



National
Qualifications
2019

2019 Geography

National 5

Finalised Marking Instructions

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General marking principles for National 5 Geography

This information is provided to help you understand the general principles you must apply when marking candidate responses to questions in this paper. These principles must be read in conjunction with the detailed marking instructions, which identify the key features required in candidate responses.

- (a) Marks for each candidate response must **always** be assigned in line with these general marking principles and the detailed marking instructions for this assessment.
- (b) Marking should always be positive. This means that, for each candidate response, marks are accumulated for the demonstration of relevant skills, knowledge and understanding: they are not deducted from a maximum on the basis of errors or omissions.
- (c) If a specific candidate response does not seem to be covered by either the principles or detailed marking instructions, and you are uncertain how to assess it, you must seek guidance from your team leader.
- (d) For credit to be given, points must relate to the question asked.
- (e) There are six types of question used in this question paper, namely
 - A Describe . . .
 - B Explain . . .
 - C Give reasons . . .
 - D Match . . .
 - E Give map evidence . . .
 - F Give advantages and/or disadvantages . . .

For each of these question types, the following provides an overview of marking principles and an example of their application.

A Questions that ask candidates to *Describe* . . . (4-6 marks)

Candidates must make a number of relevant, factual points. These should be key points. The points do not need to be in any particular order. Candidates may provide a number of straightforward points or a smaller number of developed points, or a combination of these.

Up to the total mark allocation for this question

- award **1 mark** for each accurate relevant point
- award **further marks** for development and exemplification.

For example

Question: Describe, in detail, the effects of two of the factors shown. (Modern factors affecting farming.)

Response: New technology has led to increased crop yields, (**1 mark**) leading to better profits for some farmers. (**second mark for development**)

B Questions that ask candidates to *Explain* . . . (4-6 marks)

Candidates must make a number of points that make the process/situation plain or clear, for example by showing connections between factors or causal relationships between events or processes. These should be key reasons and may include theoretical ideas. There is no need for any prioritising of these reasons. Candidates may provide a number of straightforward reasons or a smaller number of developed reasons, or a combination of these. The command word 'explain' is generally used when candidates are required to demonstrate knowledge and understanding.

Award up to full marks for sufficiently accurate and detailed, fully labelled diagrams.

Up to the total mark allocation for this question

- award **1 mark** for each accurate relevant point
- award **further marks** for developed explanations.

For example

Question: Explain the formation of a U-shaped valley.

Response: A glacier moves down a main valley which it erodes (**1 mark**) by plucking, where the ice freezes on to fragments of rock and pulls them away. (**second mark for development**)

C Questions that ask candidates to *Give reasons* . . . (4-6 marks)

Candidates must make a number of points that make the process/situation plain or clear, for example by showing connections between factors or causal relationships between events or processes. These should be key reasons and may include theoretical ideas. There is no need for any prioritising of these reasons. Candidates may provide a number of straightforward reasons or a smaller number of developed reasons, or a combination of these. The command words 'give reasons' are generally used when candidates are required to use information from sources.

Up to the total mark allocation for this question

- award **1 mark** for each accurate relevant point
- award **further marks** for developed reasons.

For example

Question: Give reasons for the differences in the weather conditions between Belfast and Stockholm.

Response: In Stockholm it is dry but in Belfast it is wet, because Stockholm is in a ridge of high pressure whereas Belfast is in a depression. (**1 mark**) Belfast is close to the warm front and therefore experiencing rain. (**Second mark for development**)

D Questions that ask candidates to *Match* . . . (3-4 marks)

Candidates must match two sets of variables by using their map interpretation skills.

Up to the total mark allocation for this question

- award **1 mark** for each correct answer.

For example

Question: Match the letters A to C with the correct features.

Response: A = forestry. (**1 mark**)

E Questions that ask candidates to *Give map evidence* . . . (3-4 marks)

Candidates must look for evidence on the map and make clear statements to support their answer.

Up to the total mark allocation for this question

- award **1 mark** for each correct statement.

For example

Question: Give map evidence to show that part of Coventry's CBD is located in grid square 3379.

Response: Many roads meet in this square. (**1 mark**)

F Questions that ask candidates to *Give advantages and/or disadvantages* . . . (4-6 marks)

Candidates must select relevant advantages or disadvantages of a proposed development and show understanding of their significance to the proposal. Answers may give briefly explained points or a smaller number of developed points. Award marks for accurate map evidence.

Up to the total mark allocation for this question

- award **1 mark** for each accurate relevant point
- award **further marks** for developed points.

For example

Question: Give either advantages or disadvantages of this location for a shopping centre. You must use map evidence to support your answer.

Response: There are roads and motorways close by allowing the easy delivery of goods (**1 mark**) and access for customers, (**second mark for development**) for example the A46, M6 and M69.

Marking instructions for each question

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
1.	(a)		Each answer should be identified with a correct grid reference or named example from the map. 1 mark for a valid point. Gaelic Glossary <i>Meall</i> – summit, hilltop <i>Lairig</i> – mountain pass (often found in hanging valley) <i>Allt</i> – river	4	- there is a U-shaped valley (5534) (1 mark) with a misfit stream at 513368 (1 mark) - there are several corries on the map such as Coire Odhar at 615404 (1 mark) - there is a corrie lochan at 6442 (Lochan nan Cat) (1 mark) - there is an arête at 583385 (Cam Chreag) (1 mark) - Loch Tay is a ribbon loch (1 mark) - there is a truncated spur at 5935. (1 mark) Or any other valid point.
	(b)		1 mark for each valid point. 2 marks for a developed point. Well-annotated diagrams can obtain full marks. Maximum 2 marks for generic statements about erosion processes, including 1 mark for a list of processes. Do not credit references to a stump or named examples of a stack.	4	Stack - waves attack a line of weakness, such as a fault line, in the headland (1 mark) - types of erosion include hydraulic action and corrasion (1 mark) - continuous erosion will open up the crack and it will develop into a sea cave (1 mark) - this can happen due to corrasion where stones and pebbles are repeatedly thrown against the cliff face by wave action, wearing it away (1 mark) - further erosion of the cave, often on opposite sides of the headland, will form an arch (1 mark) - the base of the arch is attacked by the waves until it eventually collapses (1 mark) - this leaves behind a freestanding piece of rock called a stack which is separate from the headland. (1 mark) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
2.	(a)		Each answer should be identified with a correct grid reference. 1 mark for a valid point.	4	- the river is flowing in a South Easterly direction (1 mark) mainly through a narrow steep sided river valley from 500370 to 545350 (1 mark) but between 510367 to 517366 and 525363 to 537356 the valley is wider and flatter (1 mark) - there is a waterfall at 543351 (1 mark) - between 543352 and 570343 the river winds its way through a broad u-shaped valley (1 mark) - the river has a large meander at 560344 (1 mark) - there are tributaries which join the river at many places for example, 563345 (1 mark) - in 5534 the floodplain is more than half a kilometre wide. (1 mark) Or any other valid point.
	(b)		1 mark per valid point. Maximum of 1 mark for list of processes. A series of diagrams with fully explanatory labels may gain full marks. Maximum 2 marks for generic statements about erosion processes such as weathering/carbonation/solution, including 1 mark for a list of processes. Do not credit references to stalagmites or columns (rock pillars) or named examples.	4	- rainwater absorbs CO₂ from the atmosphere, forming acid rain - in areas of carboniferous limestone, acidic rainwater reacts with the rock and dissolves some of it (carbonation) (1 mark) - the dissolved limestone is carried away by running water (solution) (1 mark) - the water travels down below ground through joints/bedding planes in the limestone and drips off the roof a cave (1 mark) - as it does so, some of the water evaporates leaving a deposit of calcite behind (1 mark) - over time these deposits build up to form an icicle shaped deposit of rock hanging from the roof of the cave (1 mark); these are called stalactites and grow very slowly at a rate of no more than a few millimetres per year. (1 mark) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
3.			You must use map evidence in your answer. 1 mark for a valid point. 2 marks for a developed point. Answers should be explanation. Do not accept reverse points. No marks for grid references. For full marks answers must include both advantages and disadvantages. Otherwise mark out of 3. 1 mark for a list of activities.	4	Advantages • there is enough land available so room for ten holiday homes (1 mark) • the lack of contour lines shows the land is flat making building easier (1 mark) • the site is attractive for visitors as it has good views of the river, mountains and Loch Tay (1 mark) • being so close to Loch Tay would make it easy for guests to go fishing or take part in water sports (1 mark) • being located in the National Park, the area is likely to be popular with tourists, which will be good for business. (1 mark) Disadvantages • there is limited access to the site so a better road would have to be built through the countryside (1 mark) • part of this area is within the National Park so planning permission might be harder to get (1 mark) • the site is low lying, so in times of heavy rainfall the area might flood (1 mark) • some of the land (for example at 589332) is marshy so would be difficult to build on (1 mark) • some forestry might need to be removed at 584332 which would affect the local wildlife (1 mark) • this is a quiet area on the edge of a National Park so additional people in the area will increase the amount of noise pollution and litter, negatively affecting the environment. (2 marks) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
4.			1 mark for a valid point. 2 marks for a developed point. Maximum 1 mark for a correct grid reference linked to a valid attraction (accept 4 figure grid references). 1 mark for a list of attractions.	5	- visitors can observe the local wildlife in the National Nature Reserve (1 mark) at 592371 (1 mark) - there are many hills and mountains in the area like Ben Lawers, where visitors can go hill walking or mountain climbing (1 mark) - there are rivers and lochs where sailing and boating is possible (1 mark) - there are many footpaths and tracks in the area for example, at 576350, where visitors can walk through the forest to view the waterfalls (1 mark) - there are places of interest like a castle (576337) a stone circle and a fort for visitors interested in history (1 mark) - the Falls of Dochart attract visitors for the scenery. (1 mark) Or any other valid point.
5.			Mark as follows 4 correct – 4 marks 3 correct – 3 marks 2 correct – 2 marks 1 correct – 1 mark.	4	 30 knots (speed) ✓ (1) wind direction (north) ✓ (1) (sky obscured) ✓ (1) * snow showers (present weather) ✓ (1)
6.			1 mark per valid point. 2 marks for a developed point. Answers should be explanation.	4	- as the cold front approaches, the temperature falls as cooler air replaces warmer air on the surface (1 mark) - cold fronts bring periods of heavy precipitation explaining the heavy showers of rain in the forecast (1 mark) - as the cold front moves past Penzance it will bring clearer conditions (1 mark) and there are less clouds allowing periods of sunshine (1 mark) - the isobars are further apart behind the cold front so winds are lighter (1 mark) - the direction of the isobars changes after the cold front, explaining why the wind will change direction from SW to W. (1 mark) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
7.			1 mark per valid point. 2 marks for a developed point. Answers should be explanation. Candidates may receive credit for a variety of different land use conflicts. 1 mark for a descriptive list of conflicts. Maximum 4 marks if no named area. No marks for solutions. Answers must specify who is affected.	5	Answers will vary depending upon the case study and land uses chosen. If Lake District chosen - the Lake District is a popular tourist area and for some people wind farms spoil the natural beauty of the area (1 mark) - turbines can be highly visible from many directions and can put people off from visiting/returning to the area (1 mark) - there are many tourist related jobs in the area, for example, gift shops and eating-places like the Kirkstone Pass Inn and less tourists will adversely affect the economy of the area (1 mark) as well as leading to unemployment (1 mark) - new larger turbines are to be built within one mile of the Lake District National Park, which is a protected area (1 mark) and due to their increased height will be much more visible from the mountain tops of the Park further destroying the views (1 mark) - some areas of the Lake District are designated SSSI sites and the turbines could affect the local nature and wildlife (1 mark) - some areas like Kirkby Moor will no longer be accessible to visitors preventing people going where they want (1 mark) - many people visit the area to take part in quiet pursuits like painting and bird watching but the turbines destroy the character of the area (1 mark) - the turbines are noisy and affect the peace and quiet of the local villages. (1 mark)

Question	General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
			If Cairngorms chosen • in the Cairngorms, walkers leave gates open and animals escape causing farmers to waste time looking for them (1 mark) • tourists' dogs can worry sheep if let off their lead costing the farmer money in vet fees (1 mark) • stone walls are damaged by people climbing over them instead of using gates/stiles using up the farmer's time to repair (1 mark) • noisy tourists can disturb sheep especially during breeding season causing them to miscarry (1 mark) • farmers may restrict walkers access at certain times for example, lambing season preventing tourists going where they want (1 mark) • farm vehicles can slow up tourist traffic on roads adding extra time to journeys (1 mark) and parked cars on narrow country roads can restrict the movement of large farm vehicles. (1 mark) If Yorkshire Dales chosen • tourists want to see the beautiful and unusual scenery of the Yorkshire Dales but quarries spoil the natural beauty of the landscape (1 mark) • lorries used to remove the stone endanger wildlife and put visitors off returning to the area (1 mark) • this threatens local tourist-related jobs for example, in local restaurants (1 mark) • the large lorries needed to remove the quarried stone cause air pollution which spoils the atmosphere for tourists (1 mark) • lorries cause traffic congestion on narrow country roads which slows traffic and delays drivers (1 mark) • the peace and quiet for visitors is disturbed by the blasting of rock (1 mark) • some wildlife habitats may also be disturbed by the removal of rock (1 mark) • as well as visual and noise pollution, quarries can produce a lot of dust which is unpleasant for nearby residents and visitors (1 mark) and can be spread even further by lorries leaving the quarries. (1 mark) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
8.			Each answer should be identified with a correct grid reference. 4 correct – 4 marks 3 correct – 3 marks 2 correct – 2 marks 1 correct – 1 mark. (wrong answer = 8796)	4	A (new industry) = 9004 B (inner city) = 9101 C (new housing) = 8699 D (CBD) = 9198
9.			1 mark for a valid point. 2 marks for a developed point. If no map evidence, mark out of 5. 1 mark for correct grid reference.	6	- the contour lines are far apart indicating flat land which is easy to build on (1 mark) - the site has room around it for expansion and large car parks (1 mark) - land is cheaper away from the CBD so more room for lower density and large modern buildings (1 mark) - near main roads for example, A4124 for transport of materials and products (1 mark) - the Essington Canal could be used, or may have been used in the past, to transport goods (1 mark) - close to large urban area for labour supply and potential customers (1 mark) - further out from the city centre away from congestion and pollution (1 mark) and surrounding open space makes a more pleasant working environment (1 mark) - workers can relax during breaks in the nearby leisure centre (1 mark) for example, 937996 (1 mark) - the University of Wolverhampton (at 917988) can provide skilled workers. (1 mark) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
10.			1 mark for a valid point. 2 marks for a developed point. 1 mark for correct grid reference linked to a valid point.	4	- the ring road around the CBD allows traffic to by-pass the busiest part of the city (1 mark) - there are numerous roundabouts and sections of dual carriageway to help traffic flow better (1 mark) - the bus station provides public transport reducing number of cars in CBD (1 mark) - the train station offers an alternative form of public transport reducing the number of cars in the city centre (1 mark) - Park and Ride stations allow drivers to park outside the centre (1 mark) for example, 933983 (1 mark) - there is a tramway and tram stations providing easy access to Wolverhampton from the south east (1 mark) - there are multiple routes into the centre of Wolverhampton so all the traffic is not using the same road especially at rush hour (1 mark) - there are traffic-free cycle routes along the canal towpath (for example at 918991) giving a safe way for commuters to bike into the city rather than using their cars. (1 mark) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
11.			1 mark for a valid point. 2 marks for a developed point. Maximum of 1 mark for a list of improved facilities (for example better housing, better toilets, better water supplies). If no specific city/slum is referred to, mark out of 3.	4	If Rio de Janeiro chosen • wooden shacks have been upgraded to permanent dwellings with some services (1 mark) for example, clean-piped water has been provided to help reduce the spread of diseases (1 mark) • self-help schemes are where local people are provided with materials like bricks to upgrade their homes (1 mark) • some prefabricated houses have been built in Rocinha by the Brazilian Government (1 mark) with basic facilities like toilets and electricity (1 mark) • the residents have been given legal rights to the land where their house is built (1 mark) • roads have been built/improved in the favela allowing services like rubbish collections to take place (1 mark) • in some favelas cable car systems have been constructed to improve transport for residents (1 mark) • there have been some schools and health clinics provided for residents (1 mark) • some charities have also donated money to help improve the standard of living of people in slum housing (1 mark) for example, by providing computers in schools (1 mark) • security has been improved by having more police patrols (1 mark) which have helped to reduce drugs related crime. (1 mark) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
12.			1 mark for each valid point. 2 marks for a developed point. For full marks, answers should refer to both advantages and disadvantages, otherwise mark out of 5.	6	Advantages Diversification • helps to boost the farmers' income when they use other ventures such as farm shops (1 mark) • farmers become more independent and less reliant on subsidies (1 mark) • visiting a farm means people experience rural landscapes and outdoor activities (1 mark) • the farmer makes an income from non-farming activities such as accommodation, farm shops, quad-biking, farm attractions, agricultural exhibits, wildlife tours, and country sports (1 mark) • wind farm development on farming land also generates extra income. (1 mark) Government Policy • in the UK, the Department for Food & Rural Affairs (DeFRA) or the Scottish Rural Development Programme (SRDP) supports farming industry by providing subsidies (1 mark) • DeFRA regulates policies which improve animal health and welfare regulations (1 mark) • Government demands disease control in plants and animals to maintain high standards of produce (1 mark) • the Government funds and supports research into agriculture which in turn improves farming practices (1 mark) • CAP Common Agricultural Policy helps farmers to maintain stable prices and guarantees a steady income (1 mark) • previously, farmers used set-aside land to prevent over-production of certain crops (1 mark) • grants available for environmental improvements (1 mark) such as tree planting or planting hedges in rural land. (1 mark)

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
					GM - genetically modified crops can increase crop yields (1 mark) and improve resistance to disease (1 mark) - more tolerant crop varieties could be grown in areas where they couldn't be previously grown (1 mark) - GM crops reduce the need for pesticides which is less harmful to insects and bees. (1 mark) New technology - the use of machinery for example, combine harvesters continues to speed up harvesting and results in the product being delivered to markets fresher (1 mark) - using GPS to manage field operations or animal feeding saves time (1 mark) - computerised water management/irrigation can increase crop production (1 mark) - polytunnels can improve crop yield and quality (1 mark) - chemical fertilisers and insecticides are widely used to improve production on farms (1 mark) - less labour is required which might help to increase farmers' profit margins (1 mark) - drones may be used to survey fields of crops which helps farmers to quickly identify problems (1 mark) - satellite technology/computers used to control the application of fertilisers to particular areas of fields (1 mark) improving yields (1 mark) whilst decreasing the cost and waste as only the required amounts are delivered to each segment according to the soil quality there. (2 marks) Organic farming - chemical-free food is grown to meet consumer demands (1 mark) - decreased water pollution due to no chemical run-off (1 mark) protecting aquatic wildlife (1 mark) - organic produce often sells for a higher price potentially giving farmers a larger income. (1 mark)

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
					Disadvantages Diversification • rising tourist numbers in rural areas causes traffic congestion and increased air pollution (1 mark) • dry stone walls are damaged by people climbing over them (1 mark) and footpath erosion damages the natural landscape (1 mark) • increased litter spoils the look of the landscape and can be harmful to wildlife, for example, livestock can choke on plastic bags (2 marks) • tourist facilities for example, campsites detract from the natural look of the countryside (1 mark) • rivers and lochs used for water sports are polluted. (1 mark) Current government policy • it is unclear what impact Brexit will have on UK farmers (1 mark) because they could lose EU funding/grants or face reduced subsidies when they are no longer part of a Common Agricultural Policy. (1 mark) GM • many people disagree with GM crops arguing that it may have a negative impact on the natural environment (1 mark) • there are health concerns around the use of GM seeds and therefore some people believe they should not be used by farmers. (1 mark)

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
					New technology - increased noise and air pollution from large machinery (1 mark) - the cost of buying and maintaining equipment and machinery is expensive (1 mark) - fewer jobs are available and as people become unemployed they move away to find work, leading to rural depopulation (2 marks) - overuse of agricultural chemicals may result in environmental damage (1 mark); ponds and lochs may suffer from eutrophication caused by excess chemical fertilisers (1 mark) - loss of animal habitats for example, hedgerows which were removed to increase field size and accommodate large machinery. (2 marks) Organic farming - this type of farming is more labour intensive as it takes the farmer more time and effort to grow crops (1 mark) - gaining organic farming status takes time which negatively affects farmers' income at first. (1 mark) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
13.			1 mark for each valid point. 2 marks for a developed statement. Answer should be explanation. No marks for purely descriptive points. For full marks, answers should refer to both birth rates and death rates, otherwise mark out of 5.	6	• there is a higher proportion of the population of Bolivia under the age of 15 because birth rates are higher in developing countries where fewer women get the chance of an education (1 mark) and there is less use of contraception (1 mark) and information on birth control is less easily accessed (1 mark) • child mortality rates are higher in Bolivia so people have many children in order to ensure that some survive (1 mark) • many families in Bolivia have lots of children so they can contribute to the family income when old enough and look after them in old age (2 marks) • gender equality in the Netherlands means that there are plenty of career opportunities for women and this reduces birth rates (1 mark) • birth rates are also lower in the Netherlands as women tend to choose to have fewer children later in life (1 mark) • in developed countries like the Netherlands people tend to favour lifestyle over larger families (1 mark) and children are expensive to raise, so people have fewer (1 mark) • there is a larger proportion of the population over 60 in the Netherlands because more people have the chance of medical treatment than in Bolivia where there is less money to set up health centres and hospitals (2 marks) • there is a higher proportion of the population over the age of 60 in the Netherlands as there is clean drinking water so less chance of catching diseases like typhoid (1 mark) and plenty of food to eat, so fewer people die of malnutrition (1 mark) • the Netherlands also have pension schemes and facilities to support elderly people for example, care homes so death rates are lower. (2 marks) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
14.	(a)		1 mark per valid point. Maximum of 3 marks for CO₂ or temperature. One mark for a trend without figures.	4	• as CO₂ concentration increases so does the average global temperature (1 mark) • the amount of CO₂ has increased between 1880-2010 up to 400 PPM (1 mark) • the largest increase in the amount of CO₂ was 80 PPM between 1970-2010 (1 mark) increasing from 320 PPM to 400 PPM (1 mark) • the average surface temperature has overall increased from 13·8°C to 14·6°C (1 mark) • the largest increase in global temperature was between 1895-1900 when it increased by 0·2°C (1 mark) • the largest decrease in global temperature was between 1900-1910 when it decreased by 0·25°C. (1 mark) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
	(b)		1 mark per valid point. 2 marks for a developed point. 1 mark for a list.	6	- industries and domestic users of energy are encouraged to use it more efficiently through media awareness campaigns (1 mark) - people are encouraged to walk, cycle, or use public transport rather than fossil-fuel powered cars (1 mark) - bus lanes and cycle lanes designated to encourage people not to use their car (1 mark) - people use smaller more energy-efficient cars or electric cars (1 mark) - London Congestion Charge: drivers pay for driving in the Congestion Charge Zone to cut the pollution generated from exhaust fumes (1 mark) - Government tax is significantly reduced on vehicles with low CO₂ emissions (1 mark) - encourage people to holiday at home to reduce the number of aircraft journeys taken (especially short-haul flights) (1 mark) - educate people to switch off lights, power sockets, phone chargers and TVs when not in use (1 mark) - recycle and reuse plastics and oil-based products (1 mark) - the UK Government now levy a charge of 5p for every carrier bag (1 mark) - local councils supply bins to help householders recycle various products (1 mark) - use energy-efficient light-bulbs and rechargeable batteries to conserve energy (1 mark) - Government grants to help home owners insulate house roofs and use more efficient heating systems (1 mark) - install solar panels on house roof to generate renewable energy (1 mark) or switch to an electricity supplier that supplies green electricity (1 mark) - scientists observe and measure changes in temperature, CO₂ emissions and rising sea levels to monitor the rate of climate change and advise world leaders about the need for action (2 marks) - developed countries switch from fossil fuels to alternative sources of energy in order to reduce the amount of CO₂ in the atmosphere (1 mark) - countries find new types of energy for example, biofuels (1 mark)

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
					- industries develop and expand existing sources that are more sustainable than fossil fuels for example, solar, wind and wave power (2 marks) - developing countries reduce deforestation and increase afforestation (2 marks) - world summits enable governments to get together and discuss global strategies to try to reduce their use and consumption of carbon-based fossil fuels (1 mark) - many governments signed the Kyoto Protocol/Paris climate agreement, committing them to reducing greenhouse gas emissions (1 mark) - the UN climate summit 2014 enabled world leaders to agree actions intended to avert the worst effects of climate change (1 mark) - governments ban the use of harmful substances for example, CFCs (1 mark) - the Carbon Credits Scheme is aimed at reducing greenhouse gas emissions by making the polluter pay according to how much pollution they generate. (2 marks) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
15.	(a)		1 mark per valid point. Maximum of 3 marks for deforestation or for land protected. One mark for a trend without figures. No mark for highest/lowest.	4	- as deforestation levels have decreased, the percentage of land being protected has increased in Brazilian Amazon (1 mark) - deforestation levels fell from 30,000 km² in 1995 to 18,000 km² in 1996 (1 mark) - then decreased further from 18,000 km² in 1996 and to 14,000 km² in 1997 (1 mark) - deforestation then rose steadily from 1997 to 29,000 km² in 2004 (1 mark) - after that deforestation levels have decreased to 12,000 km² in 2007 (1 mark) with a slight rise to 14,000 km² in 2008 (1 mark) and continued to decrease to 4,000 km² in 2012 (1 mark) before rising to reach 6000 km² in 2015 (1 mark) - percentage of protected land has risen steadily from 20% in 1995 to 40% in 2010 (1 mark) - it then rose sharply to 48% by 2012. (1 mark) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
	(b)		Answer will depend on area of study chosen. 1 mark per valid point. 2 marks for a developed point. Maximum of 5 marks if no reference to a named area.	6	• since 2003, over half of the Brazilian Rainforest has been designated as national parks/forest reserves/indigenous lands, (1 mark) effectively protecting an area larger than Greenland from intensive logging and agriculture (1 mark) • trees are selected for felling when they reach a particular height which allows young trees a guaranteed life span and the forest to regain full maturity after around 30-50 years (1 mark) • if trees are cut down, they are replaced in order to maintain the canopy and encourage re-afforestation (1 mark) • to monitor the pace of deforestation, the Brazilian Space Agency launched its DETER satellite in 2004. (1 mark) This monitoring in Brazil is estimated to have prevented deforestation of 59,000 km² of rainforest from 2007 to 2011 (1 mark) • the Brazilian government has increased law enforcement on rainforest crime by focusing their efforts on patrolling roads leading into the rainforest (1 mark) • agro forestry – growing trees and crops at the same time lets farmers take advantage of shelter from the canopy of trees and prevents soil erosion (1 mark) the crops benefit from the nutrients from the dead organic matter (1 mark) • with the goal of reducing emissions from deforestation, the UN established the Reducing Emissions from Deforestation and Forest Degradation Programme at the 2007 climate summit in Bali (1 mark) • through this program, industrialized countries with high carbon emissions pay for carbon storage by preserving forests in developing countries. (1 mark) This offers developing countries additional economic incentives to preserve their forests and to keep emissions low. (1 mark) Any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
16.	(a)		1 mark per valid point. Answer should be a comparison. One mark for a trend without figures.	4	- tropical storms of all categories are more frequent in the Northwest Pacific (1 mark) - in both the Northeast and the Northwest Pacific category 1 tropical storms are most frequent (1 mark) - the Northwest Pacific has around 85 more category 1 tropical storms than the Northeast (1 mark) - in the Northwest Pacific there are at least 100 events in each category of tropical storm, whereas in the Northeast only category 1 tropical storms reach this amount (1 mark) - there is a large difference in category 4 and 5 events with the Northwest having around 350 whilst the Northeast has around 90 (1 mark) - the largest difference is in category 5 tropical storms, with the Northwest having around 175 compared to the Northeast of around 10 (1 mark) a difference of 165. (1 mark) Any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
	(b)		1 mark per valid point. A fully annotated diagram could achieve full marks if sufficiently detailed.	6	- tropical storms may form when seeded by sand or dust blown offshore from hot deserts such as the Sahara (1 mark) - tropical storms form over warm oceans which allows heat and moisture to rise upward from the surface of the water and tropical storms need this to fuel their development. (1 mark) Sea temperatures have to be approximately 26 °C (1 mark) - this air moves up and away from the surface so there is less air left near the surface causing an area of low pressure to form (1 mark) - air from surrounding areas with higher air pressure moves into the low pressure area, then the new air becomes warm and moist and rises adding more fuel to the system (1 mark) - as the warmed, moist air rises it begins to cool off, condense and the water in the air forms clouds (1 mark) - the whole system of clouds and wind spins and grows, fuelled by the ocean's heat and water evaporating from the surface (1 mark) - the spinning is caused by the rotation of the earth on its axis (1 mark), this is called the Coriolis effect (1 mark) - as the storm system rotates faster and faster, an eye forms in the centre (1 mark) - tropical storms weaken when they hit land because they are no longer fed by the energy from the warm ocean waters (1 mark) - tropical storms may form when seeded by dust or sand from hot deserts such as the Sahara. (1 mark)

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
17.	(a)		1 mark for a general change without figures. Answer must refer to changes. No marks for highest and lowest. Maximum of 3 marks for export values or for country rankings.	4	• in 1994 the world's top exporter was the USA but by 2014 it was China (1 mark) • in 1994 the USA was the world's largest exporter with approximately \$600 billion but by 2004 the USA was the second largest exporter (1 mark) and by 2014 the USA remained the second highest exporter with \$1600 billion (1 mark) • in 1994 Japan was the third largest exporter with approximately \$450 billion but by 2004 it wasn't ranked in the top three (1 mark) • Germany ranked as the second highest exporter in 1994 with \$500 billion but by 2004 it was the highest exporter (1 mark) • by 2014 Germany had dropped down again to third place with \$1600 billion. (1 mark) Or any other valid point.
	(b)		1 mark for a valid point. 2 marks for a developed point. If no examples are mentioned, mark out of 5.	6	• there is a large imbalance in trade between developed and developing countries; this can reinforce differences in wealth between areas such as the EU and Africa (1 mark) • typically, European countries experience a trade surplus while African countries experience a trade deficit (1 mark) • African countries export mainly primary products such as tea and cotton for comparatively low prices but import mainly processed/manufactured goods such as vehicles for much higher prices (2 marks) which can result in a trade loss for them (1 mark) • this can increase levels of poverty within African countries and cause difficulties for their economy (1 mark) • wealthy European countries profit from selling expensive manufactured goods to African countries (1 mark) and experience a trade surplus resulting in a greater income and a high standard of living for their citizens (2 marks) • trading blocs such as the EU can have a big impact on world trade patterns (1 mark) because there is free trade between member states (1 mark) • political ideology and sanctions can also impact world trade patterns such as in North Korea or Iran. (1 mark) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
18.	(a)		Changes in international visitor numbers and visitor spend to be described with reference to figures and years. Maximum of three marks for international visitor numbers or for international visitor spend. 1 mark for an overall trend 1 mark for each valid point. No marks for highest/lowest.	4	• overall the number of international visitors to Scotland has increased between 2005 and 2017 (1 mark) • it has gone up from about 2.4 million people to 3.2 million people by 2017 (1 mark) • this is an overall increase of 0.8 million international visitors (1 mark) • there are years when it has gone down such as from 2007 to 2008 when it dropped from 2.7 to 2.5 million. (1 mark) The biggest increase was from 2016 to 2017 when numbers increased from 2.7 to 3.2 million (1 mark) • between 2005 and 2017 international visitor spend has gone up from £1.1 billion to around £2.3 billion (1 mark) • the biggest increase in visitor spend was between 2016 and 2017 when it increased from £1.8 billion to £2.3 billion (1 mark) • an increase of £500 billion in one year (1 mark) • between 2014 and 2015 international visitor spend dropped from £1.8 billion to £1.7 billion. (1 mark) Or any other valid point.

Question		General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
	(b)	1 mark for each valid point. 2 marks for a developed point. Mark out of 5 if no reference to a named area.	6	- eco-tourism aims to promote tourism which conserves the local environment (1 mark) - it also encourages an understanding of the culture and way of life in local area (1 mark) - eco-tourism aims to inform and educate tourists about the natural environment of an area (1 mark) - it should benefit and provide employment for local people (1 mark) such as travel guides/rangers (1 mark) - money raised from eco-tourism should be used to benefit and conserve the local area (1 mark) - should not impact negatively on local area in any way (1 mark) - local people should have a say in the promotion of tourist developments (1 mark) - ecotourism can provide funding for the protection of national parks and other natural areas which might not be available from other sources (1 mark) - ecotourism can provide earnings for local communities with few other income – generating options (1 mark) - ecotourism can increase the level of education among travellers, making them more aware of and enthusiastic about conservation (1 mark) for example, Kenya's incredible natural diversity is protected in some 50 national parks and reserves (Maasai Wilderness Conservation Trust). (1 mark) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
19.	(a)		1 mark for each valid point. 1 mark for a trend.	4	• Infant mortality is highest in developing countries (1 mark) • Europe, North America and Australasia have the lowest rates of child mortality numbers at between 1-25 per 1000 children (1 mark) • most of South America has child mortality rates of between 1–25 apart from Bolivia which has the greatest rates at 51-75, (1 mark) with Guyana and Paraguay having between 26-50 (1 mark) • the continent with the worst child mortality rates is Africa with only Libya having between 1-25 (1 mark) • countries like Nigeria, Ghana and Mali have the highest rates between 101–300 (1 mark) • Afghanistan has the highest rates in Asia with between 101–300 children, (1 mark) followed by Pakistan with between 76-100. (1 mark) Or any other valid point.

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
	(b)		No marks for simple description of any control methods. Answers should be explanatory. 1 mark per valid point and two for a developed point. If more than one disease mentioned, then give marks for the highest scoring answer.	6	If heart disease chosen - the incidence of heart disease can be reduced through education about positive lifestyle choices. These might include taking regular exercise to help maintain a healthy heart (1 mark) and avoiding too much fatty food to help reduce the build-up of cholesterol in arteries (1 mark) - eating healthily and maintaining a healthy weight will help to reduce strain on the heart (1 mark) - as people become more aware of the risks, more people choose to follow healthy lifestyle options in order to reduce the risk of suffering from heart disease (1 mark) - treatment for people with heart disease usually includes the use of different types of medicines such as Rivaroxaban and Warfarin (1 mark) which are designed to thin the blood to reduce the chance of blood clotting (1 mark) - other medicines called statins help to reduce cholesterol, reducing the risk of a heart attack (1 mark), while others are called beta blockers which help to slow down the heart rate, reducing strain on it (1 mark) - sometimes heart surgery such as a bypass operation is required to repair a damaged part of the heart (1 mark), stents can be used to widen narrowed blood vessels (angioplasty) (1 mark) or in the most severe cases patients may be given a heart transplant because their own heart is too weak or damaged. (1 mark)

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
					If cancer chosen • treatment for cancer may include surgery to remove a tumour (1 mark) • radiation can be used to target a tumour and either destroy it or at least reduce its size (1 mark) • chemotherapy is a common treatment for different types of cancer – this uses drugs to target tumour(s) throughout the body (1 mark) and helps to slow down their growth or destroy them completely (1 mark) • health campaigns help to educate people about the healthy lifestyle choices which they can make to reduce the risk of contracting cancer. These include stopping smoking as there is a proven link between smoking and lung cancer (1 mark) • choosing to eat a healthy diet with plenty of fresh vegetables and fruit for example, is better for you than lots of processed foods, some of which have been associated with a higher cancer risk (1 mark) • there are many screening programmes in operation now where everyone in certain age groups is offered a test to check whether or not they have certain types of cancer, such as breast or bowel cancer (1 mark) • if cancer is caught early in this way it is much more likely to be curable (1 mark) and so the death rate from these types of cancer has been reduced by earlier detection (1 mark) • people are also encouraged to check themselves for any suspicious lumps and to see their doctor if they find one, which can also help to increase survival rates (1 mark) • as obesity is one of the biggest factors increasing the risk of cancer, there are nationwide campaigns aimed at encouraging people to maintain a healthy weight. (1 mark)

Question			General marking instructions for this type of question	Max mark	Detailed marking instructions for this question
					If asthma chosen • treatment for asthma usually involves the use of an inhaler which helps to deliver medication directly into the airways when breathing in (1 mark) • certain types of inhalers (reliever inhalers) aim to relax the muscles around narrowed airways, allowing breathing to become easier and more regular (1 mark) • other types of inhaler (preventer inhalers) deliver medication over a longer time to help prevent the onset of an asthma attack (1 mark) • sometimes oral medication such as steroid tablets can be used to treat patients where inhalers are not having the desired effect (1 mark) • other ways of helping to reduce the incidence of asthma involve targeting the environment in which people live. Some people are allergic to house dust mites, triggering asthma, and so reducing the amount of dust in a house can help to prevent this happening (1 mark) • dust can be reduced by regular dusting and cleaning for example, and the use of barrier materials on bed covers and mattresses (1 mark) • making sure that there are no areas of damp or mould in a house can help as breathing in mould spores may increase the risk of asthma (1 mark) • governments can help to reduce the incidence of asthma by reducing air pollution, especially in congested cities, where microscopic particles of pollution from car exhausts for example, have been shown to lead to many breathing difficulties including asthma (1 mark) • methods of doing this might include introducing a Low Emissions Zone (LEZ) for vehicles in the city centre and more environmentally friendly methods of transport such as walking, cycling or trams. (1 mark) Or any other valid point.

[END OF MARKING INSTRUCTIONS]