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Mark Scheme (Results)

Summer 2016

Pearson Edexcel GCSE Geography B (5GB1F/01)
Unit 1: Dynamic Planet

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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	Correct Answer	Reject	Mark
1(a) (i)	**D** NW Coast of Sumatra (Indonesia)	All other answers	**(1)**

Question Number	Correct Answer	Reject	Mark
1(a) (ii)	**B** Outbreak of disease	All other answers	**(1)**

Question Number	Correct Answer	Acceptable answer	Mark
1 (b)	1 mark for each valid **difference** Likely answers to include: • Continental crust is mainly made from granite whilst Oceanic crust is made from basalt. (1) • Continental crust is thicker than Oceanic (1) • Continental crust has a lower density (lighter) than oceanic (1) • Granite contains large crystals whilst basalt is fine grains with no visible crystallisation. (1) • Continental crust is usually older than oceanic (1) • Oceanic crust is more rigid than continental(1)	Continental crust is (largely land) whilst oceanic is largely sea (1)	**(2)** **(1+1)**

Question Number	Correct Answer	Reject	Mark
1(c)	1 mark for identifying an appropriate technique. Additional mark(s) awarded for extending statements. For example, the shape of the volcano can be monitored (1). Lasers can be used to detect small changes in relief (1). Swellings can indicate the build-up of magma beneath the surface (1). Common answers likely to include: • Lasers monitoring shape (1) • Satellites recording surface temperatures • Sulphur emissions affecting acidity of water sources. (1) • Increased earthquake activity – shallow focus. (1) • Studying the history of past events (1) • Unusual volcanic activity – small eruptions of steam or greater geyser activity. (1) • Strange animal behaviour. (1) NB: As the command word is 'describe', listed responses – max 2.	Earthquake focused responses.	**(4)** **(1+1)** **Or (1+1 +1) + 1**

Question Number	Correct Answer	Reject	Mark
1(d)	1 mark for each appropriate statement. Additional mark(s) awarded for extending statements. For example, at destructive boundaries convection currents cause plates to collide (1). The denser or oceanic plate is pushed downwards into the mantle (1) and melts (1) as the melted crust has a greater gas content (1) magma rises up through crust (1) magma is viscous/andesitic or any other comment relevant to magma/lava type (1) forming a composite cone/strato/explosive volcano (1). Diagrams should be marked using the above points either as explicitly stated through annotations or implicit in the diagram itself. NB – allow relevant points even if student discusses constructive margins – for example 'magma/lava rises to the surface and forms a volcano.	Points that are specific to constructive boundaries. Duplicate points with the same point being made on the diagrams in the text – only credit once.	**(4)** **1+1+1+1** **(1+1+1)+1** **(1+1) + (1+1)**

Question Number	Correct Answer	Reject	Mark
2(a) (i)	**D** South west England	All other answers	**(1)**

Question Number	Correct Answer	Reject	Mark
2(a) (ii)	**B** more droughts	All other answers	**(1)**

Question Number	Correct Answer	Acceptable answer	Mark
2(b)	1 mark for each valid natural cause. Common answers likely to include: • Volcanic activity (1) • Changes in solar output (sunspots and flares) (1) • Orbital shifts (1) • Wobbles in tilt (1) • Changes in polar ice coverage impacting on levels of surface reflection (1) • Meteorite strike (1) • El Nino and/or La Nina. (1)	Earthquakes (1)	**(2)** **1+1**

Question Number	Correct Answer	Reject	Mark
2(c)	Clear basic cause(s) (up to 2 marks) process by which that activity impacts on temperature (up to 3 marks) For example, burning fossil fuels (1) in in factories (1) creates greenhouse gases/carbon dioxide (1). CO_2 reflects outgoing radiation back to the surface – (blanket idea) (1). For example, increases in rice farming (1) has resulted in more methane (CH_4) being released in the atmosphere (1), this potent greenhouse gas (1) traps (out-going long wave) radiation (1). For example; trees act as a carbon sink (1) the cutting down of forests (or equivalent idea) (1) have therefore resulted in less CO_2 being removed from the atmosphere (1) this CO_2 absorbs (outgoing long-wave) radiation warming the planet (1). Also allow answers that start with a basic cause such as; Economic growth/increasing trade (1) leads to growth in transport (1) that leads to more CO2 emissions (1) this CO_2 absorbs (outgoing long-wave) radiation warming the planet (1) Or Rising incomes means more meat is being eaten (1) therefore more cattle (1) therefore more methane (1) which traps (out-going long wave) radiation (1).	Answers relating to natural causes of climate change.	**(4)** **(1+1) + (1+1)** **Or** **(1+1+1) +1** **Or** **(1+1+1+1)**

Question Number	Correct Answer	Acceptable responses	Reject	Mark
2(d)	1 mark for identifying an appropriate environmental change. Additional mark(s) awarded for extending statements. Allow a wide range of potential changes given uncertainty over nature of climate change. For example, some areas may experience severe flooding (1) such as Suffolk (1). Some animals may migrate out and/or whilst others migrate in (1) Common answers likely to focus on: • Biome shift • Animal migrations • Extinctions • Food web imbalance • Increased river flooding/erosion in coastal locations • Sea level change and impact of same • Increased frequency of drought NB – it is valid to discuss past climate change examples here e.g. Little Ice Age	Allow environment to be interpreted broadly as in 'there may be changes in sea-water temperatures' Allow impact on farming, e.g. changes in cropping patterns (1) legitimate example (1)	People focused responses. Identification of the change **alone** e.g. it will get hotter/wetter	**(4)** **(1+1) + (1+1)** **(1+1+ 1)+ (1)** **Or** **(1+1) + 1 + 1**

Question Number	Correct Answer	Reject	Mark
3(a) (i)	**C** South America	All other answers	**(1)**

Question Number	Correct Answer	Reject	Mark
3(a) (ii)	**A** It is too dry	All other answers	**(1)**

Question Number	Correct Answer	Mark
3(b)	1 mark for a basic reference to living organisms/systems Second mark for idea of cohabitation or relationships or mutual interdependence or example of ecosystem	**(2)** **(1+1)**

Question Number	Correct Answer	Reject	Mark
3(c)	Clear basic cause(s) (up to 2 marks) process by which activity impacts on rainforests (up to 3 marks) For example, deforestation for timber (1) removes the canopy layer (1) which protects the soil below from heavy rainfall (1). Exposed soil is quickly eroded (1). For example, pollution from mining (1), releases toxic waste into nearby water courses (1). These chemicals poison river life (1) and can cause food-web imbalance (1). For example, the construction of HEP power stations (1) often result in large areas of rainforest being flooded (1), destroying habitats (1) and forcing wildlife to migrate (1).	Statements relating to alternative biomes Statements referring to inherently sustainable activities such as rubber tapping and extraction of plant material for medicines	**(4)** **(4)** **(1+1) + (1+1)** **Or** **(1+1+ 1) +1** **Or (1+1+ 1+1)**

Question Number	Correct Answer	Mark
3(d)	1 mark for identifying a way in which the biosphere regulates the composition of the atmosphere. Additional mark(s) awarded for extending statements. Common answers likely to refer to: For example, vegetation takes in carbon dioxide (1) during the process of photosynthesis (1) and releases oxygen (1) This CO_2 is stored within the vegetation forming a carbon sink (1) For example, animals breathe in oxygen (1) during respiration (1) and release carbon dioxide (1) For example, animals release methane (1) during digestion (1) Methane is also released from wetlands (1) when organic matter breaks down anaerobically (1). For example, levels of vegetation contribute to levels of water vapour (1) which will vary from place to place and over time (1) according to vegetation patterns (1) **NB: No explanation – max mark 2.**	**(4)** **(1+1) + (1+1)** **(1+1+1)+ (1)**

Question Number	Correct Answer	Reject	Mark
4(a) (i)	**A** Providing water for the irrigation of crops	All other answers	**(1)**

Question Number	Correct Answer	Reject	Mark
4(a) (ii)	**C** Evaporation	All other answers	**(1)**

Question Number	Correct Answer	Mark
4(b)	• One or more examples of human consumption e.g. drinking/watering gardens (1) • Used in industry (1) • Used in agriculture (1) • Reduced precipitation and/or greater evaporation though climate change (1) • Deforestation (1) • Increasing unavailability of water because of contamination (1)	**(2)** **(1+1)**

Question Number	Correct Answer	Mark
4(c)	1 mark for identifying an appropriate impact. Additional mark(s) awarded for extending statements. For example, in Niger, insufficient water supply has resulted in an increase in disease (1) as safe water sources have dried up (1) local people have been forced to use water poisoned by industry (1) or contaminated with sewage (1). For example, severe drought in Australia has affected farming (1) crops have died (1) and irrigation has become more difficult and expensive (1). Many farmers have decided to sell-up and migrate to the cities (1) For example, due to insufficient water supplies in Mali, children are required to walk long distances (1) to collect water for their families (1)This prevents these children from attending school (1) and learning the skills needed to raise themselves out of poverty (1) For example, contamination of water by industrial/agricultural runoff (1) has made local water toxic /unusable (1) so water has to be brought in from outside (1) NB: No identified vulnerable area – max 3. NB: Answer may focus on a single impact or may refer to a range of impacts.	**(4)** **(1+1) +(1+1)** **Or** **(1+1+1) + 1**

Question Number	Correct Answer	Allow	Reject	Mark
4(d)	Identifying the process of precipitation (1), details of cloud to rain process(es) (1). Identifying the process of surface runoff (1), details of process (1). Identify the process of through flow (1), details of process (1). Identifies the process of groundwater flow (1), details of the process (1). Allow a third mark for any process that is described in detail e.g. Surface run-off (1) because of impermeable ground (1) and intense rainfall (1)	Melting ice/calving of glaciers	Responses which refer to other stages of the hydrological cycle.	**(4)** **(1+1)** **+** **(1+1)** **Or** **(1+1+)** **+ 1**

Question Number	Correct Answer	Reject	Mark

Question Number	Correct Answer	Reject	Mark
5(a) (i)	**B** Spit	All other answers	**(1)**

Question Number	Correct Answer	Reject	Mark
5(a) (ii)	**C** Longshore drift	All other answers	**(1)**

Question Number	Correct Answer	Reject	Mark
5(b)	1 mark for each valid characteristic Common answers likely to include: • Weak swash • Strong backwash • Tall wave height • Short wave length • Cause high rates of erosion • Linked to stormy conditions • Reduce the size of the beach • Wave frequency Any other acceptable feature of destructive waves	Responses referring to constructive waves.	**(2)** **1+1**

Question Number	Correct Answer	Mark
5(c)	1 mark for identifying a valid impact of climate. 1 mark for an extending statement about impact on erosion. For example, climate change will lead to more storms (1) increasing the frequency of erosive destructive waves (1) For example, higher sea levels (1) will result in new areas being affected by coastal erosion (1) For example, sea water acidity is likely to increase with climate change (1), this could speed-up rates of corrosion (1)	**(2)** **(1+1)**

Question Number	Indicative content	
***5(d) QWC i-ii-iii**	Located coastline will be chosen case-study e.g. Holderness Coastal retreat can be managed using a number of different approaches. Traditional (hard) engineering usually involves heavy construction and often inadvertently destroy the natural coastline. Sea walls, gabions and rip rap are used to break-up the waves and reflect the wave's energy back to sea thus reducing coastal erosion. They are expensive but also effective. Strategic realignment is an alternative to the use of 'hard' flood defences. This approach involves a combination of strategies from soft measures, such as the planting of marram grass to stabilise dunes, to the 'do nothing' approach. Focus of question is on methods of managing erosion	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	A form of coastal management has been identified. Little, if any, development. Limited structure to answer, basic use of geographical terminology.
Level 2	3-4	Coastal management identified with accurate description. Links to coastal erosion asserted. Location evident. Some structure, clearly communicated but with limited use of geographical terms.
Level 3	5-6	Two or more approaches to coastal management have been accurately described. At least one explanatory point linking management method to impact on coastal erosion. Location specific details included in the response. Clear structure, well communicated with mostly sound use of geographical terms.
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	Correct Answer	Reject	Mark
6(a) (i)	**D** Oxbow Lake	All other answers	**(1)**

Question Number	Correct Answer	Reject	Mark
6(a) (ii)	**A** Deposition	All other answers	**(1)**

Question Number	Correct Answer	Reject	Mark
6(b)	1 mark for each valid form of erosion. Type of erosion can be named or described. • Abrasion (corrasion) (1) material hurled against the bank and bed (1) • Hydraulic action (1) force of water (1) • Corrosion (1) chemicals in the water reacting with bank materials (1) • Lateral erosion (1) • Vertical erosion (1) • Undercutting (1)	References to attrition. References to other processes, e.g. transport or mass movement	**(2)** **(1+1)**

Question Number	Correct Answer	Reject	Mark
6(c)	1 mark for identifying a valid human activity. 1 mark for reason why this impacts on flood risk. Common answers likely to include: • Urbanisation (1) Covers the surface in impermeable materials so rainwater is quickly channelled by gutters/drains directly to the river (1) • Deforestation (1) Causes greater surface runoff due to reduced intercepted and transpired(1) • Land use change (1) the ploughing of pastures for arable crops. Bare fields increase surface runoff as they are more likely to become 'baked' during the summer and 'frozen' during the winter (1) • Up-and-down ploughing (1) can result in rainwater being quickly 'channelled' into nearby rivers (1) • Extraction of peat for compost /heating (1) peat acts like a sponge holding on to large quantities of water (1) • Defences designed to protect one area from flooding (1) can increase the risk of flooding downstream, e.g. flood walls and levees (1)	Physical causes of flooding.	**(2)** **(1+1)**

Question Number	Indicative content
***6(d) QWC i-ii-iii**	Flood defence will vary according to the candidate's chosen scheme. Scheme might be taken to be generic as in 'dams' or a specific located management plan. Focus of question is on reduction of flooding. Common responses are likely to include: • Diversion channel – New channel constructed to divert river water away from city centre. • Dam – Barrier built across the river to hold back water, creating a reservoir. Water is released at a controlled rate. • Channel alterations – River widened or deepened to allow the channel to hold a greater quantity of water. • Afforestation – Planting trees to increase interception and transpiration. • Flood plain zoning – Introduce planning rules to prevent construction on sites likely to flood.

Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	A form of flood management has been identified. Little, if any, development. Limited structure to answer, basic use of geographical terminology.
Level 2	3-4	Flood management scheme identified with some detailed description. Impact of method on flooding asserted. Clearly identified flood management scheme. Some structure, clearly communicated but with limited use of geographical terms.
Level 3	5-6	Flood management scheme described in detail. Some explanation linking methods to the effects of those methods. Clear structure, well communicated with mostly sound use of geographical terms.
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	Correct Answer	Reject	Mark
7(a) (i)	**C** Pollution gets worse from east to west	All other answers	**(1)**

Question Number	Correct Answer	Reject	Mark
7(a) (ii)	**C** South-easterly	All other answers	**(1)**

Question Number	Correct Answer	Reject	Mark
7(b)	Either; 1 mark for identifying a valid aspect of climate change. 1 mark for identifying valid impact on marine ecosystems Or 1 mark for identifying valid impact on marine ecosystems 1 mark for development of that impact – less krill therefore fewer whales. Common responses likely to include: • Melting ice entering the oceans (1) could affect global currents, affecting the supply of nutrient rich waters (1) such as krill/phytoplankton and thus food chain (1) • Rising sea levels (1) which may result in more pollutants could be washed into the sea, creating dead zones (1) which will affect food chain (1) • Acidification of sea water (1) could result in coral bleaching (1) and thus significant proportion of marine life in these rich ecosystems (1) • Higher temperatures will trigger more tropical storms (1) damaging fragile marine ecosystems (1) such as reefs and mangroves (1) • Changing water temperatures (1) could result in new animal migrations (1) affecting food chains (1) • Sea-water temperature and/or chemistry may change too fast (1) for some species to adapt (1) leading in extinction (1)	Other factors which could disrupt marine eco-systems, e.g. overfishing or damaging fishing techniques, such as trawling.	**(2)** **(1+1)**

Question Number	Correct Answer	Mark
7(c)	1 mark for identifying an appropriate global action 1 mark for description of what they/it does or tries to do Or 1 mark for description of what they/it does or tries to do 1 mark for extension/added detail – e.g. impact/effectiveness Common responses likely to include: • The Law of the Sea (1) established to prevent individual countries from taking more than their fair share of the ocean's resources. (1) which prevents overexploitation (1) • International Seabed Authority (1) established to safeguard resources and environments (1) which prevents overexploitation (1) • International laws (1) ratified to prevent the dumping of pollution or radioactive waste into the sea (1) which protects species (1) • Global Marine Species Assessment (1) is an internationally managed programme designed to study marine ecosystems (1) which helps develop systems to preserve and protect (1) • MARPOL – (1) International convection for the prevention of pollution from ships (1) which prevents damage to species (1) • IWC – International Whaling Commission (1) set up to conserve whale stocks (1) and thus food webs/chains (1) • CITES – (1) prevents the trade in endangered marine animals. (1) and thus species loss and food web issues (1) • RAMSAR – (1) global effort to protect wetlands include mangrove regions (1) protecting nursery areas and coral reef siltation (1)	**(2)** **(1+1)**

Question Number	Indicative content	
***7(d) QWC i-ii-iii**	Examples of local actions: St Lucia introduced a community-based coastline management programme in 1986. 19 areas (including reefs and mangroves) were declared Marine Reserve Areas. These areas have been developed as ecotourism resorts to provide local communities with new employment opportunities which enhance rather than destroy the coastline. Lamlash Bay, in the Firth of Clyde, has seen the introduction of a 'no-take' zone as the local scallop beds had been completely over-fished. Although some fishing is allowed in the surrounding region, new laws forbidding destructive methods have been introduced. There are plans to make Lamlash Bay one of Scotland's first Coastal and marine parks. NB: One case study can include many examples of local actions. Focus of question is on sustainable management in a local context.	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	An appropriate local action has been identified. Little, if any, development. Limited structure to answer, basic use of geographical terminology.
Level 2	3-4	Local action identified with some detailed description. Sustainability may be asserted. Some structure, clearly communicated but with limited use of geographical terms.
Level 3	5-6	Two or more local actions have been accurately described. Some explanation linking local actions with idea of sustainability. Clear structure, well communicated with mostly sound use of geographical terms.

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	Correct Answer	Reject	Mark
8(a) (i)	**B** Lancaster Sound	All other answers	**(1)**

Question Number	Correct Answer	Reject	Mark
8(a) (ii)	**A** Norwegian Bay	All other answers	**(1)**

Question Number	Correct Answer	Reject	Mark
8(b)	1 mark for identifying an appropriate adaptation. 1 mark for clear explanation of how this helps plant/animal survival. Common responses likely to include: Flora (Plant) adaptations may include: • Shallow root systems (1) to maximise water capture (1) • Tap root (1) to access water deep beneath the surface (1) • Waxy leaves or needles (1) to reduce moisture loss (1) • Thick bark (1) to provide protection against cold winds or fires (1) • Spikes (1) to discourage grazing animals (1) • Short life cycle (1) to reflect growing season (1) Fauna (Animal) adaptations may include: • Fur and fat layers (1) to provide insulation (1) • Stores of moisture (1) to survive without regular access to water (1) • Adapted claws, teeth and limbs (1) to access food sources (1) • Large paws (1) to enable the animal to walk on snow or sand (1) • Ability to hibernate (1) to miss the most extreme weather conditions (1)	Do not credit the simple naming of a plant or animal e.g. cacti/polar bear Answers referring to adaptations not associated with either hot arid or polar regions.	**(2)** **(1+1)**

Question Number	Correct Answer	Reject	Mark
8(c)	1 mark for identifying an appropriate global action 1 mark for description of what they/it does or tries to do Or 1 mark for description of what they/it does or tries to do 1 mark for extension/added detail – e.g. impact/effectiveness • Kyoto Treaty (1) international agreement to reduce carbon emissions (1) which should slow down climate change (1) • Antarctic Treaty (1) signed by all parties which claim land, agreement not to exploit the region's natural resources (1) so preserving a wilderness (1) • Protocol on Environment Protection (1) no action to be taken until the environmental impact has been assessed (1) which may have long-term impact of slowing down damage (1) • International Year of the Desert (1) series of global events aimed at raising the awareness of the importance of desert environments and potential future threats (1) which should help preserve fragile environments (1) • CITES (1) prevents the trade of endangered animals, including species associated with polar and hot-arid regions (1) preserving species in the long-term (1) • RAMSAR (1) international convection aimed at protecting wetlands, including tundra	Rainforest focused responses.	**(2)** **(1+1)**

	marshes (1) which should help preserve the whole food web dependent on those environments (1) • WWF (1) is an NGO established to help protect endangered wildlife and their habitats(1) through campaigns and lobbying of politicians (1) • Greenpeace (1) is an NGO established to protect the environment (and people) (1) through direct action, campaigns and lobbying of politicians (1)		

Question Number	Indicative content	
***8(d) QWC i-ii-iii**	Extreme environments taught are Hot Arid and Polar Hot Arid • In Australia water supplies are secured through dams and boreholes. Grey water is recycled and solar panels generate electricity. • In Burkina Faso Oxfam has been working with local farmers to improve soil fertility and rainwater management. Diguettes, earth barriers, were laid to trap soil and soil down rainwater. • In Zambia, Oxfam has trained people to use conservation farming. Crop yields have been increased through a multi-cropping programme. This involves the growing of trees, shrubs and ground level plants all in the same area, increasing output whilst improving soil quality and reducing moisture loss. Polar: • In Iceland geothermal energy has been used to create sustainable energy. Magma heated groundwater is used for heating and electricity. This enables farmers to heat and light greenhouses, allowing vegetables and fruits to be grown throughout the year. • Local trips in Alaska are reliant on hunting and fishing as climate prevents farming. Houses are built with steep roofs so the snow slips off and stilts prevent the permafrost from melting. Focus of question is on community survival	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	An appropriate local action has been identified. Little, if any, development. Limited structure to answer, basic use of geographical terminology.
Level 2	3-4	Local action identified with accurate description. Links to survival are asserted. Some structure, clearly communicated but with limited use of geographical terms.
Level 3	5-6	Two or more local actions have been accurately described. Some explanation linking local actions with community survival. Clear structure, well communicated with mostly sound use of geographical terms.

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.