National
Qualifications
2024

2024 Geography

Physical and Human Environments

Higher

Question Paper Finalised Marking Instructions

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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

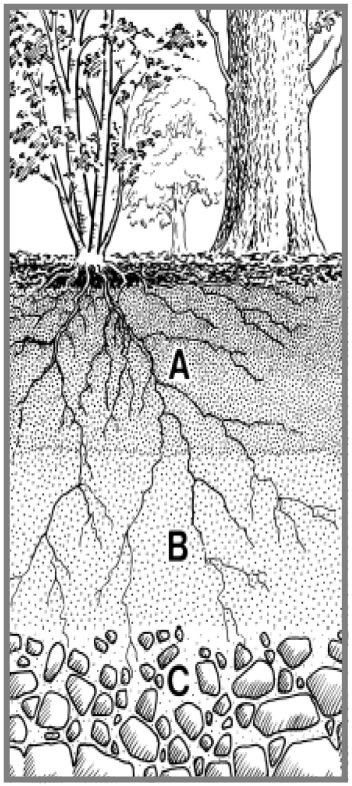
Section 1 — Physical Environments

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 6 marks** where candidates provide three fully developed processes (up to **2 marks** per developed process). Award **1 mark** for each named process, where a basic explanation has been given. An additional mark can be awarded for further development. Award **a maximum of 1 mark** for a list of unexplained erosional processes, with at least two processes required for one mark. Award **a maximum of 2 marks** for the formation of a glacier. Award **a maximum of 1 mark** for a correctly named example.	**10**	**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 névé/ice **(1 mark)** **Processes include** • plucking is when ice freezes on to bedrock **(1 P mark)**, pulling loose rocks away from the sides **(1 P mark)** • abrasion, when the angular rock embedded in the ice **(1 P mark)** grinds the valley floor **(1 P mark)** • frost shattering/freeze-thaw is when water in cracks in the rock freezes **(1 P mark)**, expands and contracts weakening the rock until fragments break off **(1 P mark)** **Corrie** • glacier moves downhill due to gravity **(1 mark)** • a bergschrund crevasse may open 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)** • rotational sliding overdeepens 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 rainwater **(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 terminal moraine or drumlin.	**6**	**For a terminal moraine, points may include:** • a terminal moraine is a ridge across the valley **(1 mark)** and made up of till/boulder clay **(1 mark)** which is usually rocks of different shapes and sizes **(1 mark)** and which is unsorted **(1 mark)** • as the glacier moves downhill it acts like a bulldozer **(1 mark)**, pushing sediment in front of its snout as it goes **(1 mark)** • on reaching lower altitudes/or when temperatures rise, the glacier melts **(1 mark)**, losing power and depositing the moraine **(1 mark)** • terminal moraine marks the furthest point that the glacier reaches **(1 mark)**. Once the ice has retreated, the terminal (or end) moraine can often form a natural dam, creating a ribbon lake **(1 mark)** **For a drumlin, points may include:** • drumlins are made up of unsorted material (**1 mark)** and consists of glacial till/boulder clay **(1 mark)** • drumlins are formed as the glacier becomes overloaded with sediment (**1 mark**) and deposits it, streamlining the sediment as it flows over it **(1 mark)** • if there is a small obstacle on the ground, this may act as a trigger point (**1 mark**) and till/boulder clay can build up around it **(1 mark)** • drumlins may be reshaped by further ice movements after being originally deposited (**1 mark)** • on reaching lower altitudes/or when temperatures rise, the glacier melts **(1 mark)** • the steep 'stoss' slope faces up-valley (**1 mark),** and the more gently-sloping 'lee' slope faces down-valley **(1 mark)** • drumlins are found in swarms or in a 'basket of eggs' topography **(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.			Candidates must include both description and explanation for full marks. Award **a maximum of 5 marks** for descriptions. Take care not to credit descriptions of rainfall although these may be credited as explanatory points. Candidates may answer each command separately or as a holistic answer. Award marks accordingly.	**10**	**Points may include:** **Descriptions may include** • there is a very short lag time of 2 hours **(1 a mark)** • there is no rise in discharge until 04:00 **(1 a mark)** • there is a steep rising limb between 07:00 and 10:00 **(1 a mark)** • peak river discharge of 8 cumecs at 10:00 **(1 a mark)** • there is a steep recession limb between 16:00 and 20:00 **(1 a mark)** • river discharge level falls to 2 cumecs at 23:00 **(1 a mark)** **Explanations may include** • the heavy rainfall at 08:00 will have led to the high peak of river discharge **(1 b mark)** • the drop in rainfall at 12:00 will have led to the steep recession limb **(1 b mark)** • Lack of vegetation means less rain is intercepted so more will quickly reach the river **(1 b mark)** • the river discharge level rises because soil storage has been exceeded **(1 b mark)** meaning that rain travels as surface flow reaching the river quickly **(1 b mark)** • there may be a high number of tributaries transporting water to the channel quickly **(1 b mark)** • it may be a small catchment area meaning less travel time to the main channel **(1 b mark)** • the catchment area may be steeply sloping leading to faster initial overland flow **(1 b mark)** • the area may have impermeable surfaces leading to overland flow **(1 b mark)** • there may be drainage pipes transporting water quickly **(1 b mark)** **Or any other valid point**

Question			General marking principle for this type of question	Max mark	Specific Marking Instructions for this question
4.			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 V shaped valley. 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 erosion process should only be awarded if the candidate develops this in some way. Award **a maximum of 2 marks** for a list of unexplained erosional processes, with at least two processes required for one mark.	**8**	**Points may include:** **Processes** • hydraulic action, which is when water compresses air **(1 P mark)** into the riverbank causing materials to be dislodged **(1 P mark)** • abrasion when the force of the water throws bedload **(1 P mark)** against the banks causing erosion **(1 mark)** • solution when soluble rocks **(1 P mark)** react with acids in the water **(1 P mark)** **V-shaped valley** • vertical erosion cuts downwards into the valley **(1 mark)** • the valley sides are weathered/widened/steepened by frost shattering **(1 mark)** when gravity pulls loose material into the river **(1 mark)**. This also adds to the erosive power of the river **(1 mark)** • bedload is removed by saltation making the valley deeper **(1 mark)** • swirling water during floods may create potholes, again cutting down into the valley **(1 mark)** • if the river has to wind round harder/more-resistant rock interlocking spurs may form **(1 mark)** **Or any other valid point**

Question			General marking principle for this type of question	Max mark	Specific Marking Instructions for this question
5.			Award **a maximum of 6 marks** if candidates do not provide an annotated profile. Award **a maximum of 6 marks** where candidates provide a 'ladder' type diagram (with A, B, and C horizons) and separate text answer.	**8**	 • associated vegetation is deciduous woodland **(1 mark)** • with abundant leaf litter **(1 mark)** • thick humus layer **(1 mark)**, mull/less acidic humus **(1 mark)** • long tree roots extend deep into the soil **(1 mark)** and high levels of biota (**1 mark)** • dark brown A horizon **(1 mark)** • with a loamy texture **(1 mark)** • well-aerated **(1 mark)**, well-drained soil **(1 mark)** • lighter brown B horizon **(1 mark)** indistinct horizons **(1 mark)** • B horizon has a light clay structure **(1 mark)** • C horizon is well weathered/permeable rock **(1 mark)** **Or any other valid point**

Question			General marking principle for this type of question	Max mark	Specific Marking Instructions for this question
6.			Award a **maximum of 5 marks** for description (including **a maximum of 2 marks** for correctly named currents one warm and one cold). 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/gyres **(1 a mark)** flowing clockwise in the Northern Atlantic **(1 a mark)** • warm currents travel from the equator towards the poles **(1 a mark)**, e.g. The North Atlantic Drift **(1 EG mark)** • cold currents return cool water from the poles **(1 a mark)**, eg The Labrador **(1 EG mark)** **Explanations may include:** • ocean currents are greatly influenced by the prevailing winds **(1 b mark)** with energy being transferred by friction to the ocean currents **(1 b mark)** • land masses like North America divert ocean currents **(1 b mark)** • due to differential heating and/or salinity **(1 b mark)** density differences occur in water **(1 b mark)**, resulting in chilled polar water sinking **(1 b mark)**, spreading towards the equator and displacing warm water polewards **(1 b mark)** • the Coriolis effect deflects currents to the right in the Northern Hemisphere **(1 b 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.			Award **1 mark** for each relevant point.	**6**	**Points may include:** • a 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/social, economic, cultural background **(1 mark)** • census is a legal requirement/householders may be fined for non-completion **(1 mark)** • civil registration of and births and deaths **(1 mark)** provide an up-to-date count between censuses **(1 mark)** • the Scottish Household Survey is a continuous survey **(1 mark)** based on a random sample of the population **(1 mark)** which is cheaper than carrying out a full census **(1 mark)** • governments also collect data on migration, eg 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
8.			Award **1 mark** for each consequence or **2 marks** for a developed point. Care should be taken to ensure consequences are relevant to developed countries.	**8**	**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)** e.g. more hip-replacements/heart medication/dementia care **(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)** • Spain has offered illegal migrants formal citizenship to provide a bigger 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
9.			Award **1 mark** for each relevant point. **Maximum of 5 marks** for a generic answer which does not refer to a specific named developing world city.	**6**	**For Kibera points may include:** • lack of basic facilities such as clean drinking water **(1 mark)** • open sewers and poor sanitation in streets surrounding housing **(1 mark)** • houses are poorly constructed using scrap materials **(1 mark)** • much of the electricity is illegally tapped and dangerous **(1 mark)** • some housing is located on riverbanks and liable to flooding **(1 mark)** • overcrowded buildings lack privacy **(1 mark)** • houses are not legal and are cleared intermittently **(1 mark)** • open housing allows mosquitoes access to sleeping residents **(1 mark)** • communal latrines are shared by many 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
10.			Award **1 mark** for each relevant point. Award **a maximum of 6 marks** for description, including a **maximum of 1 mark** for an appropriate specific named example within the chosen city.	**10**	**For candidates who have studied Edinburgh, answers may include:** • on-street parking is made difficult through the use of traffic wardens and permit holders zones **(1 a mark).** This has successfully discouraged motorists from taking their cars into the CBD **(1 b mark)** • commuters have been encouraged to travel by public transport with incentives such as free wi-fi on trains/buses **(1 a mark)** Mobile Apps allow customers to buy tickets and check bus times live **(1 a mark)** however those travelling from out with the city prefer the convenience of travelling by car **(1 b mark)** • Park and Ride has been provided at suburban train stations **(1 a mark)**, such as Edinburgh Gateway **(1 EG mark)** • the A720 (**1 EG mark)** by-pass means that through traffic does not need to travel into the city centre **(1 a mark)**, however increased car ownership has meant this road is now also congested **(1 b mark)** • Rose Street **(1 EG mark)** was pedestrianised **(1 a mark)** however this pushes traffic onto surrounding streets **(1 b mark)** • the introduction of bus lanes on main commuter routes **(1 a mark)** has resulted in all other vehicles being pushed into the other lanes **(1 b mark)** • the tram system has been implemented to increase capacity **(1 a mark)**, and has been so successful that this is being extended **(1 b mark)** • bike hire, City Bike Rentals **(1 EG mark)** encourages the use of green routes **(1 a mark)** however this requires sponsorship to be commercially viable due to vandalism **(1 b mark)** **Or any other valid response**

Question			General marking principle for this type of question	Max mark	Specific Marking Instructions for this question
11.			Award **1 mark** for each valid point. Award **a maximum of 1 mark** for a specific named example of a tribe, city, region within a country or event. Award **a maximum of 7 marks** where candidates give generic answers, which do not refer to a specific case study.	**8**	**For the Sahel, answers may include:** • loss of fertile topsoil because of water or wind erosion **(1 mark)**, leading to the inability of the land to support vegetation **(1 mark)** • crops failures/death of livestock, which leads to reduced food supply **(1 mark)** resulting in malnutrition and famine **(1 mark)** which in turn can detrimentally impact child development **(1 mark)** • large scale rural migration results in overcrowded urban areas in the south of the Sahel **(1 mark)** causes more pressure on the growth of informal settlements **(1 mark)** • the collapse of the nomadic way of life due to the lack of grazing and water **(1 mark)** forces many nomads to settle in villages increasing pressure/tension in these areas **(1 mark)** • farmers lose their income because of poor crop yields **(1 mark)** meaning they can no longer afford to pay for their basic needs, such as schooling **(1 mark)** • conflict over limited land/resources as people are forced to move **(1 mark)** and re-settle – growth of large refugee camps **(1 mark),** e.g. Darfur **(1 EG mark)** • some Sahelian countries are becoming increasingly reliant on international aid to gain access to food and water **(1 mark)** impacting development as debt repayments are high **(1 mark)** • desertification has become so severe that it has led to the southward expansion of the Sahara Desert into the Sahel **(1 mark)** **Or any other valid point**

Question			General marking principle for this type of question	Max mark	Specific Marking Instructions for this question
					For the Amazon Basin, answers may include: • loss of fertile topsoil because of water erosion **(1 mark)** leading to the inability of the land to support vegetation **(1 mark)**. This can also result in the silting of rivers **(1 mark)** • RLD can lead to destruction of the way of life of the indigenous people **(1 mark)** eg the Yanomami **(1 EG mark)** • it can also lead to the destruction of sustainable development of rubber plantations due to leaching **(1 mark)** • the creation of reservations for indigenous people who have lost their land **(1 mark)** has contributed to an increase in infectious diseases and alcoholism **(1 mark)** • it has an adverse effect on the nutrient cycle in the rainforest due to a lack of leaf litter **(1 mark)** reducing the fertility of the soil affecting food production **(1 mark)** • heavy rain can infiltrate the soil leading to leaching **(1 mark)** and further loss of nutrients **(1 mark)** • this nutrient loss may lead to loss of biodiversity with danger of extinction **(1 mark)** **Or any other valid point**

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 2 marks** where candidates give appropriate named examples within the chosen case study. Award **a maximum of 10 marks** where candidates give generic answers which do not refer to a specific case study. Award **a maximum of 8 marks** for either part (a) or (b), including a maximum of **2 marks** for appropriate named examples.	**12**	**For candidates who have studied the Lake District, possible answers might include:** • removing litter bins in remote areas **(1 a mark)** encourages people to take their litter home **(1 a mark)** • traffic restrictions such as one-way streets/limited waiting times **(1 a mark),** eg in Ambleside **(1 EG mark)** • improved public transport to lower congestion **(1 a mark),** eg Lake District Park and Explore **(1 EG mark)** have had limited success as people prefer the convenience of their own vehicles **(1 b mark)** • using farmers' fields as temporary car parks reduces on-street parking **(1 a mark)** this is effective and can bring in an extra income for the farmer **(1 b mark)** • planting trees around unsightly developments can shield them **(1 a mark)** but this is a long-term solution **(1 b mark)** • new developments are controlled by NPA by-laws **(1 a mark)** ensuring they use local materials which means they blend in with the landscape **(1 a mark)** • speed limits on lakes to reduce noise pollution have been implemented **(1 a mark)**, for example on Lake Windermere **(1 EG mark).** However, this has resulted in speedboat users moving to other lakes **(1 b mark)** which impacts local businesses as there are less customers **(1 b mark)** • footpaths have been improved by laying local stone **(1 a mark),** eg Fix the Fells **(1 EG mark)** however this is very costly to implement **(1 b mark).** This also relies on volunteers and so can take longer to complete **(1 b mark)** • new and affordable housing has been built, for example in Keswick **(1 EG mark)** to allow locals to remain in the area **(1 a mark).** These houses are only available for people who have lived and worked in the area for over 3 years **(1 a mark)** however the number of applicants is oversubscribed for every new house built. **(1 b mark)** **Or any other valid point**

[END OF MARKING INSTRUCTIONS]