National
Qualifications
2019

2019 Geography

Physical and Human Environments

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 — Physical environments

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
1.			Check any diagram(s) for relevant points not present in the text and award marks accordingly. Candidates can gain full marks for well-annotated diagrams that explain the formation of a corrie. Award a **maximum of 1 mark** where candidates provide a list of unexplained processes with at least two processes required for this mark. Award a **maximum of 4 marks** where candidates provide two fully developed processes (up to **2 marks** per developed process). A mark for a named process should only be awarded if the candidate develops this in some way. Award a **maximum of 2 marks** for the formation of a glacier. Award a **maximum of 1 mark** for a correctly named example.	**8**	Points may include **Glacier formation includes** • snow accumulates in north facing hollows **(1 mark)** when more snow falls in winter than melts in the summer **(1 mark)** • north/north-east facing slopes are more shaded so snow lies longer **(1 mark)** with accumulated snow compressed into neve and eventually ice. **(1 mark)** **Processes include** • plucking **(1 mark)** when ice freezes on to bedrock, pulling loose rocks away from the backwall **(1 mark)** • abrasion **(1 mark)** when the angular rock embedded in the ice grinds the hollow **(1 mark)** • frost shattering/freeze thaw weathering**(1 mark)** when water in cracks in the rock freezes, expands and contracts weakening the rock until fragments break off. **(1 mark)** **Corrie** • Glacier moves downhill due to gravity **(1 mark)** • Bergschrund crevasse opens up at the back of the hollow **(1 mark)** • this allows meltwater and rock fragments to get to the base of the glacier increasing erosive power **(1 mark)** • the weight of the glacier pushes down causing rotational sliding, **(1 mark)** which over deepens the hollow **(1 mark)** • friction causes the ice to slow down at the front edge of the corrie, **(1 mark)** allowing a rock lip to form which traps rain water **(1 mark)** • an example is Brown Cove. **(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.			Check any diagram(s) for relevant points not present in the text and award marks accordingly. Candidates can gain full marks for well-annotated diagrams that explain the formation of a sand spit. Award a **maximum of 4 marks** where candidates provide a fully developed explanation of longshore drift. A mark for a named process should only be awarded if the candidate develops this in some way. Award a **maximum of 1 mark** for a list of unexplained processes with at least two processes required for this mark. Award a **maximum of 1 mark** for a correct named example.	**8**	Points may include **Processes include** • sand spits are formed by the process of longshore drift **(1 mark)** • Swash **(1 mark)** is where waves, driven by prevailing wind push material up the beach at an angle **(1 mark)** • the returning backwash **(1 mark)** is dragged back by gravity down the beach at right angles. **(1 mark)** **Spit** • spits form when there is a change in direction on a coastline **(1 mark)** • allowing a sheltered area for deposition **(1 mark)** • material slowly builds up to appear above the water **(1 mark)** • the spit develops as long as the supply of deposits is greater than the amount of erosion **(1 mark)** • the shape can become hooked or curved at the end in response to changes in wind direction/currents **(1 mark)** • a salt marsh may form in a sheltered area behind a sand spit **(1 mark)** • an example is Spurn Head. **(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) and (b)		Award a **maximum of 5 marks** for either description (including a **maximum of 2 marks** for correctly named currents one warm and one cold) or explanation. Candidates must include both descriptions and explanation for full marks. Candidates may answer each command separately or as a holistic answer. Award marks accordingly.	**8**	Points may include **Description of pattern of ocean currents in Atlantic may include** • currents follow loops or gyres, **(1 mark)** clockwise in the Northern Atlantic **(1 mark)** • warm currents travel from the equator towards the Poles **(1 mark)** for example The North Atlantic Drift **(1 mark)** • cold currents return cool water from the poles **(1 mark)** for example The Labrador. **(1 mark)** **Explanations may include** • ocean currents are greatly influenced by the prevailing winds **(1 mark)** with energy being transferred by friction to the ocean currents **(1 mark)** • land masses like North America divert ocean currents **(1 mark)** • due to differential heating and/or salinity, **(1 mark)** density differences occur in water, **(1 mark)** resulting in chilled polar water sinking, **(1 mark)** spreading towards the Equator and displacing warm water pole wards **(1 mark)** • the Coriolis effect deflects currents to the right in the Northern Hemisphere. **(1 mark)** Or any other valid point.

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
4.	(a) and (b)		Candidates must include both descriptions and explanation for full marks. Award a **maximum of 5 marks** for descriptions. Candidates may answer each command separately or as a holistic answer. Award marks accordingly.	**10**	Points may include **Descriptions may include** • there is a lag time of five hours **(1 mark)** • there is a slow rise in discharge until 14:00 **(1 mark)** • there is a gentle rising limb until 22:00 **(1 mark)** when the rising limb becomes steeper **(1 mark)** leading to a peak discharge of 85 cumecs at 02:00 **(1 mark)** • there is a steep recession limb from 02:00 until 06:00. **(1 mark)** **Explanations may include** • this is caused by the initial rainfall which began at 11:00 **(1 mark)** • this rain may have been intercepted by vegetation **(1 mark)** • the water may also have infiltrated and be stored in the soil **(1 mark)** • the river rises because soil storage has been exceeded **(1 mark)** • there may be a low number of tributaries transporting water to the channel slowly **(1 mark)** • it may be a large catchment area meaning more travel time to the main channel **(1 mark)** • the catchment area may be gently sloping leading to slower initial overland flow to the channel. **(1 mark)** Some candidates may focus only on the lag time and the latter (steeper) part of the rising limb and should be credited accordingly. Or any other valid point.

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
5.			Check any diagram(s) for relevant points not present in the text and award marks accordingly. Candidates can gain full marks for well-annotated diagrams that explain the formation of a waterfall. Award a **maximum of 4 marks** where candidates provide two fully developed processes (up to **2 marks** per developed process). A mark for a named process should only be awarded if the candidate develops this in some way. Award a **maximum of 1 mark** for a list of unexplained processes, with at least two processes required for this mark.	**8**	Points may include • hydraulic action **(1 mark)** which is when air is compressed into the river bank causing materials to be dislodged **(1 mark)** • abrasion **(1 mark)** when the force of the water throws bedload against the banks causing erosion **(1 mark)** • solution **(1 mark)** when soluble rocks react with acids in the water **(1 mark)** • differential erosion takes place **(1 mark)** over bands of more and less resistant rock/where harder rock is overlaying softer rock/bands of hard/soft rock **(1 mark)** • softer rock is more easily eroded **(1 mark)** • undercutting causes an overhang of the hard rock **(1 mark)** • over time the hard rock is unsupported **(1 mark)** and collapses due to gravity into the plunge pool **(1 mark)** • attrition can occur here **(1 mark)** where the rocks in the plunge pool hit off each other, eroding further **(1 mark)** • the waterfall retreats upstream. **(1 mark)** Or any other valid point.
6.			For **1 mark** candidates may give one limited explanation.	**8**	Points may include • low temperatures lead to slow decomposition **(1 mark)** • coniferous needles and cones produce acidic (mor) humus **(1 mark)** • high precipitation leads to leaching **(1 mark)** which is the downward movement of the aluminium and iron oxides **(1 mark),** this leads to formation of an iron pan between the A/B horizons **(1 mark)** • this iron pan may impede drainage causing water logging **(1 mark)** • eluviation leaves an ash grey A horizon **(1 mark)** • illuviation leads to a reddish brown B horizon **(1 mark)** • limited soil biota leads to well defined horizons **(1 mark)** • found on steep slopes, this further encourages leaching **(1 mark)** • shallow roots mean limited absorption of deep leached minerals **(1 mark)** • shallow roots also mean limited nutrient recycling. **(1 mark)** Or any other valid point.

Section 2 — Human environments

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
7.			Candidates could discuss the positive and/or negative consequences of the predicted population structure. Care should be taken to ensure consequences are relevant to developed countries.	**9**	Points may include • the increase in elderly will lead to an increased cost of pensions to the government **(1 mark)** and increased tax contributions for the economically-active population **(1 mark)** • in-migration may need to be encouraged **(1 mark)** which may lead to tension between different cultures and or ethnic groups **(1 mark)** • the retirement age may need to be increased **(1 mark)** and more services for older people provided, such as care homes **(1 mark)** • there may be a lower unemployment rate in the future **(1 mark)** however a decrease in the economically active population may lead to a skills gap **(1 mark)** • citizens may be encouraged to invest in private healthcare schemes and/or pensions **(1 mark)** • the falling birth rate may lead to a decline in demand for services for children such as schools **(1 mark)** • there will be an increased strain/costs on the Health Service to meet the needs of the ageing population **(1 mark)** for example more hip-replacements or heart medication **(1 mark)** • there may also be more demands placed on adult children to care for elderly parents **(1 mark)** • there may be an increase in robots doing the jobs of people. **(1 mark)** Or any other valid point.

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
8.			Award **1 mark** for each relevant point.	**6**	Points may include • census is a survey carried out every 10 years **(1 mark)** • each householder is asked to complete a detailed questionnaire about the number of people living in their home **(1 mark)** • householders answer other questions on their social, economic and cultural background **(1 mark)** • civil registration of births, deaths **(1 mark)** provides an up-to-date count between censuses **(1 mark)** • Scottish Household Survey is a continuous survey**(1 mark)** based on a random sample of the population **(1 marks)** which is cheaper than carrying out a full census **(1 mark)** • governments also collect data on migration, for example visa applications **(1 mark)** and NHS records provide health data. **(1 mark)** Or any other valid point.

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
9.			Candidates should discuss the positive and/or negative impacts of land degradation. Award a **maximum of 1 mark** for a specific named example of a tribe, city, region within a country or event.	**8**	Points may include For Africa, north of the Equator • RLD can lead to crop failures and the death of livestock **(1 mark)** which can cause an increase in malnutrition and starvation **(1 mark)** which in turn can detrimentally impact child development **(1 mark)** • there may be large-scale migration **(1 mark)** into overcrowded urban areas, causing more pressure and the growth of shanty towns **(1 mark)** • migration can also lead to conflict between ethnic groups as people move **(1 mark)** for example Darfur **(1 mark)** leading to the growth of large refugee camps **(1 mark)** • countries are becoming increasingly reliant on international aid **(1 mark)** or paying back high interest loans **(1 mark)** • the soil structure deteriorates as the wind blows it away **(1 mark)** causing the advance of the Sahara Desert — desertification. **(1 mark)** For the Amazon Basin • RLD can lead to destruction of the way of life of the indigenous people **(1 mark)** for example the Yanomami **(1 mark)** • it can also lead to the destruction of sustainable development of rubber plantations **(1 mark)** • the creation of reservations for indigenous people who have lost their land **(1 mark)** has contributed to an increase in 'western' diseases and alcoholism **(1 mark)** • it has an adverse effect on the nutrient cycle **(1 mark)** in the rainforest due to a lack of leaf litter reducing the fertility of the soil **(1 mark)** • the top soil can be removed due to increased surface run-off, **(1 mark)** resulting in the silting up of rivers **(1 mark)** • the loss of biodiversity with danger of extinction. **(1 mark)** Or any other valid response.

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
10.			Award **1 mark** for each relevant point If candidates discuss more than one area, mark all and award marks to the highest scoring section. Award a **maximum of 2 marks** for specific named examples within the chosen area. A **maximum of 11 marks** should be awarded if the answer does not clearly relate to a specific case study.	**12**	For the Lake District, points may include • traffic congestion on narrow rural roads **(1 mark)** leads to high levels of air and noise pollution **(1 mark)** • tourists park on grass verges leading to erosion **(1 mark)** for example Bowness **(1 mark)** • tourists wander off footpaths widening them **(1 mark)** and stone walls can be damaged by people climbing over them **(1 mark)** • litter if eaten by wildlife or livestock can harm or kill **(1 mark)** • tourists leave gates open causing farm animals to escape **(1 mark)** • dogs off leash can worry sheep leading to miscarriages **(1 mark) this will reduce the farmers income (1 mark)** • speedboats on lakes can erode beaches **(1 mark)** and oil from engines can harm aquatic life **(1 mark)** • quarrying can produce large quantities of dust **(1 mark)** for example Honister Quarry **(1 mark)** which can settle on plants stunting their growth **(1 mark)** • this can also lead to visual pollution in spectacular landscapes **(1 mark)** • tourists buying second homes pushes prices up for locals **(1 mark)** and can lead to rural depopulation, **(1 mark)** which can reduce demand for local services which may close. **(1 mark)** Or any other valid response.

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
11.			Answers will depend on the case study referenced by the candidate. Award **1 mark** for each explanation. Award a **maximum of 1 mark** for a specific named strategy within the chosen area. A **maximum of 6 marks** should be awarded if the answer does not clearly relate to a specific case study.	**8**	For Glasgow answers may include • new tenement style housing has been built to create a community spirit **(1 mark)** • high rise flats demolished due to damp antisocial conditions **(1 mark)** • all the houses were architecturally designed with some of the houses representing the area's heritage **(1 mark)** which attracted people with a higher income to move to the area increasing the social and economic mix **(1 mark)** • public art has been used on the housing to help improve the attractiveness of the area **(1 mark)** • a new leisure centre was built to improve life expectancy in the area **(1 mark)** • the Legacy Hub **(1 mark)** is a new and improved community centre to meet the demands of the community **(1 mark)** it includes every day services such as dentist and a café **(1 mark)** • housing associations receive government grants to build more affordable housing **(1 mark)** • new energy efficient homes built (or refurbished) to lower energy bills **(1 mark)** for example Athletes village in Dalmarnock. **(1 mark)** Or any other valid response.

Question			General marking principle for this type of question	Max mark	Specific marking instructions for this question
12.			Award **1 mark** for each relevant point. Award a **maximum of 1 mark** for a specific named example within the chosen city. A **maximum of 5 marks** should be awarded if the answer does not clearly relate to a specific case study.	**7**	For Mumbai answers may include • the Mumbai Urban Traffic Project **(1 mark)** relays live images from traffic junctions to police headquarters **(1 mark)** allowing for real time adjustments of traffic signals **(1 mark)** which are synchronised to help commuters catch green lights to increase traffic flow **(1 mark)** • the cameras also pick up broken down vehicles and accidents allowing them to be dealt with quickly **(1 mark)** • the railways have been improved by adding new tracks and stations **(1 mark)** • 500 new eco buses have been purchased to reduce pollution **(1 mark)** • a monorail has been built to provide an affordable alternative for commuters **(1 mark)** • the Mumbai Metro Rail Corporation **(1 mark)** the agency who manage the metro line have appointed traffic marshals to help commuters **(1 mark)** • the Bandra-Worli **(1 mark)** sea link bridge reduces pressure on roads in to the city. **(1 mark)** Or any other valid response.

[END OF MARKING INSTRUCTIONS]