National
Qualifications
2019

2019 Geography

Global Issues and Geographical Skills

Higher

Finalised Marking Instructions

These marking instructions have been prepared by examination teams for use by SQA appointed markers when marking external course assessments.

General marking principles for Higher Geography

Always apply these general principles. Use them in conjunction with the detailed marking instructions, which identify the key features required in candidates' responses.

(a) Always use positive marking. This means candidates accumulate marks for the demonstration of relevant skills, knowledge and understanding; marks are not deducted for errors or omissions.

(b) If a 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.

(c) Where the candidate does not comply with the rubric of the paper and answers two parts in one section, mark both responses and record the better mark.

(d) Marking must be consistent. Never make a hasty judgement on a response based on length, quality of handwriting or a confused start.

(e) Use the full range of marks available for each question.

(f) The detailed marking instructions are not an exhaustive list. Award marks for other relevant points.

(g) Award marks only where points relate to the question asked. Where candidates give points of knowledge without specifying the context, award marks unless it is clear that they do not refer to the context of the question.

(h) Award marks for knowledge/understanding where points are

- relevant to the issue in the question
- developed (by providing additional detail, exemplification, reasons or evidence)
- used to respond to the demands of the question (for example evaluate, analyse).

Marking principles for each question type
There is a range of question types in this question paper. For each question type, the following provides an overview of marking principles, and an example.

***Describe* questions**
Candidates gain marks for making 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. Candidates must provide more than an outline or list to gain marks. They could refer to, for example, a landscape feature, a landscape formation process, a situation or facts demonstrating geographical knowledge.

***Explain* questions**
Candidates gain marks for explaining or suggesting reasons for the cause or impact of something, or for referring to causal connections and relationships. Candidates must do more than describe to gain marks here.

- Where the question asks about a landscape feature, candidates should refer to the processes leading to landscape formation.
- For a source-based question, candidates should make use of these and refer to them within their answer for full marks.

Where candidates provide a purely descriptive answer, or one where development is limited, award no more than half the available marks for the question. Other questions look for candidates to demonstrate higher-order skills and will use command words such as analyse, evaluate, to what extent, and discuss.

Analyse **questions**
Candidates gain marks for identifying parts, the relationship between them, and their relationships with the whole; and for drawing out and relating implications. Award an analysis mark where candidates use their knowledge and understanding or a source to identify relevant components (for example of an idea, theory, argument) and clearly show at least one of the following

- links between different components
- links between component(s) and the whole
- links between component(s) and related concepts
- similarities and contradictions
- consistency and inconsistency
- different views or interpretations
- possible consequences or implications
- the relative importance of components
- understanding of underlying order or structure.

Where candidates are asked to analyse they should identify parts of a topic or issue and refer to the interrelationships between, or impacts of, various factors. For example, where a question asks for an analysis of the soil-forming properties which lead to the formation of a gley soil, candidates should refer to how the various soil formatting properties contributed to its formation.

Evaluate **questions**
Candidates gain marks for making a judgement of the success, failure, or impact of something based on criteria. They should give a brief description of the strategy or project being evaluated, before offering an evidenced conclusion.

Account for **questions**
Candidates gain marks for giving reasons which are often (but not exclusively) from a resource, for example: for a change in trade figures; a need for water management; or differences in development between contrasting developing countries.

Discuss **questions**
Candidates gain marks for exploring ideas about a project, or the impact of a change. They should consider different views on an issue or argument. This might not be a balanced argument, but they should give a range of impacts or ideas within their answer.

To what extent **questions**
Candidates gain marks for considering the impact of a management strategy or strategies they have explored. They should give a brief description of the strategy or project being evaluated, before offering an evidenced conclusion. They do not need to offer an overall opinion based on a variety of strategies, but should assess each separately.

Marking instructions for each question

Section 1 — Global issues

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
1.	(a)		Award **1 mark** for each limited explanation.	**10**	• population increase would require additional water for domestic use **(1 mark)** • projected figure of 140 million in 2030 is double the population in 2000 **(1 mark)** • almost three quarters of the workforce depend on agriculture and can now grow crops during dry months **(1 mark)** and irrigation is required for crop production throughout the year **(1 mark)** • this would also allow increased crop production for export **(1 mark)** • a lack of rainfall from November — March increases the need for water to be stored **(1 mark)** • the irregular/seasonal flow of the Blue Nile, **(1 mark)** ranging from 200 cumecs from February — April to 5,600 cumecs in July/August **(1 mark)** can be managed to reduce the threat of flooding **(1 mark)** and to also allow for all-year round navigation **(1 mark)** • only 24% of the country has access to electricity, HEP from the dam could be used to improve this **(1 mark)** • excess energy produced could be exported to neighbouring countries such as Sudan **(1 mark)** • improved sanitation means that far less of the population will be at risk from diseases. **(1 mark)**

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
	(b)		Answers must discuss the possible negative impacts. Both socio-economic and environmental factors need to be mentioned to gain full marks. **1 mark** should be awarded for a developed explanation, or a more straightforward impact linked to the case study. Award a **maximum of 7 marks** if the answer is vague/does not relate to a specific named water management project. Award **2 marks** where candidates give specific named examples within the case study area, which develop the answer.	**10**	For example the Grand Ethiopian Renaissance Dam • the displacement of 20,000 people from the site of the dam **(1 mark)** resulting in cost of resettlement to other areas **(1 mark)** • those forced to relocate were mainly farmers with limited education, who found it difficult to find jobs **(1 mark)**, resulting in less income and a poorer quality of life **(1 mark)** • the project is very expensive, costing about US$ 5 billion **(1 mark)**, this is 15% of Ethiopia's GDP/60% of the total annual budget **(1 mark)**, which critics claim could have been better spent on health or education **(1 mark)** • HEP is only possible during the three month wet season **(1 mark)** • lower amounts of water reaching Egypt's Aswan Dam has resulted in 20% less electricity being produced there **(1 mark)** • Reduced flow from the Blue Nile into downstream countries such as Egypt of up to 25% **(1 mark)** and resulting loss of farmland through lack of irrigation **(1 mark)** • the reservoir flooded Ethiopian forest, with loss of wildlife **(1 mark)** • High temperatures mean water will be evaporated each year from the reservoir **(1 mark)** • the reservoir will silt up and becoming less efficient over time **(1 mark)** • less silt in the Blue Nile downstream **(1 mark)** which is used as a fertiliser, means farmers need to buy expensive artificial fertiliser **(1 mark)**; with increased threat of water pollution and danger to aquatic life **(1 mark)** • Sudan's brick industry relies on the river silt as a raw material **(1 mark)** • the dam's pressure on the faulted and cracked rocks in this part of the East African Rift Valley could trigger earthquakes (**1 mark)**, causing a collapse and loss of lives and property downstream. **(1 mark)** Or any other valid point.

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
2.	(a)		Award **1 mark** for each valid point.	**6**	Points may include • high percentage of a family's income may be spent on doctors' visits/drugs **(1 mark)** • this reduces the amount of money which can be spend on food/education **(1 mark)** • breeding season of mosquitoes coincides with harvesting time **(1 mark)** if families can't harvest crops, this leads to malnutrition **(1 mark)** • high proportion of nations GDP is spent on combatting disease leaving less to spend on improving infrastructure **(1 mark)** • high levels of absenteeism leads to lower literacy rates **(1 mark)** and this can lead to a less skilled workforce in the future **(1 mark)** • tourists may avoid the area reducing revenue from visitors **(1 mark)** • foreign companies may not invest in the area due to an unreliable workforce. **(1 mark)** Or any other valid point.

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
	(b)		Award **1 mark** for each valid explanation. Award up to **2 marks** where candidates give appropriate named examples which develop the answer, with a maximum of 1 mark should be awarded for a named example of each strategy	**14**	Points may include • one method used was to spray pesticides/insecticides on walls in homes in an attempt to kill the Anopheles mosquitoes. **(1 mark)** For example, DDT **(1 E mark)** • breeding genetically-modified sterile mosquitoes. **(1 mark),** these cause the species to die out **(1 mark)** Other GM mosquitoes are unable to carry the parasite **(1 mark)** these are dominant mosquitoes and would outcompete the others **(1 mark)** • specially designed mosquito traps use CO_2 to mimic animals and humans **(1 mark)** BTI bacteria artificially grown in coconuts. **(1 mark)** The fermented coconuts are broken open after a few days and thrown into the mosquito larvae-infested ponds. **(1 mark)** The larvae eat the bacteria and have their stomach lining destroyed **(1 mark)** • putting larvae-eating fish into stagnant ponds or padi fields, **(1 mark)** such as the muddy loach **(1 E mark)** • flushing reservoirs every seven days **(1 mark)** as it takes longer than this period of time for the larvae to develop into adult mosquitoes **(1 mark**) • planting eucalyptus trees can help soak up excess moisture **(1 mark)** and reduce the amount of stagnant water/remove the breeding grounds **(1 mark)** • covering standing water and water storage cans, **(1 mark)** for example the Oxfam bucket, **(1 EG mark)** reduces the chances of mosquitoes breeding near to homes or villages **(1 mark)** • medication to kill the parasite/prevent infection **(1 mark)** such as quinine/chloroquine/Lariam/Malarone/Artemisia **(1 EG mark)** • trials have produced a vaccine **(1 mark)** such as RTS,S/Mosquirix **(1 mark)** which has now been recommended as being safe for use, as prevention is better than cure **(1 mark)** • educating people in the use of insect repellents **(1 mark)** or covering the skin at dawn/dusk **(1 mark)** when mosquitoes are most active, to reduce the chances of being bitten **(1 mark)** the increased use of insecticide-coated mosquito nets at night. **(1 mark)** For example the WHO's 'Roll Back Malaria' campaign. **(1 mark)** Or any other valid point.

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
3.	(a)		**1 mark** should be awarded for each valid point. Markers should take care not to credit human causes of climate change.	**8**	Possible answers may include **Physical Causes** • Milankovitch's theory: changes in the earth's orbit/tilt **(1 mark)** alter the amount of energy reaching the Earth **(1 mark)** • every 41,000 years, there is a change in the tilt of the Earth's axis. **(1 mark)** A greater tilt means more sunlight in polar regions **(1 mark)** and over a 97,000-year cycle, the Earth's orbit stretches **(1 mark)** • global temperatures can be raised by peaks of sunspot activity, **(1 mark)** which follow an 11-year pattern **(1 mark)** • after volcanic eruptions, large amounts of dust and droplets of sulphur **(1 mark)** may reflect the sun's rays lowering temperature **(1 mark)** • retreating ice caps release additional fresh water **(1 mark)** leading to changes in oceanic circulation. **(1 mark)** This also reduces the albedo effect **(1 mark)** as reflection has decreased as more land is exposed. **(1 mark)** Methane being released from melting permafrost. **(1 mark)**. Or any other valid point.

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
	(b)		Award **1 mark** for each limited explanation. Award up to **2 marks** where candidates give appropriate named examples which develop the answer.	**12**	Possible answers may include **Local** • individuals can reduce, reuse and recycle products so that less refuse is sent to landfill sites. **(1 mark)** This will reduce the amount of methane entering the atmosphere **(1 mark)** • to reduce the amount of carbon dioxide generated by the burning of fossil fuels, **(1 mark)** households could reduce energy consumption by insulating their homes or switching lights off, etc **(1 mark)** • people could also be encouraged to use public transport, walk or cycle, **(1 mark)** or use hybrid or electric cars to cut down on fossil fuel consumption **(1 mark)** • disposal of older fridges should be managed carefully to ensure CFC gases don't escape. **(1 mark)** New cooling units no longer emit CFC's. **(1 mark)** **National** • Government Policies such as 'Helping Households to cut their Energy Bills' **(1 E mark)** encourages the use of smart meters improving energy efficiency **(1 mark)** • increasing the use of low carbon technologies such as windfarms **(1 mark)** — the UK Government is committed to creating 15% of energy by renewable source. **(1 mark)** **Interational** • the Paris Agreement **(1 E mark)** outlined agreements between leaders of developed and developing countries to limit climate change to below a 2°C rise **(1 mark)** • the European Union has committed to reducing carbon emissions by 20% by 2020. **(1 mark)** The EU will reward developing countries financially **(1 mark)** • preparing for extreme weather events such as flooding **(1 mark)** defences could be built to hold back flood water. **(1 mark)** for example **The Thames Flood Barrier (1 EG mark)** Credit any other valid responses.

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
4.	(a)	(i) and (ii)	**1 mark** should be awarded for each trend. **1 mark** should be awarded for evidence from the graph. Award a **maximum of 3 marks** for description of the graph.	**10**	There is an initial drop from 1980 to 1982 **(1 mark)** from 180 to 170 qBtu. **(1 mark)** There is a gradual rise until 2005 **(1 mark)** when it reaches 250 qBtu. **(1 mark)** Consumption levels off from 2005 until 2010. **(1 mark)** The increase then rises more slowly until 2018 **(1 mark)** where it reaches 270 qBtu. **(1 mark)** This level is projected to continue to 2030. **(1 mark)** The periods of increasing energy consumption may be due to • increased vehicle ownership due to 2 or more car household **(1 mark)** therefore increased demand for petrol **(1 mark)** • increased ownership of electronic devices such as computers **(1 mark)** due to changing technology and affordability **(1 mark)** • increased standard of living and/or more single occupancy households **(1 mark)** leading to more houses with central heating systems. **(1 mark)** For developed countries, the rate of increase in energy consumption is projected to slow down due to a number of reasons, including • improved energy efficiency in residential sector **(1 mark)** for example energy-saving fridges and LED lighting **(1 mark)** • improved insulation of housing such as cavity wall insulation **(1 mark)** cuts down on heat loss causing less heating to be required **(1 mark)** • growth of more affordable, fuel efficient 'greener' hybrid cars **(1 mark)** • Government initiatives such as 'Cycle to Work' schemes **(1 mark)** encourage people to leave their cars at home by subsidising the cost of cycle purchase. **(1 mark)** Or any other valid point.

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
	(b)		Award **1 mark** for each point on effectiveness. Candidates must discuss a renewable source of energy. Award **0 marks** for non-renewable sources of energy. Award **2 marks** for specific, appropriate named examples which further develop the answer.	**10**	Possible answers for all renewable energy sources might include • infinite energy resources/sources of power that are sustainable **(1 mark)** • independent production of energy reducing the need for reliance on imports of fuel. **(1 mark)** For wind power, other possible answers could include • in countries with a windy climate and large areas of exposed upland **(1 mark)** for example The Eaglesham Moor **(1 mark)** • winds in Scotland can be strong enough to power the equivalent of all electricity needs for 1 day **(1 mark)** • where surplus is generated it can be sold for profit **(1 mark)** • wind energy may reduce energy bills **(1 mark)** • as power from onshore energy is now cheaper than electricity produced from any other source in the UK **(1 mark)** • wind power can be irregular and intermittent **(1 mark)** • during high pressure, for example, there can be periods of no winds or very low speeds **(1 mark)** leaving turbines motionless, producing no or very little power **(1 mark)**. This may coincide with very cold periods in winter when demand is higher **(1 mark)** • currently wind energy cannot be stored **(1 mark)** • wind farms are usually found in rural locations far from areas of high demand. **(1 mark)** Or any other valid point.

Section 2 — Application of geographical skills

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
5.	(a) and (b)		Candidates should make reference to all sources, including the Ordnance Survey map, when discussing the suitability of the site and the social, economic and environmental impacts of the development on the surrounding area. Award **1 mark** for each description of the site, or explanation of suitability of the site. Award **1 mark** for each impact, and award a further mark where the candidate develops this.	**20**	Possible advantages of this location may include • area chosen is flat **(1 mark)** and would help keep constructions costs down **(1 mark)** • the area chosen is also close to the M25 and the A4 **(1 E mark)** which makes it easier for construction lorries to access **(1 mark)** • the area chosen has good accessibility which means less access roads need to be built **(1 mark)** • its proximity to existing airport infrastructure will reduce cost **(1 mark)** • there is a lower density of land use to the north of existing site **(1 mark)** meaning less disruption than if the airport was to expand to the south or east. **(1 mark)** Possible disadvantages • the proposed runway will cross the M25 **(1 mark)** meaning a tunnel (or overpass) will have to be built **(1 mark)** • the River Colne **(1 E mark)** will also have to be diverted **(1 mark)** which may impact on surface run off **(1 mark)** • the Trading Estate at 034760 **(1 E mark)** may be disrupted by increased traffic, especially during construction phase **(1 mark)** • local residents in Harlington may also suffer from noise pollution during the construction phase **(1 mark)** • Longford 052768 **(1 E mark)**/parts of Harmondsworth will be demolished to make room for the new runway. **(1 mark)**

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
			Award **1 mark** where candidates refer to the resource and award further marks where the candidate explains its suitability (beyond the wording of the resource). Award up to **4 marks** for map evidence (E), which may include correct and appropriate grid references and/or place/road names. It is possible that some points referred to as a disadvantage will be interpreted by other candidates as a negative impact. Award marks for each point only once, where it is best explained.		**Positive Impacts** • the creation of new rail infrastructure will help ease congestion on public transport in the area **(1 mark)** • construction jobs will be created **(1 mark)** in addition to service jobs in the new hotels and offices **(1 mark)** • the number of passengers is projected to rise to 100m by 2030 **(1 mark)** • the number of tourists visiting London will increase **(1 mark)** • as a result, this will further enhance income to the area **(1 mark)** • the cargo being transported is expected to rise to 2·3m tonnes by 2030 **(1 mark)** • the new runway will attract new businesses to the area. **(1 mark)** **Negative Impacts** • construction work and the various activities could be very damaging to the natural environment **(1 mark)** and could face strong opposition from conservationists **(1 mark)** • runoff during construction may contain pollutants, which could harm the water quality **(1 mark)** in the Wraysbury and/or King George VI reservoirs **(1 E mark)** • noise pollution from increased aircraft activity would upset local residents **(1 mark)** particularly late at night as the airport operates 24 hours **(1 mark)** • low flying aircraft along with increase noise pollution will decrease the house prices in the area **(1 mark)** • increased noise pollution from new flight paths will disrupt local wildlife **(1 mark)** at 010835 **(1 E mark)** • increase in buses may lead to higher levels of air pollution **(1 mark)** • road congestion in the surrounding areas will increase **(1 mark)** due to lorries and cars transporting freight and passengers **(1 mark)** • money will need to be made available to compensate householders forced to move. **(1 mark)** Or any other valid point.

[END OF MARKING INSTRUCTIONS]