

PRELIMINARY EXAMINATION 2025
GENERAL CERTIFICATE OF EDUCATION ORDINARY LEVEL

ANSWER KEY

GEOGRAPHY

2279/02

Paper 1

• AO1 (Content)- 30% (15 marks)	• AO2(Skill) - 40% (20 marks)	• AO3 (Judgment/Decision making) - 30% (15 marks)
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	Qns	AO1	AO2	AO3
GEL – GI (20 marks)	(a)		2	
	(b)(i)		2	
	(b)(ii)		2	
	(c)(i)		2	
	(c)(ii)		2	
	(c)(iii)		4	
	(d)			6
	Total		14	
	Qns	AO1	AO2	AO3
Tourism (15 marks)	(a)		4	
	(b)	3		
	(c)	4		
	(d)	4		
	Total	11	4	0
	Qns	AO1	AO2	AO3
Climate (15 marks)	(a)		2	
	(c)	4		
	(d)			
	(e)			9
	Total	4	2	0
	Overall Total	15	20	15

For markers to note:

For questions which do not require examples - marks can be awarded for **good use of relevant examples** to illustrate a point.

Answer **all** questions.

CLUSTER 1: GEOGRAPHY IN EVERYDAY LIFE

Suggested Answers

(a) State where the students may have retrieved the map from and, other than showing location, explain one possible use of the map in their investigation. [2]

Award one mark for suggestion for retrieval of map.

Award one mark for explanation of one possible use.

- The students may have retrieved the map from a government website such as the National Parks Board (NParks) website. *(Accept any plausible government website or just government website or archive such as the library will suffice – do not accept the internet as this is too broad)* [1]
- Apart from showing the location, the map helps them to understand extensiveness of the PCNs thus it allows the students to understand better the significance of PCN to Singapore's landscape/ It shows how accessible the PCNs are to Singaporeans and so studying the impact of one can be significant as it can be used to understand the impact of the others as well. [1]

(Students need to elaborate on why the map is significant and not just state) [1]

Accept any other plausible answers.

(b)(i) Based on Fig. 1.2, assess the level of risk involved in conducting their investigation at the Southern Ridges.

Award one mark for low or low to moderate risk.

Award one mark for supported justification.

- The overall level of risk is low to moderate [1].
- This is because most of the risk levels falls between 2 to 9 which is well below the maximum risk possible, which is 25.[1]

Accept any other plausible answers.

(b)(ii) Suggest two strategies that the students can adopt to prepare for the hazard with the highest degree of risk. [2]

Award one mark for each appropriate strategy given.

Any of the strategies below may be accepted and awarded - answers must relate to sun/heat – 1 mark

- Bring water and regularly hydrate
- Wear light clothing, apply sunscreen
- Conduct the investigation during cooler parts of the day, such as early morning.

- Know shelter points to rest

Accept any other plausible answers.

(c)(i) Describe how the data collected for Question 1 could be presented on map of Singapore. [2]

Award 2 marks for description of an acceptable method.

- Dot Distribution Map:[1]
- Each visitor's response is represented by a dot placed on the area they come from (e.g. Bishan, Pasir Ris, Clementi). If multiple people come from the same area, the number of dots increases, helping to show which areas have more visitors. [1]

Other methods: Choropleth Map/Flow map

Accept any other plausible answers.

(c)(ii) With reference to Fig. 1.4, explain how the students could sample visitors to collect the data needed to test their hypothesis. Justify your choice of sampling method.

Award 1 mark for identification of any valid sampling method.

Award 1 mark for description of the sampling method identified.

Award 1 mark for some reference to the map such as where to do the sampling

Award 1 mark for justification/advantage

- The students likely used convenience sampling [1]
- By interviewing visitors who were easily accessible/willing to be interviewed [1]
- At popular entry or rest points, such as near the Henderson Waves or Forest Walk. These are high-traffic areas, as seen in Fig. 1.4, making it convenient for students to approach people walking past or resting.[1]
- This method is suitable because the students had limited time and resources and were only conducting interviews on one weekend morning. It allowed them to collect responses quickly without complex planning.[1]

Accept any other plausible answers.

(d) Using Figs. 1.5 and 1.6 only, evaluate how well the data supports the students' revised hypothesis. [6]

Award 3 marks for positive and negative impacts of the Southern Ridges on visitors

Award 3 marks for positive and negative impact of the Southern Ridges on the environment Trends and patterns must be supported with data to be awarded marks. If no reference made award a max of 2 marks for this question for general patterns.

The expanded hypothesis suggests that the Southern Ridges contribute positively both to the experience of its visitors and the environmental quality of the area.

Evidence from the two surveys **generally supports the hypothesis.** [3m – any of the points below or any other plausible answers]

Positive impact on visitors

- The visitors appreciate the ease of movement across the park, contributing to a positive experience as supported by 39 out of 50 respondents who agreed or strongly agreed to the statement that the trails are accessible and well-connected. [1]
- Visitors to the park also had an increase in environmental awareness for many, the experience encouraged reflection on environmental issues with 31 out of 50 respondents agreed or strongly agreed that their visit made them more environmentally conscious.[1]

Positive Environmental Impact

- There is a biodiversity presence at Telok Blangah Hill Park as the bipolar bar graph shows a score of +4, indicating that observers noticed visible biodiversity, such as flora and fauna, suggesting a healthy ecological condition in that zone.[1]
- Presence of educational features along Marang Trail. This area received a +3 score, reflecting the presence of educational signage that supports awareness and learning, reinforcing the idea of environmental stewardship. [1]

However, there is also evidence from the two surveys that **disagrees/contradict the hypothesis. [3 – any of the points below or any other plausible answers]**

Negative Impact on Visitors

- However, there are those who feel that there is limited impact on environmental awareness as although the majority are positive, 9 respondents disagreed and 10 respondents were neutral about becoming more environmentally conscious. This shows that for nearly 38% of visitors, the visit may not have significantly shifted their environmental attitudes.
- Additionally, a small number of visitors – 5 respondents - found their experience to be meaningful and hence visiting the Southern Ridges did not improve their mental health with another 5 respondents expressed disagreement or strong disagreement with the mental well-being statement.

Negative Environmental Impact

- There was litter at Henderson Waves as it scored -2, this location showed observable litter,
- High noise pollution was also found near Alexandra Arch. This area had the lowest score of -3, highlighting that traffic or human-generated noise may be disturbing the natural environment and wildlife. Finally the trail wear and erosion at Forest Walk scored -1, indicating some trail damage or erosion, which may be a result of overuse or insufficient maintenance.

Overall, the data from both graphs largely supports the expanded hypothesis. Visitors find the Southern Ridges beneficial to their well-being and awareness, while most environmental indicators reflect positive stewardship of the area. A few areas such as waste management and noise control may require attention, but the overall impact appears net positive for both people and nature.

Accept any other plausible answers.

Cluster 2: Tourism

- 2 (a) With the help of an example, explain how ability to travel led to the growth of tourism. [3]

Award 1m for each point of explanation, up to 2m. Award one mark for a well-explained example.

- Over the years, air fares have significantly dropped, especially with the emergence of budget airlines, which offer air tickets at significantly lower prices. [1]
- With lower costs there is an increased affordability resulting in more people travelling (important link to answer the question) [1]
- Budget airlines, such as Scoot or AirAsia, have become increasingly popular for travel within Southeast Asia, accounting for 67% of the flights in the region. [1]

Accept any other plausible answers.

- (b) Study Fig. 2 which shows two different perspectives about Chinatown. Using Fig. 2, compare the role of Chinatown in Singapore over time and explain how this change may lead to cultural dilution if not carefully managed.[3]

Award 1m for similarity. Award 1 mark for difference. 1 mark for explanation of cultural dilution.

- Similarity in role – significant value for the Chinese culture [1]
- Difference in role – previously home for Chinese immigrants where they lived, worked, and supported each other now functions more as a cultural showcase for visitors, with festivals, trails, and souvenir shops [1]
- Cultural dilution: Chinatown may lose its authentic cultural roots. Over-commercialisation may result in superficial displays that no longer reflect the lived experiences and practices of the Chinese community.[1]

Accept other plausible answers.

- (c) How does tourism positively affect the society and economy of places? Illustrate your answer with an example that you have studied. [5]

Award 1m for each point of explanation for positive impact on society, up to 2m; and 1m for each point of explanation for positive impact on the economy, up to 2m. Reserve 1 mark for relevant example(s). Examples can be awarded up to 2 marks. No example award a max of 4 marks

- Tourism positively affects the society of a place by helping to preserve the culture. [1]
- Tourism revenues boost the local economy which provides an incentive to protect traditional cultural practices and art forms. [1]

- Tourism is labour intensive, and therefore provides employment opportunities in formal and informal tourism sectors. [1]
- It creates a large number and wide range of employment opportunities for people of varying skills in both tourist generating and destination regions. [1]

Accept other plausible answers.

- (d)** Explain pro-poor tourism and its limitations. [4]

Award up to 2m for the explanation of pro-poor tourism and community-based tourism. Award 1m for each explanation of a limitation, up to 2m.

- Pro-poor tourism is an approach to tourism development that focuses on improving the livelihoods of the poor through training and access to micro-finance. [1]
- Any type of tourism such as community-based tourism or eco-tourism can be classified as PPT, if they focus on improving the livelihoods of the poor and reducing poverty. [1]
- However, the effectiveness of PPT is limited by the inability to significantly reduce poverty as compared to direct investment in social services [1]
- And the economic benefits may be highly unevenly distributed, with most of the benefits being channeled to non-poor locals. [1]

Accept any other plausible answers.

[15 marks]

Cluster 3: Climate

- 3 (a)** Study Fig. 3.1, which shows the intensity of the Urban Heat Island (UHI) effect in Singapore. Fig. 3.2 is a satellite image of Singapore, showing its rural and urban areas.

Using Figs. 3.1 and 3.2, describe the distribution of the UHI effect in Singapore. [2]

Award 1m for each description of the distribution.

- The UHI effect in Singapore is clearly stronger in the more urban areas of Singapore, in the Southern region of the island. [1]
- The UHI intensity is significantly lower in rural or natural areas, such as the Central Catchment area or the forests in the western region. [1]

Accept any other plausible answers.

- (b) Explain the formation of the regional winds experienced in Singapore during the months of October to February. [4]

Award 1m for each point of explanation.

- In winter in the northern hemisphere, the air over Central Asia is cold, creating an area of high pressure. [1]
- In summer in the southern hemisphere, the air over Australia is warm, creating an area of low pressure. [1]
- Air moves from Central Asia (higher pressure) towards Australia (lower pressure) [1]
- In the northern hemisphere, winds get deflected to the right, forming the Northeast monsoon, which is experienced by countries such as India, Singapore and Malaysia. [1]

Accept any other plausible answers.

- (c) Study Fig. 3.3 (insert), which shows strategies taken to manage the impact of climate change.
 “The adoption of adaptation strategies is sufficient for communities to build resilience against climate change
 With reference to Fig. 3.3, to what extent do you consider this statement to be true?
 Explain your answer. [9]

Level 1 (0-3 marks)	- At this level, answers lack detail. - A basic answer that has little development - Answers may be general in nature with little or no place-specific examples. - There may be no or little attempt at an evaluation.
Level 2 (4-6 marks)	- At this level, answers will contain some appropriate detail. - The content will lack balance and some relevant detail. This means that only one-sided responses are fully considered. - Or both sides are considered but support is patchy so that the answer is not full. - Assessment may be given but may be general in nature. - An example will be presented to support answers in at least one place in the answer.
Level 3 (7-9 marks)	- At this level, answers will be comprehensive and supported by sound knowledge. - There will be assessments of the extent to which different factors (include given) are fully considered. - Examples to support answers can be found in most places in the answer

Suggested answer – sample essay.

Communities which adopt adaptation strategies to climate change will be quite resilient, but in truth, they would also need to adopt mitigation strategies as well, to be truly resilient.

As seen in Fig. 3.3, one of the structural adaptation strategies to build community resilience to climate change is to build infrastructure. One such infrastructure used by Singapore are water storage tanks. The underground water tank is used to store excess stormwater during periods of excessive rainfall to slow the water from rushing into canals and drains. This is an effective adaptation strategy as it prevents flooding in the canals and drains. It also allows excess water to be stored there temporarily, and the water will only be released when sensors detect that water levels in drains have fallen. A limitation to this strategy, however, would be that it is not feasible in some communities, due to lack of space or even the nature of the land. It is an expensive structure to build and manage, and therefore only economically developed countries can successfully utilize it.

In order to be resilient to climate change, mitigation strategies should also be put in place alongside adaptation strategies. One mitigation strategy that communities may adopt would be the use of low-carbon technologies such as carbon capture, utilization and storage or CCUS. CCUS involves the process of separating and capturing carbon dioxide (CO₂) from power plants and other sources of emissions. After that, the CO₂ is stored for a long period of time to prevent it from reaching the atmosphere through storage or utilization, where CO₂ is used as a raw material to produce useful products. For example, scientists from Northwestern University in the United States have been working on developing carbon-negative construction materials using seawater, electricity and CO₂. By doing this, carbon can be stored in structures, instead of remaining in the atmosphere. However, this is a new and expensive process, and it is likely that only countries that are economically and technologically more developed would be able to carry out this strategy.

One mitigation strategy that may be more accessible to all communities would be to change consumption patterns, particularly the use of plastics. Greenhouse gases are produced when chemicals sourced from fossil fuels are used to make plastics, and when plastics are recycled or incinerated. Communities can build resilience to climate change by refusing single-use plastics and opting for reusable daily plastic products and being informed about the right way to recycle different plastic products, reducing the amount of plastic waste. Many countries are already adopting this strategy, with as many as at least 90 countries fully or partially banning the use of plastic bags. Nearly half of those countries are in Africa, where the level of economic development is lower than most of the rest of the world, suggesting that this is a low-cost strategy in the fight against climate change. However, this strategy depends on social change, and it takes a long time for people's mindset and consumption patterns to change. Companies also need to commit to changing the resources used in the production of goods, which they may be reluctant to do, as it may reduce their profits.

Evaluation for 8-9 marks

Interdependence of both

While adaptation strategies—such as sea walls in the Netherlands—are essential in helping communities cope with the immediate and localised impacts of climate change, they are not sufficient on their own to build long-term resilience. Adaptation primarily addresses short- to medium-term consequences and varies in effectiveness depending on the spatial scale—wealthier urban areas may afford

better defences, while poorer rural regions may remain vulnerable. Therefore, mitigation strategies such as reducing greenhouse gas emissions globally (e.g. through the Paris Agreement) are equally critical, as they tackle the root cause of climate change over a longer time scale. Without significant mitigation efforts, the severity and frequency of climate-related hazards will eventually overwhelm even the best adaptation measures. Hence, a combined approach—tailored to both spatial contexts and long-term goals—is required to truly build resilience.

Time argument for one is more effective

Although mitigation tackles the root causes of climate change, its impacts are slow to materialise and often depend on coordinated global action, which is difficult to enforce. In contrast, adaptation strategies provide communities with immediate and context-specific protection. For example, Bangladesh's early warning systems and floating agriculture directly reduce vulnerability and save lives in the short to medium term. From a time perspective, the benefits of adaptation are more immediate and tangible compared to mitigation, which may take decades to show results. Given the urgency of current climate threats such as rising sea levels and heatwaves, prioritising adaptation is more effective in building community resilience in the short term. Therefore, while mitigation is important, adaptation alone can be justified as the more practical and sufficient strategy—especially in the face of urgent climate risks.

Accept any other plausible answers.

[15 marks]