

Cambridge International AS & A Level

GEOGRAPHY
Paper 4 Global Themes
For examination from 2027
MARK SCHEME
Maximum Mark: 60

Specimen

Generic Marking Principles

All examiners must apply these general marking principles when marking candidate responses. Examiners must apply them alongside the specific content of the mark scheme or generic level descriptions for a question. Each question paper and mark scheme must also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptions for the question
- the specific skills defined in the mark scheme or in the generic level descriptions for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always whole marks (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded positively:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit
 is given for valid answers which go beyond the scope of the syllabus and mark scheme,
 referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptions.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however, the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptions in mind.

Guidance on using levels-based mark schemes

Marking of work should be positive, rewarding achievement where possible, but clearly differentiating across the whole range of marks, where appropriate.

The marker should look at the work and then make a judgement about which level statement is the best fit. In practice, work does not always match one level statement precisely so a judgement may need to be made between two or more level statements.

Once a best-fit level statement has been identified, use the following guidance to decide on a specific mark:

- If the candidate's work **convincingly** meets the level statement, award the highest mark.
- If the candidate's work **adequately** meets the level statement, award the most appropriate mark in the middle of the range (where middle marks are available).
- If the candidate's work **just** meets the level statement, award the lowest mark.

Levels of response

Marking grid A

AO1 Knowledge and understanding

Use this marking grid to give marks for each candidate response for the part (b) (6 or 7 mark) questions.

Level	Description	Marks
3	 Relevant detailed knowledge and clear understanding. Provides developed points focused on the question. Uses relevant example(s) with development and/or detail. 	5–6 or 6–7
2	 Relevant knowledge and mostly secure understanding. Provides valid points with some development. Uses some relevant example(s) which may lack development and/or detail. 	3–4 or 3–5
1	 Some basic knowledge but understanding may be limited. Provides mostly simple points with little or no development. May use example(s) which lack relevance or are in name only. 	1–2
0	No creditable response.	0

Marking grids for essay questions

Examiners must consider the following guidance when marking the essay questions:

Candidates are free to develop their own approach to the question and responses will vary depending on the approach chosen. Whichever approach is chosen, essays which answer the question and support their argument with relevant examples will be credited. There may be detailed consideration of a detailed specific example/one or more examples, or a broadly conceived response, using several examples to show the factors involved. Evaluation may occur throughout the answer or in one or more evaluative sections such as an overall assessment at the end.

Use marking grids B and C to give marks for each candidate response for Questions 2, 3, 5, 6, 8, 9, 11 and 12.

Marking grid B

AO3 Evaluation

Level	Description	Marks
4	 Well developed response and clearly evaluative Well-developed and sustained reasoning which assesses a range of ideas clearly answering the question. Valid assessment of the relative importance of factors/viewpoints with an overall conclusion that follows logically from the arguments. Examples and evidence are well integrated into the response and used to support the answer. 	10–12
3	 Developed response and broadly evaluative Developed reasoning with ideas mostly answering the question. Some valid assessment on the relative importance of factors/viewpoints with an overall decision made. Example(s) and evidence are mostly used to support the answer. 	7–9
2	 Explanatory response with limited evaluation Limited reasoning with some ideas linked to the question; the answer is largely explanatory. Limited assessment and/or conclusion(s) are often simple comments and/or may just state an opinion. Example(s) and evidence are sometimes used to support the answer. 	4–6
1	 Limited response with little or no evaluation Little reasoning and discussion; the answer is descriptive around the topic of the question and lacks relevance to the question. Little or no assessment made. Examples may be absent or in name only. 	1–3
0	No creditable response.	0

Marking grid C

AO1 Knowledge and understanding

Level	Description	Marks
4	Accurate and detailed Relevant and accurate knowledge with thorough understanding. Appropriate and precise use of geographical language.	7–8
3	Mostly accurate and detailed Mostly relevant and accurate knowledge with generally secure understanding. Appropriate use of geographical language which is mostly accurate.	5–6
2	 Some knowledge but limited in some way Some relevant knowledge with partial understanding. Limited use of geographical language which may lack accuracy. 	3–4
1	 Limited knowledge on the topic Limited knowledge and understanding related to the topic of the question. Geographical language is rarely used and is mostly inaccurate. 	1–2
0	No creditable response.	0

Answer questions from **two** different topics.

Climate change impacts and governance

Question	Answer	Marks
1(a)	Figure 1.1 shows emissions of CO ₂ and the average vulnerability of population to climate change, by country, 2019.	4
	Describe the relationship shown in Figure 1.1.	
	Award one mark for a valid point and two marks for a developed supported point using evidence from Figure 1.1.	
	Relationship might include: • there is evidence of a negative relationship [1] with supporting data from Figure 1.1 e.g. more vulnerable countries generally have lower emissions [1]	
	 this is not a perfect relationship / not always clear / not a very strong correlation [1] with supporting data from Figure 1.1 e.g. some anomalies [1]. 	
	The relationship may be expressed with terms such as: less / more / higher / lower rather than negative.	
1(b)	Explain two reasons why tropical and subtropical small-island communities have a high level of climate change vulnerability.	6
	 Reasons could include: environmental factors related to location such as low-lying, small area, remoteness which result in impacts such as vulnerability to storms, coastal erosion, flooding from sea-level rise, loss of land, saltwater intrusion historical and political factors economic factors including limited economic diversity (dependent on agriculture, fisheries and/or tourism), lack of funding to mitigate or adapt to climate change factors influencing resilience 	
	reliance on sensitive ecosystemsother valid reasons.	
	Candidates may develop a reason by merging other reasons and/or candidates may use broad terms such as locational characteristics and impacts of climate change, economic or other factors.	
	Award marks based on the quality of the response using marking grid A.	

Question	Answer	Marks
2	Assess the role of the rise in temperatures in causing environmental change in cold environments. Use examples to support your answer.	20
	AO1 Knowledge and understanding Cold environments include both high-latitude (Arctic and Antarctic) and high-altitude areas. Knowledge of cold environments should include examples from different cold environments.	
	Knowledge of the role of rise in temperature causing environmental changes includes:	
	the rise in temperature leads to reduction in snow and ice cover through increased melting and/or precipitation falling more as rain rather than as snow	
	permafrost melts because the warmer air temperature heats up the ground and thaws the top layer of permafrost. This may lead to the formation of depressions where water collects, creating thermokarst lakes. This pooling of water accelerates more thawing, with as much as several metres of soil becoming less stable in just a few weeks	
	 methane is released as permafrost thaws because the water produced from thawing of permafrost allows bacteria to break down organic matter, releasing methane (and carbon) into the atmosphere 	
	 changes in vegetation as tundra turns into a marshy terrain with lake filled hollows. 	
	 increase in mass movement events including landslides, as thawed ground becomes unstable on melting 	
	 sea-level rise impacting people and infrastructure other changes in cold environments specific to the examples chosen. 	
	Candidates may also consider feedback loops between these changes such as:	
	methane release increases greenhouse gases and further warms the planet, creating a positive feedback loop as further warming thaws more permafrost	
	 increased temperatures lead to more wildfires which can create more permafrost melting 	
	decreases in snow and ice cover change albedo, leading to less reflection of incoming solar radiation and more surface absorption heating the ground, so overall there is reduced temperature regulation.	

Question	Answer	Marks
2	AO3 Evaluation This question requires an assessment of the role of the rise in temperatures in causing environmental change in cold environments. Evaluative comments could consider: the role of temperature rise in each of the environmental changes the importance of feedback loops spatial differences between different cold environments, within a cold	Walks
	 environment such as land and sea, altitudinal variations in mountain environments or Arctic versus Antarctic other physical factors such as changing precipitation patterns and amounts or increase in storm events other human factors including changes to human settlement or making it possible to exploit new areas for extractive industry (mining). Award marks based on the quality of the response using marking grids B and C. 	

Question	Answer	Marks
3	Use a detailed specific example of <u>one</u> country to evaluate the challenges of implementing climate change management strategies.	20
	AO1 Knowledge and understanding Challenges will vary depending on the detailed specific example chosen.	
	Candidates should describe the climate change issues relevant to the country chosen. These could include: • higher average rise in temperature • sea-level rise and coastal flooding	
	 biodiversity loss problems with food production desertification 	
	 changes to areas of human habitation damage to property (land and buildings) other hazards which are a result of climate change. 	
	 There should be consideration of at least two strategies which might include mitigation or adaptation strategies such as: targets for sustainable energy production and energy use carbon offsetting and carbon credit climate engineering: carbon capture and storage (CCS), solar radiation management nature-based solutions: protection, restoration and improvements withdrawal (retreat) compromise (accommodation) protection. 	
	Accept small-scale (local), regional or national strategies as appropriate to the scale of issues identified.	
	Challenges of implementing management strategies could include: locational challenges availability of technology cost of implementing the strategies which might include availability of	
	 capital / access to climate finance different scales of governance public acceptance 	
	 government priorities rights and challenges of countries in setting their own climate management strategies issues relating to loss of land, sovereignty or people (climate migration) 	
	other challenges faced in the example country such as climate justice issues.	

Question	Answer	Marks
3	AO3 Evaluation This question requires evaluation of the challenges of implementing climate change management strategies in one chosen country. Candidates should outline how each management strategy is linked to at least one issue of climate change and consider the challenges of implementation. Evaluative comments could consider:	
	 the relative importance or severity of the challenges the different options available to decision makers whether the scale of the issue/strategy influences the challenge of implementing the strategy whether the values and attitudes of different groups of people (at different scales for local to global levels) influence the challenges faced or the strategies implemented. 	
	Award marks based on the quality of the response using marking grids B and C.	

Environmental issues and management

Question	Answer	Marks
4(a)	Figure 4.1 shows a mine restoration project in the Philippines, an MIC in Southeast Asia.	4
	Describe the changes to the landscape shown in Figure 4.1.	
	Award one mark for a valid point and two marks for a developed supported point using evidence from Figure 4.1.	
	Candidates might describe some of the following changes: road gradient has been changed to make it less steep use of terraces in planting planting / vegetation coverage over the whole area apart from the very	
	 steep slopes and road introduction of more trees / bigger plants established trees have been maintained / have spread. other valid changes. 	
4(b)	Explain how rock and mineral extraction causes water pollution.	6
	The explanation could be linked to sources of pollution from different stages of rock and mineral extraction such as site preparation, removal processes, waste, processing, transport. The polluting effect could be developed in terms of changing water chemistry, toxicity of the pollutants, de-oxygenation, loss of clarity of water, growth of algae blooms, etc.	
	Water pollution could be: surface, ground water or release from the extractive process(es). Water pollution could occur on-site, close to the site or further away.	
	Explanations might include:	
	Award marks based on the quality of the response using marking grid A.	

Question	Answer	Marks
5	'Storage of energy and connectivity to energy grids are the most important challenges of the energy transition from fossil fuels to sustainable energy sources.'	20
	To what extent do you agree with this statement? Use examples to support your answer.	
	AO1 Knowledge and understanding Challenges of the energy transition from fossil fuels to sustainable energy sources could include: • storage of energy • connectivity to existing energy grids • environmental, social, economic, and political factors influencing sustainable energy production • scale and efficiency of sustainable energy production • decarbonisation of manufacturing industry.	
	There may also be challenges related to leaving behind the advantages of fossil fuels or nuclear such as resource endowment and availability, large scale of production, relative cost (generally considered as 'cheap'), capacity and characteristics of the energy grids already in use.	
	AO3 Evaluation This question requires assessment of the extent to which storage of energy and connectivity to energy grids are the most important challenges.	
	 Evaluative comments could consider: the relative importance of the different challenges faced by the example country/countries chosen how the challenges might vary according to the type of sustainable energy source used how the challenges and relative importance might vary for different groups of people or different types of economic activity whether the level of economic development of the example country/ countries might influence the challenges and their relative importance what makes an energy source sustainable (environmental, social, economic, political). 	
	Award marks based on the quality of the response using marking grids B and C.	

Question	Answer	Marks
6	Assess the extent to which the causes of environmental degradation in <u>urban</u> areas are different in LICs/MICs compared with HICs. Use examples to support your answer.	20
	AO1 Knowledge and understanding Environmental degradation is likely to include land, air and water pollution, but candidates could also consider degradation of the urban landscape itself such as decay of buildings.	
	Causes of environmental degradation include: Characteristics of the urban environment: • building density • high population • transport networks • concentration of economic activities • lack of open spaces.	
	Sources of pollution: domestic construction manufacturing industry power generation transport waste (solid and sewage waste) other causes.	
	Some causes of urban degradation may originate from rural areas as pollutants are mobile.	
	AO3 Evaluation This question requires assessment of the extent to which the causes of environmental degradation in urban areas are different in LICs/MICs compared with HICs.	
	 Evaluative comments could consider: the causes in LICs/MICs compared with HICs, and how they are different and/or similar how the characteristics of the urban areas are different and/or similar, and how this influences pollution and environmental degradation the relative effectiveness of the management of sources of pollution and environmental degradation the presence or absence of urban planning and controls urban growth and change (speed and type e.g. industrial/residential). 	
	Award marks based on the quality of the response using marking grids B and C.	

Trade, aid and tourism

Question	Answer	Marks
7(a)	Figure 7.1 shows commodities and manufactured goods as a share of exports in Malaysia, an MIC in Southeast Asia, 1980–2020.	4
	Describe the <u>main</u> trends shown in Figure 7.1.	
	Award one mark for a valid point and two marks for a developed supported point using evidence from Figure 7.1. Maximum two marks for descriptions without data support.	
	 The main trends include: commodities and manufactured goods are a mirror of each other / as one goes up the other comes down manufactured goods increase overall and commodities decrease overall rising manufactured goods and falling commodities from 1981/1982 to 2000 some fluctuations from 2000 to 2020 2012/2013 to 2020 rise in manufactured goods with a fall in commodities. 	
	Award one mark for comments on size of the gap between the two.	
7(b)	Explain the disadvantages for a country which has a dependence on exporting primary commodities. Disadvantages could include:	6
	 countries are vulnerable to shocks such as the COVID-19 pandemic slow productivity income volatility 	
	 a fall in commodity prices can rapidly lower export revenues, leading to challenges such as reduced public investments, currency devaluation, increased public debt and a higher risk of default reduced income for households and for companies' profitability and, 	
	 consequently, the country's GDP sudden discoveries of a resource leads to overvalued exchange rates, restricts traditional sectors' competitiveness and may push the economy more towards commodities political instability over control of the natural resources e.g. civil wars 	
	 TNC involvement and control of profit vulnerability to climate change e.g. many tropical and subtropical small-island communities are commodity dependent other valid disadvantages. 	
	Award marks based on the quality of the response using marking grid A.	

Question	Answer	Marks
8	Evaluate the effectiveness of international aid for receiving countries. Use examples to support your answer.	20
	AO1 Knowledge and understanding Candidates could consider the effectiveness of international aid for receiving countries in terms of types of aid, the donors and/or the approach taken and according to the viewpoint of different groups or interests.	
	The aid types are: • humanitarian aid • development aid • climate aid • tied aid • bilateral aid • multilateral aid.	
	The donor types are:	
	The approach could be top-down or bottom-up.	
	The different groups or interests could include individuals, groups, regions or the country.	
	AO3 Evaluation This question requires evaluation of the effectiveness of international aid for receiving countries.	
	 Evaluative comments could consider: the effectiveness in terms of environmental, social, economic or political change resulting from receiving aid which groups in the receiving countries benefit spatial variations in where aid is focused (or not) factors which contribute to effective aid such as a targeted approach, sound management, good governance, strong institutions, engagement with targeted people / groups / communities the time scale over which the aid and its benefits are planned factors which reduce effectiveness such as inefficient allocation and 	
	management, bureaucracy, corruption and aid dependency. Award marks based on the quality of the response using marking grids B and C.	

Question	Answer	Marks
9	Use detailed specific examples from one or more tourist areas or resorts to assess the extent to which increasing visitor numbers influence the sustainability of tourism.	20
	 AO1 Knowledge and understanding Candidates should demonstrate understanding of the concept of sustainability of tourism: tourism that considers current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities attempts to achieve a suitable balance between these economic, social and environmental dimensions to guarantee its long-term sustainability tourism organised in such a way that its level can be sustained in the 	
	future without creating irreparable environmental, social and economic damage to the receiving area. Candidates should demonstrate knowledge of one or more specific tourist	
	areas or resorts. Knowledge points for the detailed specific example(s) could include: • detail of the tourist area(s) or resort(s) and the economic, social and	
	 environmental factors that impact sustainability detail related to increasing numbers of tourists over a suitable period of time or projected for the future 	
	a description of the influence and impact of increasing numbers of tourists on the economy, society and environment, both currently and in the future	
	factors which make the impacts sustainable or not.	
	AO3 Evaluation This question requires assessment of the extent to which increasing visitor numbers influence the sustainability of tourism. Responses should be focused on sustainability issues rather than a description of problems or impacts.	
	 Evaluative comments could consider: the idea of balance between economic, social and environmental impacts the viewpoints of varying stakeholders on what is sustainable changes over time variations within a tourist area or between different tourist areas or 	
	 variations within a tourist area of between different tourist areas of resorts the impact on sustainability of different types of tourism the effectiveness (or not) of attempts to manage tourism sustainability considerations for visitors: carbon cost of travel and environmental claims made by destinations and resorts. 	
	Award marks based on the quality of the response using marking grids B and C.	

Disease and geography

Question	Answer	Marks
10(a)	Figure 10.1 shows the global distribution of malaria, 2020.	4
	Describe the distribution of malaria shown in Figure 10.1.	
	Award one mark for a valid point and two marks for a developed supported point using evidence from Figure 10.1.	
	Points include: malaria is located in the tropics and subtropics Africa has the highest levels (most of the countries with 'malaria transmission in all parts of the country')	
	 malaria is found in some countries in Asia and Southeast Asia, South America and Central/North America but largely in the category 'malaria transmission in <u>some</u> parts of the country') malaria is absent from only one continent: Europe. 	
10(b)	Explain how two controls are used to prevent the spread of malaria.	6
	 Controls include: mosquito nets (treated) when sleeping in places where malaria is present mosquito repellents (containing DEET, IR3535 or Icaridin) after dusk coils and vaporisers and indoor residual spraying protective clothing e.g. long sleeves / legs, treated fabric, etc. window screens / mesh / netting vaccination outdoor spraying or fogging habitat elimination or source reduction e.g. depressions, uncovered water containers, draining swamps, control of irrigation water control of mosquitoes (at larval stage) e.g. chemical insecticides; application of oils (biodegradable) to the water surface, suffocating the larvae and pupae; bacterial toxins (affecting only mosquitoes, black flies, and midges; specific insect growth regulators e.g. methoprene) biological controls e.g. sterile male release other valid controls. 	
	Award marks based on the quality of the response using marking grid A.	

Question	Answer	Marks
11	Assess the extent to which differences in the main causes of death between LICs and HICs are due to social factors. Use examples to support your answer.	20
	AO1 Knowledge and understanding Candidates are not expected to know extensive lists of diseases but should use some named examples or types of disease to use in their answer.	
	The main causes of death in LICs include: • neonatal conditions (mostly due to communicable diseases) • respiratory infections	
	 cardiovascular diseases, including stroke* diarrhoeal diseases malaria tuberculosis 	
	 tuberculosis HIV/AIDS liver disease*. 	
	The main causes of death in HICs include:	
	 kidney diseases* diabetes*. 	
	* non-communicable disease	
	Social factors include: Iiving conditions diet education level level of physical activity other behaviours (e.g. smoking) demographics: population structure (ageing or youthful) could be included as a social factor or 'other' factor.	
	Other factors could include: environmental factors e.g. climate, water quality and quantity, environmental conditions allowing spread of insect/animal vectors, sanitation and healthcare infrastructure	
	economic factors e.g. poverty/affluence affecting diet, lifestyle and health, occupation, economic development, investment and access to healthcare infrastructure, vulnerability of infrastructure	
	 political factors e.g. government investment in sanitation and healthcare infrastructure, international relations, health and safety laws/regulations impact of disaster events e.g. tropical cyclones and earthquakes global interconnectedness e.g. migration and travel. 	

Question	Answer	Marks
11	Answer AO3 Evaluation This question requires assessment of the extent to which differences in the main causes of death between LICs and HICs are due to social factors. Evaluative comments could consider: • the relative importance of social factors versus other factors • whether different social factors influence the main causes of death in LICs compared with HICs • how social factors are influenced by economic and political factors e.g. living conditions (social) are linked to level of development and poverty/ affluence (economic) and governance or investment (political) • differences and similarities between LICs and HICs in terms of types of disease (communicable versus non-communicable) and how these relate to social factors – for example, many of the main causes of death in HICs are non-communicable diseases related to lifestyle.	Marks
	Award marks based on the quality of the response using marking grids B and C.	

Question	Answer	Marks
12	Use <u>one</u> pandemic since 2000 to assess the extent to which economic factors influenced the success of responses to this pandemic.	20
	AO1 Knowledge and understanding Candidates should show understanding of what a pandemic is. Pandemics candidates might refer to include: influenza (flu) (H1N1 (swine flu) 2009), cholera (1961 to present), HIV/AIDS (1981 to present), SARS, MERS, Ebola, Zika virus, COVID-19, mpox, dengue fever.	
	Candidates should demonstrate knowledge of the specific pandemic such as when it occurred, the spatial extent (world region or global), how it is spread and potential risks of the disease. Candidates may refer to one or more countries in their answer.	
	Responses to the pandemic could include: • planning and preparation e.g. training and simulation/modelling • detection and reporting (situational awareness) • measures to reduce spread and severity of the disease • public health messaging • care and treatment • capacity scaling up • stockpiling of resources • development of scientific response e.g. vaccinations • coordination of responses internally and across countries / regions.	
	 Economic factors will be related to the cost of these responses. Other factors could include: social: individual / cultural behaviour e.g. level of compliance, living conditions, healthiness of the population, level of education political: legislation (e.g. restrictions / laws to control disease), provision of universal healthcare, previous level of investment / organisation of healthcare systems, governance (e.g. liberal versus authoritarian), public distrust 	
	 environmental: levels of urbanisation, physical isolation (e.g. preventing access to healthcare / detection and monitoring), climate affecting lifestyle (e.g. amount of time spent outdoors, which can impact transmission) travel and connectivity between countries. 	

Question	Answer	Marks
12	 AO3 Evaluation This question requires assessment of the extent to which economic factors influenced the success of responses to the specific pandemic chosen. Evaluative comments could consider: the success of responses to the pandemic could be judged in terms of: morbidity or mortality rates, cost-benefit analysis, short-term, long-term, longevity of the pandemic event, lessons learnt, future preparedness improvements, social and political impacts the importance of economic factors compared to other factors which influenced the success of responses how some factors are interlinked e.g. the provision (or lack of) universal healthcare can affect a country's ability to provide treatment during a pandemic how the success of responses might vary within a country or between differing groups in society, which may be linked to levels of poverty / affluence. Award marks based on the quality of the response using marking grids B and C. 	