

Mark Scheme (Results) Summer 2010

GCSE

GCSE Geography (5GB1F) Paper 1

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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.
- 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.

Question Number	Answer	Mark
2(a)(i)	B The area of melting has increased rapidly since 1992	(1)

Question Number	Answer	Mark
2(a)(ii)	<p>One mark for any valid statement. Likely answers:</p> <ul style="list-style-type: none"> • Loss of arctic habitats • Wildlife affected e.g. Polar Bears facing extinction. • Increased flooding • Rising sea levels • Reduced sea water salinity 	(1)

Question Number	Answer	Mark
2(b)	<p>One point for each valid statement. Answers must be applicable to the UK.</p> <p>Likely answers:</p> <ul style="list-style-type: none"> • Hotter summers • Increased tourism in seaside resorts • More droughts • Less snow • More storms • Increased flooding (coastal and river valley) • Changing crops / plants • Changing wildlife • Collapse of Scotland Ski industry <p style="text-align: right;">(2 x 1)</p>	(2)

Question Number	Answer	Mark
2(c)	<p>1 mark: For giving an appropriate natural cause e.g. Sunspots (1 mark). Addition marks awarded for statements which extend the description. e.g. Sunspots are areas of intense activity on the surface of the sun (1 mark). Increased solar activity leads to higher energy levels reaching the earth. (2 marks)</p> <p>Chosen actions are likely to include:</p> <ul style="list-style-type: none"> • Sunspots - Indicate the amount of energy released from the sun. • Volcanic Eruptions - Emissions block out sunlight lowering temperatures, or CO2 emissions increase concentrations of greenhouse gases. • Orbital Changes - Changes from a circular to an oval orbit can affect the amount of sunlight the earth receives. • Axis Wobbles - Changes in the tilt of the Earth's axis can also affect the amount of sunlight received. • Ice Caps Melting - Ice reflects heat and keeps the planet cool. • Meteorite impact - Collision could throw-up a cloud of ash and dust blocking out the sun. <p>If only one action has been identified, maximum mark 3.</p> <p>Do not allow references to methane from farm animals. The increase in cattle numbers is a result of farming change and therefore is not a natural process.</p>	(4)

Question Number	Answer	Mark
3(a)(i)	C Tropical Rain Forest.	(1)

Question Number	Answer	Mark
3(a)(ii)	Tropical rain forests are found in areas of HIGH rainfall and are located close to the EQUATOR . (2x1)	(2)

Question Number	Answer	Mark
3(b)	<p>One point for each valid statement. Likely answers:</p> <p>Services</p> <ul style="list-style-type: none"> • Humus for soil formation • Nutrient cycling • Water purification & regulation • Habitats • Climate regulation • Atmospheric gas regulation • Provide oxygen. <p>Do not allow 'goods' such as medicines, food or gene pool. Question specifically asks for services. This distinction is clear in the specification.</p>	(1)

Question Number	Answer	Mark
3(c)	<p>1 mark: Valid action identified e.g. establish national parks (1 mark). Addition marks awarded for statements which extend the description. e.g. establish national parks (1) to control construction(2 marks) and to ensure economic activities are sustainable (3 marks).</p> <p>Common conservation methods include:</p> <ul style="list-style-type: none"> • National Parks - legal status given to designated regions to protect habitats and wildlife. • Trade Agreements - CITES (Convention on International trade in endangered species) signed by 166 countries. Purposed to prevent trade of items made from endangered species, e.g. ivory products or crocodile skin footwear. • Biodiversity Action Plans - Designed to protect native / natural vegetation in areas where habitats and wildlife are under threat. • Promotion of eco-tourism - Tourism based activities which are designed to be sustainable. Minimising damage to the environment. • Sustainable resource use e.g. logging industries replant deforested regions. <p>If only one method has been identified, maximum mark 3.</p>	(4)

Question Number	Answer	Mark
4(a)	<p>One point for each correct statement:</p> <ul style="list-style-type: none"> • Habitats for fish and birds • Hydroelectric power <p>As the question specifically asks candidates to use figure 4, no marks should be awarded to students stating benefits not included on the satellite image.</p> <p style="text-align: right;">(2 x 1)</p>	(2)

Question Number	Answer	Mark
4(b)	<p>One point for each valid statement. Likely answers:</p> <ul style="list-style-type: none"> • Fish and river life poisoned • Algae blooms (Eutrophication) • River deoxygenated. • Contaminated water no longer fit for human consumption. • Scenic value reduced • Diseases <p style="text-align: right;">(2 x 1)</p>	(2)

Question Number	Answer	Mark
4(c)	<p>1 mark: Valid impact identified but description is simplistic or incomplete. E.g. unreliable rainfall can make farming difficult (1 mark). Addition marks awarded for statements which extend the description. E.g. unreliable rainfall can make farming difficult (1 mark), leading to higher food prices at market (2 marks).</p> <p>Chosen impacts are likely to include:</p> <ul style="list-style-type: none"> • Drought can lead to crop failure and starvation. • Unreliable rainfall prevents permanent settlement, restricting development. • Dry weather increases the rate of soil erosion, reducing a region's agricultural potential. • Limited supplies of clean / fresh water may result in dehydration and possible death. • Tensions over limited water supplies can lead to conflict and wars. • Water shortages in one region can lead to migration flows to wetter destinations. • Impact on the fishing industry. <p>If only one impact has been identified, maximum mark 3.</p> <p>Do not allow references to drought as this term simply means a water shortage - it is not an impact.</p> <p>Award marks to students who identify appropriate examples.</p>	(4)

Question Number	Answer	Mark
5(a)	A = Groyne B = Rock Armour or Rip-Rap (2 x 1)	(2)

Question Number	Answer	Mark
5(b)	Longshore drift	(1)

Question Number	Indicative content	
5(c)	At river estuaries longshore drift carries material out into the river's mouth. This deposited material forms a sandbank, described as a spit. Spits are unable to stretch across the entire estuary as the river will continue to erode a path. In sheltered waters behind the spit alluvium will build up forming salt marshes and eventually new land. Most spits are curved by periodic changes in wind direction which form waves in a different direction, resulting in the spit being pushed upriver.	
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	Simple statements. Sequence unclear and limited subject vocabulary used. e.g. Spits are made in the mouth of rivers from deposited sand.
Level 2	3-4	Linked or elaborated statements. Geographical terms have been appropriately applied. Sequence clear. e.g. longshore drift carries material along the coast in a zig zag movement. At the mouth of rivers the sand is deposited forming a bank of sand known as a spit.
Level 3	5-6	Detailed, well developed answer referring to the complete sequence. A good range of geographical terms have been effectively applied. e.g. Material transported by longshore drift is carried into the river's mouth. Swash carries material up the beach, whilst backwash drags it back towards the sea. The sand deposits forming a sandbank, known as a spit. Behind the sandbank conditions are calm leading to the deposition of silt and the formation of a marsh. Note: Credit should be given to students who have added labels/annotations to the guidance diagrams.

Question Number	Answer	Mark
6(a)	A - Flood gates B - Overflow channel (2x1)	(2)

Question Number	Answer	Mark
6(b)	One mark for any of the following: <ul style="list-style-type: none"> • Abrasion (Corrasion) • Corrosion (solution) • Hydraulic Action (Hydraulic Power). <p>NB: As the question refers to channel erosion, attrition is not allowed.</p> <p>(2 x 1)</p>	(2)

Question Number	Indicative content	
6(c)	<p>River channels change in many ways from source to mouth:</p> <ul style="list-style-type: none"> • SHAPE: The channel increases in size, both width and depth, leading to an increased wetted perimeter. • SPEED: Flow velocity also increases as friction with the bed, banks, and bedload decreases. • BEDLOAD: Material within the channel changes along the river's course. In the highland river the bedload is mainly composed of large angular rocks. By the middle course erosion has transformed this material into smoother and smaller pebbles. By the lowland river most of the material carried is granular (sand and silt). 	
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	<p>Simple statements including direct lifts from the stimulus. Sequence unclear and limited subject vocabulary used.</p> <p>e.g. the river gets wider and deeper.</p>
Level 2	3-4	<p>Linked or elaborated statements. Descriptions must include some details not referred to on the question paper diagram. A range of geographical terms have been appropriately applied. Sequence clear.</p> <p>e.g. At the source the river is narrow and shallow and the water is travelling slowly. At the mouth the channel has become deep and wide and the water is moving much faster.</p>
Level 3	5-6	<p>Level 3 can be achieved by either:</p> <ol style="list-style-type: none"> Detailed descriptions of the changes referring to shape, sediment and velocity; or A clear description with some explanation. <p>Answers should include the correct use of a range of geographical terms.</p> <p>a) e.g. Near the source of the river the channel will be narrow and shallow and will be filled with large, usually angular, bedload. Downstream the channel will widen and deepened; the bedload will be become smoother and smaller. As the channel becomes larger the flow speed will increase.</p> <p>b) e.g. Near the source of the river the channel will be narrow and shallow and will contain large rocks. High levels of friction will cause the water to flow slowly. Downstream the channel will become wider and deeper as the rocks within the river collide and smash into the bed and banks. The bedload will be smoothed and worn down.</p> <p>Note: Credit should be given to students who have added labels/ annotations to the guidance diagrams.</p>

Question Number	Answer	Mark
7(a)	Krill is an important part of the Blue Whale's diet	(1)

Question Number	Answer	Mark
7(b)	<p>1 mark: An appropriate cause of damage has been identified. E.g. reefs have been damaged by fishing (1 mark). Addition marks awarded for statements which extend the description. E.g. Reefs have been damaged by fishing (1 mark). Blast fishing uses dynamite and kills all species, not just those being fished (2 marks).</p> <p>Chosen forms of damage are likely to include:</p> <ul style="list-style-type: none"> • Exploitative fishing techniques, i.e. blast fishing, trawling... • Trade in coral, tropical fish and plants can destroy habitats and unbalance food-webs. • Pollution from settlements, tourists, shipping and industry can poison marine wildlife. • Higher global temperatures have lead to warmer seas. These have caused wildlife migrations and the destruction of some ecosystems e.g. bleached reefs. <p>Specific ecosystem can be identified in the box provided or within the students' response. If no ecosystem is identified, no marks can be awarded.</p>	(2)

Question Number	Indicative content	
7(c)	<p>NB: Examples can be case study regions (global, regional or local scale), specific ecosystems or management methods.</p> <ul style="list-style-type: none"> • 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. • The EU has introduced a fisheries policy for all its member states in an attempt to revive fish stocks. Each year a limit is placed on the number of fish from each species that can be caught, this quota is based on an annual 'state of stock' survey. The EU has also designated some regions as no-take zones for species particularly under threat e.g. North Sea Cod. • The UN ratified the 'Law of the Sea' in 1994 to prevent individual nations from taking an unfair share of the ocean's resources. The Law of Sea covers fisheries, shipping, resources extraction and marine pollution. The treaty led to the creation of the international Seabed Authority, which has the task of sustainably managing the 60% of the world's oceans that declared 'open', i.e. under the control of no individual nation. 	
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-2	Generic statements - simple descriptions. E.g. marine ecosystems can be managed by setting up reserves (1).
Level 2	3-4	Focused on a specific example(s). Clear description. Reasonable use of geographical terminology. E.g. In St Lucia reserves were set up to protect important ecosystems such as endangered coral reefs. Local people were employed to manage the reserve, giving an alternative employment to fishing.
Level 3	5-6	Focused on a specific example(s). Clear description with further explanation of key points. Wide range of geographical terms applied. E.g. In St Lucia reserves were established to protect endangered ecosystems, including reefs and mangroves. These reserves restricting fishing and banned the use of mosquito eradication insecticides. Local populations were consulted and many were offered new employment opportunities, including ecotourism resorts and activities, were established to turn the marine ecosystems into an asset for the islanders.

Question Number	Answer	Mark
8(a)	July	(1)

Question Number	Answer	Mark
8(b)	<p>A point for each acceptable response. Likely answers include:</p> <p>HOT ARID:</p> <ul style="list-style-type: none"> • High daytime temperatures could lead to health problems e.g. dehydration, sun stroke, sun burn etc... • Low night time temperatures; • Low rainfall from April to October may lead to drought - crop failure, soil erosion, food shortages; • Temperature extremes and unreliable rainfall makes the rearing of animals difficult. • Isolation <p>POLAR:</p> <ul style="list-style-type: none"> • Extremely low temperatures can lead to health problems; • Low temperatures, heavy snowfall and short growing season make conventional farming almost impossible; • Snowmelt in spring can lead to widespread flooding; • Mosquitoes swarm in summer melt water; • Frozen ground makes construction difficult. <p>Simple statements about being too hot or too cold not allowed. Student must state why being too hot/cold is a problem.</p> <p style="text-align: right;">(2x1)</p>	(2)

Question Number	Indicative content	
8(c)	<p>Arid</p> <ul style="list-style-type: none"> • Droughts and severe water shortages could become more common • More bushfires • More dust storms • Habitat loss could lead to wildlife decline • Decline in farming output • Native plants could die off • Desert regions could expand <p>Polar</p> <ul style="list-style-type: none"> • Native plants could disappear • Habitat loss could lead to wildlife decline • Reduction in pack-ice could restrict hunting opportunities • Melting permafrost could lead to buildings and transport links becoming unstable • Melt water could lead to widespread flooding • Melt water could lead to mosquito outbreaks and spread disease <p>Responses that explain why extreme environments are difficult places to survive, but make no reference to climate change, maximum mark 4.</p>	
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	Generic statements - simple descriptions. E.g. Desert may experience drier conditions.
Level 2	3-4	Focused on a specific region. Clear description. Reasonable use of geographical terminology. E.g. In Australia climate change is likely to lead to drier conditions and more frequent droughts. Some native plant species will find it difficult to survive, leading to habitat loss.
Level 3	5-6	Focused on a specific region. Answer refers to both people and natural systems. Clear description with further explanation of key points. Wide range of geographical terms applied. E.g. In Australia climate change is likely to result in drier conditions, rainfall totals are estimated to drop by between 40% and 70% by 2070. Drier conditions will lead to frequent droughts, reducing farm output and causing some native species to die out, including 30 species of eucalyptus.

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