with development of ideas. *E.g. there are many tourists/campsites/holiday village/picnic sites which increase the chances of wildfires as people start campfires which ignite dry vegetation and get out of control or discard cigarettes which ignite vegetation. More roads/railways/footpaths so people can easily access area and start fires (as above) or sparks from engines/rail tracks can start fires. Wind is off the land and will be dry as no moisture is picked up as it does not cross any sea areas. Many trees to fuel the fire which will be dry due to the high summer temperatures* or vice versa for area A. Development could be case study examples beyond Figure 7.	***(5 marks)***
3(b)	**Level 1 (Basic) 1-2 marks** Lists simple statements without development of ideas. *E.g. destroy buildings* (not a list of different types), *loss of life/injury, health problems, pollute the air/water, burn vegetation/crops, animal habitat destroyed, people are homeless*. **Level 2 (Clear) 3-4 marks** Clear descriptions with development of ideas. Development may be case study examples. *E.g. destroys homes which increases insurance claims and raises premiums, destroys businesses which causes unemployment and damages the economy of the area, pollutes the air and cause breathing problems, changes the local ecosystems as animal habitat destroyed, destroys forests/tourist facilities which stops tourists visiting and causes job losses, fewer trees can lead to soil erosion and flooding/mudslides, etc*.	***(4 marks)***

3(c)	**Level 1 (Basic) 1-4 marks** Simple statements without development of ideas. Yes: simple ideas about benefits of method. *E.g. Teaches people about the dangers of campfires, increases awareness of dangers, can inform others, aimed at children – helps them understand dangers, warns people that wild fires can be easily started, provides rules, forest rangers are on hand*. No: Simple ideas about why method is not effective or why others are more effective, i.e. not the best method, forest rangers can't get everywhere. *E.g. not all wildfires are accidents (arson), some wildfires are due to natural causes, it is better to prepare areas of land so the risk of wildfires is less, much better to spend money on effective fire-fighting – not adverts, etc*. Accept simple ideas about never being able to beat the forces of nature. Points from resource need some simple elaboration – not just copying out the bullet points. **Level 2 (Clear) 5-6 marks** Clear reasons with development of ideas. Yes: clear reasons why method brings benefits, i.e. is the best method. *E.g. Raises awareness of consequences of actions and people will know the safest spot to build a campfire and what action to take to ensure that it is safely extinguished*. Development may be case study examples. E.*g. targets children as children are the cause of many wildfires; in 2007, a wildfire north of Los Angeles in California, was started by a boy playing with matches. In NSW, Australia, 13% of all wildfires are started by campfires.* No: clear reasons why method is not effective or why others are more effective, i.e. not the best method. Development may be case study examples. *E.g. not all wildfires are accidents; many are caused by arson. In NSW, Australia, 13% of all wildfires are started by campfires, but 37% were started deliberately. Some wildfires are due to natural causes such as lightning or spontaneous heating – the poster won't stop this. It is better to prepare areas of land so the risk of wildfires is less, methods such a back burning or leaf litter collection would be more effective*. Accept clear ideas about never being able to beat the forces of nature.	***(6 marks)***

SECTION B – The Challenge of Extreme Environments

4(a)(i)	2×1 True, true	***(2 marks)***
4(a)(ii)	4x1 (1+1 for the development of ideas.) Accept references to effects of climate on vegetation. Must be some reference to vegetation to gain maximum mark. *E.g. many plants are able to grow/grow all year round* (1) *because of high rainfall* (1) *high temperatures* (1). *E.g. much biodiversity* (1) *as there is a continuous growing season.* (1). Or gives responses that give examples of types of plants. *E.g. plants that are adapted to the heavy rainfall, such as those with drip tips. References to stratification – layers develop as trees have to grow rapidly to reach sunlight. There are only shrubs on the forest floor due to shady conditions, etc.* Credit descriptions of the climate characteristics and a simple link to vegetation as the development of this point. *E.g. temperatures of over 25°C all year* (1) *and high rainfall per year* (1) *mean the conditions are 'like a greenhouse'.* (1)	***(4 marks)***
4(b)	**Level 1 (Basic) 1-2 marks** Lists simple statements without development of ideas. *E.g. loss of animal habitats, change local climate/less rainfall, infertile soils, increased flooding, fewer tourists will visit and people lose their homes*. Accept references to *global warming*. Accept references to *become grassland*. **Level 2 (Clear) 3-4 marks** Clear descriptions with development of ideas. *E.g. loss of animal habitats which leads to species becoming endangered or extinct and disruption of ecosystem. Changes local climate as less evapotranspiration means less rainfall, increased flooding/mudslides/landslides as there is less interception of water by trees and increased surface run off. Less value as a tourist attraction means loss of tourist income and less money for conservation, etc. Loss of long term income from logging. Displaces indigenous population as hunting/farming lands are lost.* Accept references to *global warming/global climate change/CO^2*.	***(4 marks)***

4(c)	**Level 1 (Basic) 1-4 marks** Simple statements without development of ideas. Yes: simple ideas about benefits of approach. *E.g. teaches people about the dangers of deforestation, increases awareness of dangers, can inform others, aimed at children – helps them understand dangers, etc. Covers many stakeholders – holistic*. Some simple development beyond the resource. *E.g. it restores damaged environment by replanting trees, etc.* No: Simple ideas about why approach is not effective or why others are more effective. *E.g. not all stakeholders are involved – local people not involved, etc. Rainforests are in poor countries, they need to cut down the forest. The population is increasing so more forest has to be cleared to get enough food. The forest products are worth a lot of money to the country, so they have to keep cutting trees down. Many people have to grow their own food and need to cut down the forest. Cost too much, takes too long for trees to grow back, never grow back properly, etc*. **Level 2 (Clear) 5-6 marks** Clear reasons with development of ideas. Yes: clear reasons why method brings benefits, i.e. why it is the best method. Development may be case study examples. *E.g. teaches people about the dangers of deforestation, increases awareness of dangers, can inform others, this will encourage conservation and put pressure on governments, etc*. Some clear development beyond the resource. *E.g. it restores damaged environment by recreating topsoil and replanting local species of trees, etc. It will encourage people to be eco-friendly, they will learn to recycle products that come from rainforests*. No: Clear reasons why method is not effective or why others are more effective, i.e. why it is not the best method. Development may be case study examples. *E.g. rainforests are in poor countries with a very low GNI, they need to cut down the forest as they are reliant on selling primary products.* *The population is increasing so more forest has to be cleared to get enough food. Many people have to grow their own food and need to clear large areas of forest using slash and burn methods for agriculture. Developing the rainforest for ecotourism would be more effective as it provides jobs for local people and brings in money for conservation. They should trade carbon credits, this would be more effective as it means that the forests have more value if they are left to grow*.	***(6 marks)***

5(a)(i)	1×1 Correctly completed point/line at -2.5°C (Accept dot only) Trend -5.2 to -2.5 -8.3 to -1.3	***(1 mark)***
5(a)(ii)	1+1 Increased (1), use of figures (1). (Trend -5.2 to -2.5, fluctuations -8.3 to -1.3) Accept fluctuates.	***(2 marks)***
5(b)	3x1 west, 72, over 0.03	***(3 marks)***
5(c)	**Level 1 (Basic) 1-3 marks** Simple statements without development of ideas. Accept reference to: Polar environment *e.g. melting of ice sheets, threatens wildlife.* Tundra environment, *e.g. melting of permafrost, threatens wildlife.* **Or** a combination of both. Accept sea- level rise **Level 2 (Clear) 4-5 marks** Clear suggestions with development of ideas. Polar environment *e.g. melting of ice sheets alters marine ecosystem as food chain is disrupted/seal and penguin populations start to decline/invasive species, etc. Becomes more open to exploitation as shipping lanes are ice free.* Tundra environment *e.g. important habitats for polar bears/caribou are altered and threaten species. Becomes more open to exploitation as mineral extraction is easier.* To gain maximum mark there must be a sense of place	***(5 marks)***
5(d)(i)	1×1 7	***(1 mark)***

<table>
<tr><td>5(d)(ii)</td><td>4x1, max 2 for threats and max 2 for responses
Must be from Figure 13 or can be inferred from Figure 13

<table><tr><th>Threats</th><th>Responses</th></tr><tr><td>• Some countries have claimed territory in Antarctica.
• Catch fish and whales from the sea. (Accept fishing on its own)
• Search for minerals.
• The number of tourists in Antarctica is increasing.

(Reject Tourism on its own- increasing tourism is needed)
Mining was seen as a threat.
Scientists (research bases) can cause damage/ pollution overfishing.</td><td>• The claims were halted under the Antarctic Treaty.
• Treaty allows Antarctica to be used for scientific research.
• Treaty does not allow military activity.
• Treaty banned mining for 50 years.
• Treaty put quotas on the numbers of fish and whales that could be caught.
• Association of Antarctic Tour Operators (IAATO) has been set up to encourage responsible tourism.

Accept ecotourism raising awareness</td></tr></table></td><td>(4 marks)</td></tr>
<tr><td>5(d)(iii)</td><td>2x1 or 1+1
Some countries claimed same territory (1) such as UK/Argentina (1), three countries claimed Antarctic Peninsula (1) as most accessible part of continent (1). Conflict over mineral rights/fishing (1) e.g. may have many fossil fuels (1) would be needed when others run out in the future.</td><td>(2 marks)</td></tr>
</table>

6(a)(i)	2x1 January, 16	***(2 marks)***
6(a)(ii)	1x1 A	***(1 mark)***
6(a)(iii)	**Level 1 (Basic) 1-3 marks** Limited elaboration from Figure 14. Limited development of ideas. Simple statements. *E.g. the wind will be dry, receives little rainfall, high temperatures, up to 39°C, etc,* **or** vice versa for place B. Accept far from sea/far inland, **or** vice versa for place B. **Level 2 (Clear) 4-5 marks** Clear explanation with development of ideas. Some idea of process. *E.g. it is in a rainshadow area, as moist winds off the sea rise over highland and condense/cool and precipitation occurs in the mountains, the wind will be dry when they reach place A and it receives little rainfall. High temperatures, up to 39°C which means that any moisture that reaches place A is quickly evaporated,* **or** vice versa for place B. Development could be case study examples beyond Figure 14, *e.g. Australian desert*.	***(5 marks)***
6(b)(i)	2×1 Vegetation cover removed (upper box). Loss of farmland to desertification (lower box). Accept arrows from label to correct box >2 ways – take the 1st on each line.	***(2 marks)***
6(b)(ii)	2×1 Marginal areas are farmed, farmers forced to mis-use the land. Accept: Increased temperature/global warming (1), less rainfall/changing rainfall pattern (1). Accept plants unable to grow due to drought (1).	***(2 marks)***
6(c)(i)	2×1 Top – Reforestation Bottom – Wind break	***(2 marks)***
6(c)(ii)	2×1 Reduces surface run off, reduces soil erosion, water can infiltrate, raises water table, moistens soil, plants can grow and fix soil, etc. Reject – minerals will increase.	***(2 marks)***