



Mark Scheme (Results)

Summer 2018

Pearson Edexcel GCSE

In Geography Spec A (1GA0) 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.
- In some cases details of what will not be accepted for a marking point will be identified below the phrase 'do not accept'.
- 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

GCSE Geography A - Paper 1 Mark scheme 1GA0/01

Question number	Answer	Mark
1 (a) (i)	B Granite The correct answer is granite as this is the only example of an igneous rock listed. Chalk and sandstone are sedimentary rocks and schist is a metamorphic rock.	(1)

Question number	Answer	Mark
1 (a) (ii)	Award 1 mark for one of the following, maximum 1 mark Composed mainly of quartz and mica (1) Crystals (1) Hard (1) Formed from cooling (1) Formed from intrusive activity (1) Formed from volcanic activity (1) More resistant to erosion/ weathering (1) Permeable/ impermeable (1) Accept any other appropriate response.	(1)

Question number	Answer	Mark
1(b)	Award 1 mark for one of the following, maximum 1 mark Carbonation (1) Exfoliation/ Onion skin weathering (1) Hydrolysis (1) Solution (1) Plant/ animal action (1) Chemical weathering (1) Biological weathering (1) Mechanical weathering (1) Accept any other appropriate response	(1)

Question number	Answer	Mark
1 (c) (i)	Award 1 mark for one of the following, maximum 1 mark Escarpment (1) Scarp (1)	(1)

Question number	Answer	Mark
1 (c) (ii)	Award 1 mark for a point about water coming to the surface at point Z and a further 1 mark for a reason for it collecting here. The stream is created by a spring (1) which is found here because water flows through the chalk (1). Water flows through the permeable chalk (1) and comes to the surface when it reaches the clay (1). Water is forced to the surface here (1) when it reaches the impermeable clay (1). The water is forced to the surface here (1) where the water table reaches the surface (1). Accept any other appropriate response.	(2)

Question number	Answer	Mark
2 (a)	<p>Award 1 mark for the following, maximum 1 mark.</p> <p>Headland (1)</p> <p>Head (1)</p> <p>Newdowns Head (1)</p>	(1)

Question number	Answer	Mark
2 (b)	<p>Award 1 mark for one of the following, maximum 1 mark.</p> <p>Longshore drift (1)</p> <p>Traction (1)</p> <p>Saltation (1)</p> <p>Suspension (1)</p> <p>Solution (1)</p> <p>Backwash (1)</p> <p>Swash (1)</p>	(1)

Question number	Answer	Mark
2 (c)	<p>Award 1 mark for a point about the characteristics of destructive waves and a further 1 mark for a link to rates of erosion, up to a maximum of 2 marks.</p> <p>Destructive waves are formed by local storms (1) which means they have more power / energy to erode the beach (1).</p> <p>Destructive waves have a longer fetch / have travelled a further distance (1) resulting in more power/energy to erode the coastline (1).</p> <p>Destructive waves have a stronger backwash (1) which means they remove more beach material (1).</p> <p>Destructive waves are tall (1) which means they have more power/energy to erode the cliffs (1).</p> <p>Destructive waves have lots of energy (1) which mean that there is more abrasion (1).</p> <p>Accept any other appropriate response.</p> <p>Do not accept Big (as a characteristic)</p>	<p>(as</p> <p>(2)</p>

Question number	Answer
2 (d)	<p style="text-align: center;">A03 (4 marks)/ A04 (4 marks)</p> <p>A03</p> <ul style="list-style-type: none"> • A bar is a ridge of sand or shingle across the entrance to a bay or river mouth. Fresh water is trapped behind it to form a lagoon. • They are formed by erosion and deposition. • As destructive waves break against the coastline, they erode the rock. The main processes are abrasion and hydraulic action. • The eroded material is then broken into smaller pieces by attrition. • The waves pick up eroded material which are carried along the coastline by longshore drift. • The direction of the longshore drift is determined by the direction of the prevailing wind. • The material is deposited where there is an indentation in the coastline (e.g. a bay). • It is deposited when the waves do not have sufficient energy to pick it up/ transport it further along the coast. • Deposition continues across the entrance to the bay to join the two ends of the bay with the sand/ shingle bar. • Candidates may also consider the possibility of a bar being a ridge of sediment pushed in from an offshore bar following a rise in sea level (e.g. following the end of an ice age). <p>A04</p> <ul style="list-style-type: none"> • The prevailing wind direction is from the south-west. • Longshore drift is moving sediment from west to east along the coastline. • The coastline changes direction at the start and end of the bar. • The bar crosses the indentation in the coastline and joins on the other side. • The bar stretches from west to east along the coastline. • There is a lagoon behind the bar. • The bar is approximately 3 km in length. • The bar is approximately 500m wide. • The bar's width is similar along its whole length.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements that are supported by limited evidence. (AO3) Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)
Level 2	4–6	Applies understanding to deconstruct information and provide some logical connections between concepts. An unbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)
Level 3	7–8	Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently leading to judgements that are supported by evidence throughout. (AO3) Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)

Question number	Answer	Mark
3 (a)	Award 1 mark for the following, maximum 1 mark. Levee (1) Meander (1) River (1) River channel (1) River cliff (1) River Cuckmere (1) Tributary (1)	(1)

Question number	Answer	Mark
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3 (b)	Award 1 mark for one of the following, maximum 1 mark. Abrasion (1) Attrition (1) Hydraulic action (1) Solution (1) Lateral erosion(1) Vertical erosion(1)	(1)
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Question number	Answer	Mark
3 (c)	<p>Award 1 mark for a point about a reason and a further mark for an explanation of how this leads to increased velocity, up to a maximum of 2 marks.</p> <p>The channel becomes wider and deeper (1) which reduces the amount of friction (1).</p> <p>The channel becomes a more efficient shape (1) which means that there is less friction (1).</p> <p>The hydraulic radius increases (1) which means the channel is more efficient (1).</p> <p>The channel becomes smoother (1) which reduces the amount of friction (1).</p> <p>Tributaries join the main channel (1) which means that there is more water in the river (1).</p> <p>Accept any other appropriate response</p>	(2)

Question number	Answer
3 (d)	<p style="text-align: center;">A03 (4 marks)/ A04 (4 marks)</p> <p>A03</p> <ul style="list-style-type: none"> • Meanders are formed by erosion and deposition. • The force of the faster flowing water erodes the outside bend, undercutting the bank and forming a steep river cliff. The main processes of erosion are abrasion and hydraulic action. • The water is shallower and flows more slowly on the inside bend. • Sand and gravel are deposited on the inside bend to form a slip-off slope / point bar. • Deposition takes place here because the river has less energy. • As the meander erodes the outside bend the bends get wider. • This lateral (or sideways) erosion widens the valley floor. • The meanders slowly migrate downstream creating a line of river cliffs at the edge of the valley floor. <p>A04</p> <ul style="list-style-type: none"> • The river flows from north to south. • The river swings from side to side in the channel. • The river flows fastest on the outside bend of the meander. • The river flows slowest on the inside bend of the meander. • Erosion is greatest on the outside of the meander where the river flows fastest. • Deposition is greatest on the inside of the meander where the river flows more slowly. • River cliffs are found on the outside bends of the meander. • Slip off slopes/ point bars are found on the inside bends of the meander. • The river is around 10m wide.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	<p>Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements that are supported by limited evidence. (A03)</p> <p>Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (A04)</p>
Level 2	4–6	<p>Applies understanding to deconstruct information and provide some logical connections between concepts. An unbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (A03)</p> <p>Uses geographical skills to obtain accurate information that supports some aspects of the argument. (A04)</p>
Level 3	7–8	<p>Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently leading to judgements that are supported by evidence throughout. (A03)</p> <p>Uses geographical skills to obtain accurate information that supports all aspects of the argument. (A04)</p>

Question number	Answer	Mark
4 (a)	<p>Award 1 mark for the following, maximum 1 mark.</p> <p>Corrie (1)</p> <p>Corrie lake (1)</p> <p>Glacial lake (1)</p> <p>Lake (1)</p> <p>Scales Tarn (1)</p> <p>Tarn (1)</p>	(1)

Question number	Answer	Mark
4 (b)	<p>Award 1 mark for one of the following, up to a maximum of 1 mark.</p> <p>Abrasion (1)</p> <p>Plucking (1)</p> <p>Freeze thaw (1)</p>	(1)

Question number	Answer	Mark
4 (c)	<p>Award 1 mark for a reason (linked to rising temperatures or changing glacial budget) and a further 1 mark for development of this, up to a maximum of 2 marks.</p> <p>Warmer temperatures (1) leading to the ice melting (1).</p> <p>Temperature becomes warmer during the summer (1) so there is more ablation than accumulation (1).</p> <p>The amount of accumulation during the winter is lower than ablation in the summer (1) so the balance / glacial budget is negative (1).</p> <p>There is less snowfall (1) which means there is less accumulation (1).</p> <p>Accept any other appropriate response.</p>	(2)

Question number	Answer
4 (d)	<p style="text-align: center;">AO3 (4 marks)/ AO4 (4 marks)</p> <p>AO3</p> <ul style="list-style-type: none"> • A crag and tail consists of a large mass of resistant rock (crag) with a tapering ridge on its lee side (tail). • They are formed by erosion and deposition beneath an ice sheet. • They range in scale from tens of metres to kilometres in length with the tail pointing in the down-ice direction. • When a glacier meets a more resistant bedrock obstacle, the ice is forced to flow over and around the slope. • As it flows over the rock obstacle, erosion takes place on the upstream side. This includes by abrasion and plucking. • This steepens the slope and makes it more jagged, forming the crag. • In the lee of the crag, the velocity and pressure of the ice decrease. • This causes the ice to deposit material on the lee side of the obstacle. • Deposition decreases with distance from the crag, leading to a tapering tail. <p>AO4</p> <ul style="list-style-type: none"> • The direction of ice movement was from north to south. • The steep, jagged side of the crag (stoss side) faced the direction of ice flow. • The tapering tail side of the crag was sheltered by the rock obstacle. • The more resistant rock forms the protruding crag. • The less resistant rock on the stoss side of the crag is thicker than the less resistant rock on the lee side. • The crag is around 15m high and the tail around 25m long. • The depth of moraine varies between 2-5m.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	<ul style="list-style-type: none"> • Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements that are supported by limited evidence. (AO3) • Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)
Level 2	4–6	<ul style="list-style-type: none"> • Applies understanding to deconstruct information and provide some logical connections between concepts. An unbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) • Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)
Level 3	7–8	<ul style="list-style-type: none"> • Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently leading to judgements that are supported by evidence throughout. (AO3) • Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)

Question number	Answer	Mark
5 (a) (i)	B – Volcanoes The correct answer is volcanoes as large scale emissions can lead to global cooling. Factories, car exhausts and rice farming all involve human activity.	(1)

Question number	Answer	Mark
5 (a) (ii)	Award 1 mark for each of the following, up to a maximum of 2 marks. Carbon dioxide (1) Carbon Monoxide (1) Chlorofluorocarbons (1) Hydrofluorocarbons (1) Methane (1) Nitrous oxide (1) Ozone (1) Water vapour (1) Do not accept Oxygen Nitrogen	(2)

Question number	Answer	Mark
5 (b) (i)	5	(1)

Question number	Answer	Mark
5 (b) (ii)	<p>Award 1 mark for identifying a reason, and a further 2 marks for expansion, up to a maximum of 3 marks.</p> <p>As the northern hemisphere is tilted towards the sun in summer (1) more energy is received (1) which means the temperature increases during the summer (1).</p> <p>As the northern hemisphere is tilted away from the sun in winter (1) it reduces the amount of energy received (1) so the temperature decreases during the winter (1).</p> <p>The Earth is tilted on its axis (1) which means that the sun is more concentrated in summer (1) which means that there is more energy (1).</p> <p>This is due to axial tilt (1) which means that less sunlight is received in the winter (1) which means that it is colder (1).</p> <p>There is more sunlight in summer (1) which means that there is more energy (1) which leads to warmer temperatures (1).</p> <p>The sun is more overhead in the summer (1) which means that more energy is received (1) which leads to warmer temperatures (1).</p> <p>Accept any other appropriate response.</p>	(3)

Question number	Answer	Mark
6 (a) (i)	<p>B 10°N - 30°N</p> <p>This is the latitudinal zone which shows the greatest number of tropical cyclone tracts on the map. The other latitudinal zones have fewer tracts shown.</p>	(1)

Question number	Answer	Mark
6 (a) (ii)	<p>Award 1 mark for a relevant reason and a further 2 extension marks for development of this, up to a maximum of 3 marks.</p> <p>When the tropical cyclone reaches land it is cut off from the water (1) which provides its energy source (1) causing the storm to die (1).</p> <p>The tropical cyclone requires water (1) as this provides its main energy source (1) and it is cut off from it when it reaches the land (1).</p> <p>Accept any other appropriate response.</p> <p>Do not accept Friction from land/ buildings</p>	(3)

Question number	Answer	Mark
6 (a) (iii)	<p>Award 1 mark for a social impact obtained from the resource, and a further 1 mark for expansion, through explanation, up to a maximum of 2 marks for each part.</p> <p>Cyclone Winston has caused 42 deaths (1) possibly due to collapsing buildings/ flooding (1).</p> <p>Cyclone Winston left many people without water supplies (1) this may result in contaminated water / disease can spread rapidly (1).</p> <p>Parts of the island are left without electricity (1) so people have had to leave their homes (1).</p> <p>Thousands of people are living in evacuation centres (1) which could be because their homes have been destroyed (1).</p> <p>People have been forced from their homes/ made homeless (1) so they suffer emotional stress (1).</p> <p>Do not allow economic or environmental points unless these are clearly linked to social impacts.</p> <p>Accept any other appropriate response.</p>	(4)

Question number	Answer	Mark
6 (b)	D -21mm to -60mm This is the figure which is shown by the key at point X on the map.	(1)

Question number	Answer	Mark
6 (c)	Award 1 mark for the following, up to a maximum of 2 marks. Dehydration (1) Destroys crops (1) Disease (1) Famine (1) Forest/ wildfires (1) Increase in food prices (1) Kills animals (1) Limited drinking water (1) Accept any other appropriate response.	(2)

Question number	Answer	Mark
6 (d)	Award 1 mark for a basic cause, and a further 1 mark for expansion, through explanation, up to a maximum of 2 marks for each part. Deforestation is leading to a rise in CO ₂ (1) which is contributing to global warming (1). Deforestation is leading to the removal of carbon sinks (1) which is contributing to global warming (1). Deforestation can reduce the amount of transpiration (1) which means that there is less chance of rain (1). Deforestation reduces the soil's ability to hold water (1) which can cause the ground to dry out (1). Deforestation can lead to a reduction in the amount of interception (1) which leads to less moisture being returned to the atmosphere (1). Accept any other appropriate response.	(4)

Question number	Answer	Mark
6 (e)	<p style="text-align: center;">A02 (4 marks)/ A03 (4 marks)</p> <p>A02</p> <ul style="list-style-type: none"> • There are a range of responses which may be included. • These include those provided by individuals, communities, governments and NGOs. • Those provided by individuals and communities (small-scale responses) may include: <ul style="list-style-type: none"> - Farmers planting appropriate crops - Digging boreholes and wells - Collecting water from roofs - Using drip irrigation • Those, larger-scale ones, provided by governments (both of the affected country and overseas) and NGOs may include: <ul style="list-style-type: none"> - Building dams and reservoirs - Constructing better water infrastructure (e.g. new pipelines and irrigation pipelines) - Running education and information programmes to encourage lower water use - Providing funds to support responses within the affected country <p>A03</p> <p>Assessment will depend on specific case studies, but may include</p> <ul style="list-style-type: none"> • Small-scale responses have the advantage that they are cheaper to implement and may be more appropriate for local conditions. They also help to increase water supply and reduce demand. • However, small-scale responses have the disadvantage that they are relatively small in scale and that they may lack co-ordination. • Large-scale responses have the advantage that they can cause significant increases in water supply and /or reductions in demand. They are also co-ordinated centrally which may help with their implementation. • However, large-scale responses have the disadvantage that they cost a lot to implement and may have unforeseen consequences. They also may impact negatively on local people (e.g. flooding caused by dams). They may also require significant ongoing investment. • Candidates may draw a distinction between developed and developing countries. Local scale solutions may be more effective in developing countries where the effectiveness of government (and availability of resources) may be more limited. 	(8)

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	<ul style="list-style-type: none"> • Demonstrates isolated elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) • Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3)
Level 2	4–6	<ul style="list-style-type: none"> • Demonstrates elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) • Applies understanding to deconstruct information and provide some logical connections between concepts. An unbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements are supported by evidence occasionally. (AO3)
Level 3	7–8	<ul style="list-style-type: none"> • Demonstrates accurate understanding of concepts and the interrelationship between places, environments and processes. (AO2) • Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3)

Question number	Answer	Mark
7 (a)	<p>Award 1 mark for the following, up to a maximum of 1 mark.</p> <p>Alder (1)</p> <p>Ash (1)</p> <p>Beech (1)</p> <p>Elm (1)</p> <p>Hazel (1)</p> <p>Hornbeam (1)</p> <p>Oak (1)</p> <p>Accept any other appropriate response.</p>	(1)

Question number	Answer	Mark
7 (b) (i)	15	(1)

Question number	Answer	Mark
7 (b)(ii)	<p>Working to show:</p> <p>0.15 or 15/100 x 23,500,000 (1)</p> <p>Or</p> <p>10% of 23,500,000 = 2,350,000</p> <p>5% of 23,500,000 = 1,175,000</p> <p>Correct answer is 3,525,000 ha or 3.525m ha(1)</p> <p>Max of 1 mark if no working (or incorrect working) shown but correct answer or correct method and incorrect answer.</p>	(2)

Question number	Answer	Mark
7 (c) (i)	<p>B - Europe</p> <p>Europe does not have any desert shown on the map and therefore has the smallest area. The other continents all have desert areas shown on the map.</p>	(1)

Question number	Answer	Mark
7 (c) (ii)	<p>Award 1 mark for a climatic factor, and a further 2 marks for expansion, up to a maximum of 3 marks.</p> <p>The climate in some areas is dry (1) as they are located so far from the sea/ oceans (1) which means that there is very little rainfall (1).</p> <p>The locations of deserts are associated with high pressure (1) which is linked with sinking air (1) which means that there is very little rainfall (1).</p> <p>Deserts are found where there is the sinking arm of the Hadley Cell (1) which means that there is high pressure (1) and the climate is dry (1).</p> <p>Accept any other appropriate response.</p>	(3)

Question number	Answer	Mark
7 (d) (i)	Award 1 mark for each correct plot (2x1)	(2)

Question number	Answer	Mark
7 (d) (ii)	<p>Award 1 mark for a point about a basic reason and a further 1 mark for expansion, up to a maximum of 2 marks.</p> <p>The tropical rainforest biome is the oldest biome on Earth (1) and has had more time to develop a greater species diversity (1).</p> <p>The tropical rainforests are very old (1) so species have had time to adapt to the conditions (1).</p> <p>The tropical rainforest biome covers a very large area (1) which meant greater separation between species (1).</p> <p>Lack of seasonal variation in climate (1) means that the environment has been much less stressful for species (1).</p> <p>The high rainfall/ temperature (1) produces good conditions for growth (1).</p> <p>There are a variety of layers in the rainforest (1) which provides many different habitats (1).</p> <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
7 (e) (i)	<p>Working to show:</p> <p>80% reduction means that the 2015 figure is 20% of the 1995 figure (1)</p> <p>Or</p> <p>20% of the original total (1)</p> <p>Correct answer is 5811.8 km²(1)</p> <p>Max of 1 mark if no working (or incorrect working) shown but correct answer or correct method and incorrect answer.</p>	(2)

Question number	Answer	Mark
7 (e) (ii)	<p>Award 1 mark for a basic cause, and a further 1 mark for expansion, up to a maximum of 2 marks for each cause.</p> <p>Trees are cleared to grow crops/ cattle ranching (1) as population increases/ to export to other countries (1).</p> <p>Trees are cleared for mining/ oil production (1) as the country seeks to become more developed (1).</p> <p>Trees are cut down for fuel/ firewood (1) as demand rises due to population growth (1).</p> <p>Trees are cleared for timber (1) as rates of urbanisation increase (1).</p> <p>Accept any other appropriate response.</p>	(4)

Question number	Answer	Mark
7 (e) (iii)	<p>Award 1 mark for interpretation of the bar chart (falling rate of deforestation) and 1 mark for a valid reason – and 2 extension marks for the development of this, up to a maximum of 4 marks.</p> <p>The rate of deforestation has fallen since 2004 (1) because of increased protection of the forests by the government (1). This means that clear felling has been banned in some areas (1) and loggers will face significant fines or imprisonment if they do not follow this (1).</p> <p>The rate of deforestation has fallen since 2004 (1) because of the increased importance of ecotourism (1). This means that jobs can be created without damaging the forest (1) which brings money into the local economy and means that fewer trees need to be cut down (1).</p> <p>Accept any other appropriate response.</p>	(4)

Question number	Answer
7 (f)	<p style="text-align: center;">AO2 (4 marks)/ A03 (4 marks)</p> <p>AO2</p> <ul style="list-style-type: none"> • The nutrient cycle involves the movement of nutrients (e.g. phosphates, nitrates) between the physical environment and living organisms. • Nutrient cycling in the tropical rainforest is very rapid. • Many of the soils are old and impoverished and are low in nutrients. • The hot, damp conditions on the forest floor allow for the rapid decomposition of dead plant material. • This provides plentiful nutrients that are easily absorbed by plant roots. • However, these nutrients are in high demand from the rainforests many growing plants. • The nutrients do not remain in the soil for long. They stay close to the surface in the soil. • The thick layer of leaf litter and decomposing organic matter is rapidly broken down by decomposers (bacteria, fungi, termites) which take up the nutrients and release them as wastes when the organisms die. • The plants are able to take up the released nutrients in their roots. • The dense vegetation cover helps to protect the nutrients from leaching. • Human activity is impacting on nutrient cycling (e.g. through deforestation). <p>A03</p> <ul style="list-style-type: none"> • Naturally, the key is the rapid decomposition of dead organic matter. • This is clearly linked to climate. • The hot, wet climate causes rapid decomposition of the leaf litter. • It also provides heat and water to support the rapid growth of vegetation. • Other factors also affect the rate of nutrient cycling. • Human impact has a considerable effect through deforestation - the removal of ground cover lead to the leaching of nutrients (washed out of the soil be heavy rainfall) and to their removal from the cycle when crops are harvested. • The impact of human activity is accentuated by the fact that the soils are relatively nutrient poor and rely on rapid cycling for their fertility. • Evaluation may depend on the location of examples used.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	<ul style="list-style-type: none"> • Demonstrates isolated elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3)
Level 2	4–6	<ul style="list-style-type: none"> • Demonstrates elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Applies understanding to deconstruct information and provide some logical connections between concepts. An unbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3)
Level 3	7–8	<ul style="list-style-type: none"> • Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently leading to judgements that are supported by evidence throughout. (AO3)

Marks for SPGST		
Performance	Marks	Descriptor
SPaG 0	0	<i>No marks awarded</i> <ul style="list-style-type: none"> • Learners write nothing. • Learner's response does not relate to the question. • Learner's achievement in SPaG does not reach the threshold performance level, for example errors in spelling, punctuation and grammar severely hinder meaning.
SPaG 1	1	<i>Threshold performance</i> <ul style="list-style-type: none"> • Learners spell and punctuate with reasonable accuracy. • Learners use rules of grammar with some control of meaning and any errors do not significantly hinder meaning overall. • Learners use a limited range of specialist terms as appropriate.
SPaG 2	2–3	<i>Intermediate performance</i> <ul style="list-style-type: none"> • Learners spell and punctuate with considerable accuracy. • Learners use rules of grammar with general control of meaning overall. • Learners use a good range of specialist terms as appropriate.
SPaG 3	4	<i>High performance</i> <ul style="list-style-type: none"> • Learners spell and punctuate with consistent accuracy. • Learners use rules of grammar with effective control of meaning overall. • Learners use a wide range of specialist terms as appropriate.