

METHODIST GIRLS' SCHOOL

Founded in 1887



PRELIMINARY EXAMINATION 2025

Secondary 4

GEOGRAPHY

Paper 2

Friday
29 August 2025

2279/02
1 hour 45 minutes

ANSWER SCHEME

Section A

Answer **all** questions from this section.

1	Cluster 1: Geography in Everyday Life	
	(a)	Study Figs. 1.1 and 1.2 (Insert), which show recreational areas in Singapore.  
	(i)	Using Figs. 1.1 and 1.2, suggest two types of ecosystem services that recreational areas provide. [4] • Supporting services: Dried leaves that fall from those tall trees in the photo contribute to organic matter that decompose and break down into soil, which is essential for the health of the terrestrial ecosystems, providing a habitat for billions of organisms and contributing to biodiversity. • Supporting services: The trees in the photo also photosynthesize by taking in carbon dioxide and giving out oxygen, reducing global warming as carbon dioxide is a greenhouse gas which traps heat. An excessive amount of carbon dioxide in the atmosphere will lead to heat being trapped in the atmosphere, causing global warming. • Cultural services: Both areas in the photo provide recreational activities like hiking/trekking/walking that improves people's physical and mental health. • Regulating services: The trees in the photo provide shade for the users of the park, making the microclimate more suitable for daily activities by lowering temperatures in the immediate area. AO2 Award 4m for any 4 points. At 3 least types of ecosystem services should be covered for full marks. Max 3 marks if only 2 or less types covered. Accept other possible answers.
	(ii)	With reference to Fig. 1.2, explain how a sense place can develop through the use of shared spaces. [3] • A sense of place is developed when people associate importance, meanings and memories with specific locations in their neighbourhoods through interactions with their natural and built environments, • And when individuals repeatedly encounter people and objects along familiar paths or roads during regular travel • Sense of place also develops when individuals experience significant or memorable events at local landmarks and gathering places AO1

		Accept other possible answers.																					
(b)	Study Fig. 1.3 (Insert), which shows a comparison of fire hazards in Singapore between the first half of 2022 and the first half of 2023. Fire calls <table><thead><tr><th></th><th>Number</th><th></th></tr></thead><tbody><tr><td>Total fire calls</td><td>918 967</td><td>5.3% ↑</td></tr><tr><td>Fires at residential premises (private and public)</td><td>480 493</td><td>2.7% ↑</td></tr><tr><td>Fires at non-residential premises (commercial/industrial/social communal premises)</td><td>238 193</td><td>18.9% ↓</td></tr><tr><td>Other fires (discarded items/vegetation/vehicles)</td><td>200 281</td><td>40.5% ↑</td></tr></tbody></table> Fires involving personal mobility devices (PMDs) and power-assisted bicycles (PABs) <table><thead><tr><th></th><th>Number</th><th></th></tr></thead><tbody><tr><td>PMDs and PABs</td><td>22 27</td><td>22.7% ↑</td></tr></tbody></table> Using Fig. 1.3, compare number and types of fire hazards in Singapore between the same periods of 2022 and 2023. [4]		Number		Total fire calls	918 967	5.3% ↑	Fires at residential premises (private and public)	480 493	2.7% ↑	Fires at non-residential premises (commercial/industrial/social communal premises)	238 193	18.9% ↓	Other fires (discarded items/vegetation/vehicles)	200 281	40.5% ↑		Number		PMDs and PABs	22 27	22.7% ↑	
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	• Total fire calls increased slightly from 918 in 2022 to 967 in 2023, a 5% rise. • Most of this increase was from other fires (e.g., discarded items, vegetation, vehicles) rose significantly from 200 to 281, a 40.5% increase. This number might include the increase in fires involving PMDs. • Between 2022 and 2023, fires at residential premises rose slightly from 480 to 493, a 2.7% increase. • The only decrease was for fires at non-residential premises, which dropped significantly from 238 to 193, significant decrease. AO2 Accept other possible answers																						
(c)	Study Fig. 1.4 (Insert), which shows how Singapore responded to an oil spill in June 2024.																						

Areas in Singapore affected by the oil spill



With reference to Fig. 1.4, explain how disaster risk management and community resilience can help in disaster situations such as an oil spill. [4]

Disaster Risk Management

- Early containment and cleanup efforts (e.g., oil absorbent booms deployed on June 17 and Current Buster system on June 18) help reduce environmental damage.
- Rapid response to source (e.g., Pasir Panjang Terminal incident on June 14) helps prevent further leakage.
- Beach closures and advisories (e.g., closure of East Coast Park areas, public advised to avoid Changi Beach) help reduce health risks to the public.

Community Resilience

- Public cooperation (e.g., heeding swimming advisories and respecting beach closures) ensures safety and allows emergency services to work effectively.
- Preparedness and education of communities (e.g., awareness of environmental protection and oil spill impacts) helps long-term recovery and reduces panic.
- Volunteer or civic participation (implied from cleanup efforts at Labrador Nature Reserve and Sentosa) builds stronger, more self-reliant communities.

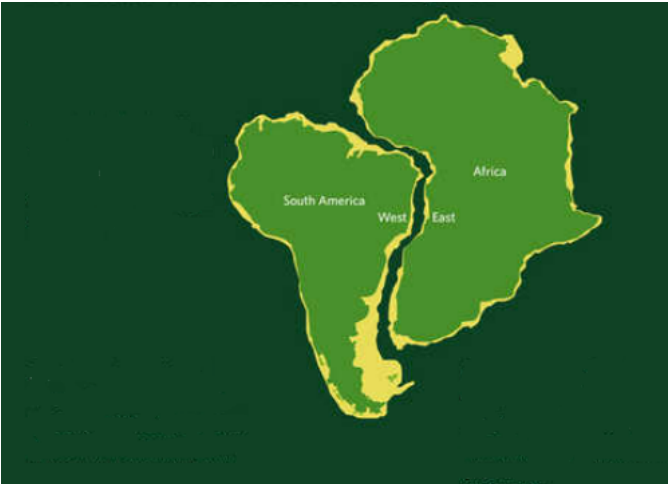
AO1

2 marks each for disaster risk management and community resilience. Max 2 marks if only one covered. Accept other possible answers.

[Total: 15]

Section B

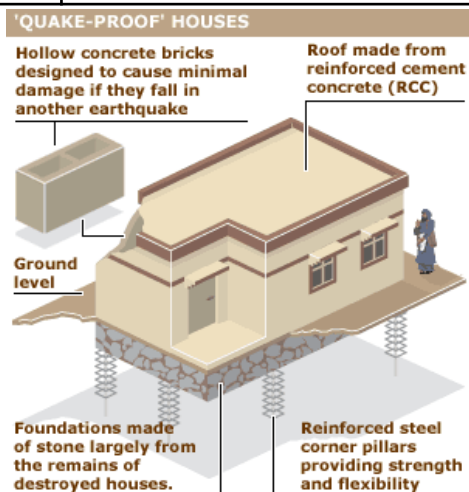
Answer **all** questions from this section.

2	Cluster 4: Tectonics
	(a) Study Fig 2.1 (Insert), which shows a complementary coast, supporting evidence for the plate tectonic theory. 
	(i) With reference to Fig. 2.1, explain how complementary coasts support the plate tectonic theory. [3]
	• Matching coastlines – The east coast of South America and the west coast of Africa appear to fit together like puzzle pieces, suggesting they were once joined. • Supports continental drift – The fit of the coastlines supports Plate tectonic theory that continents were once part of a supercontinent (Pangaea) that broke apart. • Evidence of plate movement – The separation of these once-connected landmasses implies that tectonic plates have moved over time. (1 mark) AO2 Accept other possible answers.
	(ii) Elaborate on one other evidence that supports the plate tectonic theory. [3]
	• Fossil Evidence Similar fossils (e.g. Mesosaurus) found in both South America and Africa. • These animals could not have crossed the vast ocean, suggesting the continents were once connected. • Supports the idea of continental drift and that landmasses have since moved apart due to plate movement. • Magnetic Stripes on the Ocean Floor. Stripes of rock on either side of mid-ocean ridges show symmetrical patterns of magnetic orientation. • These patterns record periodic reversals of Earth's magnetic field. • Proves seafloor spreading, a key process in plate tectonics.

- Earthquake and Volcano Distribution. Most earthquakes and volcanoes occur along plate boundaries.
- These are caused by movement and interaction of tectonic plates (e.g. subduction, divergence).
- Supports the theory that plates are in constant motion and interact dynamically.

AO1. Any of the above sets.

(b) Study Fig. 2.2 (Insert), which shows the design of earthquake proof houses in India.



'Hazard-resistant building design is the most effective in reducing the vulnerability of earthquake prone communities.'

With reference to Fig 2.2, to what extent to you agree with this statement? Explain your answer.

Relevant content

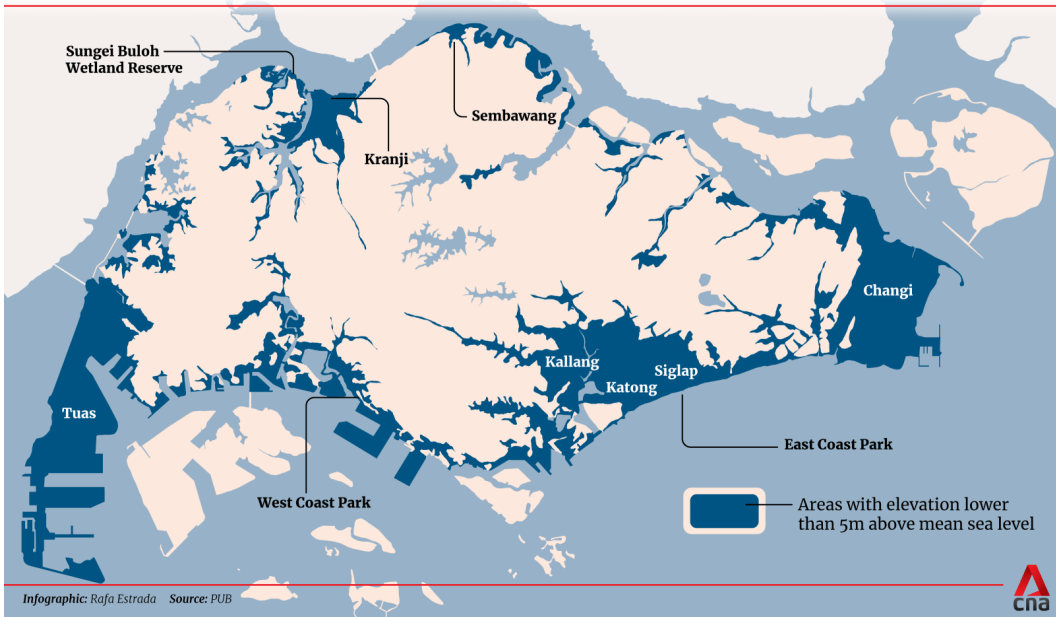
Strategies in building community resilience

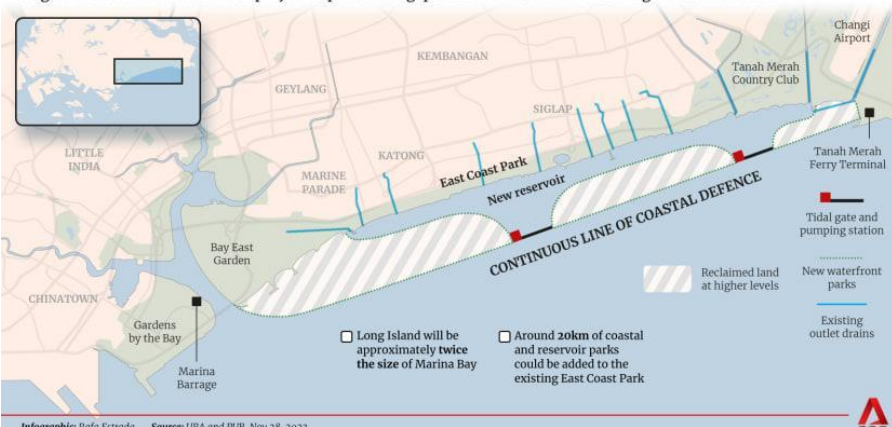
- reducing exposure including land use planning, reducing vulnerability including hazard-resistant building designs, and monitoring and warning systems
- increasing preparedness for response and recovery

Level	Marks	Generic Level Descriptors for 9-Mark AO3 Question
4 (Accelerating)	7 - 9	Develops arguments that supports both sides of the discussion clearly using a range of points with good elaboration. Examples used demonstrate a comprehensive understanding of the issue or phenomenon. Evaluation is derived from a well-reasoned consideration of the arguments.
3 (Developing)	4 - 6	Develops arguments that support one side of the discussion well using one or two points with some elaboration. Example(s) used demonstrate a good understanding of the issue or phenomenon. Evaluation is well supported by arguments.
2 (Emerging)	1 - 3	Arguments are unclear with limited description or may be listed. No examples provided or examples are generic, demonstrating a basic understanding of the issue or phenomenon. Evaluation is simple, missing or unclear.
1	0	No creditworthy response

	(Limited Evidence)		
	Possible approach Answer should have a direct evaluation of the use of hazard resistant building design can reduce community vulnerability. Some use of the Fig and other examples will aid illustrate the answer, and since the Fig alludes to its use in housing and not commercial in India, some mention of affordability and scalability will be of great help to the answer. The answer should also include at least a comparison against another strategy such as monitoring and warning systems, and this comparison should lead to an analysis of how strategies used in tandem with each other usually has the best outcomes.		

[Total: 15]

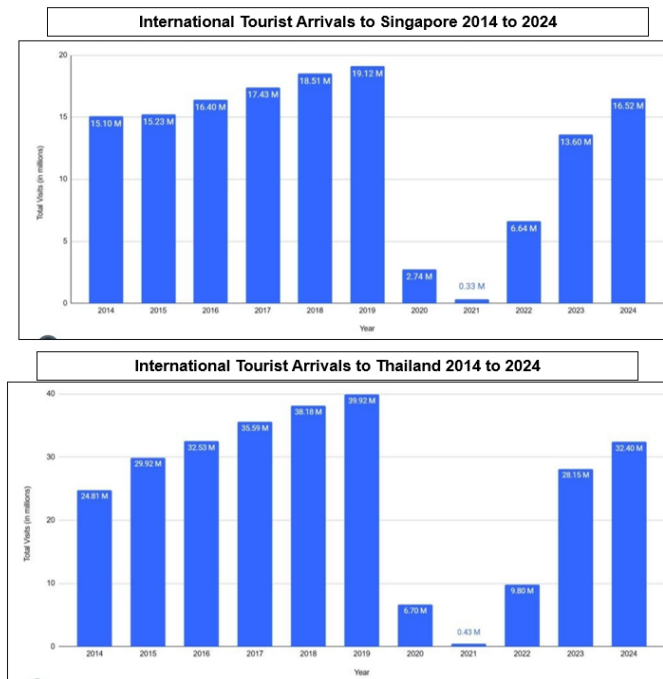
3	Cluster 5: Singapore		
	(a) Study Fig. 3.1 (Insert), which shows a map of low-lying areas in Singapore. Low-lying areas at risk if sea levels rise in Singapore 		
	(i) Using Fig. 3.1, describe the distribution of low-lying areas in Singapore. [3]		
	• Concentration along coastlines Most low-lying areas are found along the coastal regions of Singapore, especially the southern and northeastern coasts. • Areas immediately next to rivers are also low lying such as in Kranji area and South of the Sungei Buloh Wetland reserve. • Eastern and western clusters. Significant low-lying zones are observed in the eastern region (e.g., Changi, Siglap, Katong, East Coast Park) and the western region (e.g., Tuas, West Coast Park). • Central and northern presence (1 mark). There are also patches of low-lying areas inland, particularly in the central (e.g., Kallang) and northern parts (e.g., Kranji, Sembawang, Sungei Buloh). AO2. Any other answer.		

	(ii)	With reference to Fig. 3.1, explain the challenges Singapore faces due to climate change. [4]
		• Rising sea levels leading to increased flood risk. As a low-lying island nation as in Fig 3.1, Singapore is highly vulnerable to coastal and inland flooding due to rising sea levels. • More frequent and intense weather events. Climate change can result in heavier rainfall, leading to flash floods, and longer dry spells, stressing water resources. • Impact on public health and well-being. Higher temperatures can increase the risk of heat-related illnesses and worsen the spread of vector-borne diseases like dengue. • Economic and infrastructural strain. There will be greater costs in upgrading infrastructure, building coastal defences, and addressing disruptions to businesses and livelihoods. Accept other possible answers. AO2
	(b)	Study Fig. 3.2 (Insert), which shows the Long Island Project that aims to protect Singapore's East coast for rising sea levels. What Long Island at East Coast Park could look like Long Island is a land reclamation project to protect Singapore's East Coast from flooding and sea level rise  Infographic: Rafa Estrada Source: URA and PUB, Nov 28, 2023
		With reference to Fig. 3.2, explain how Singapore adapts to challenges posed by climate change. [4]
		• Coastal protection infrastructure. Singapore is building sea walls, tidal gates, and polders to defend low-lying areas against rising sea levels such as the tidal gates in the Fig that protect large segment of the low lying east coast area from flooding. • Urban planning and flood management. This includes upgrading drainage infrastructure, implementing flood mitigation measures, such as on-site detention: detention tanks to temporarily store rainwater before releasing it into the drainage system, reducing the initial burden on the drainage network. • Water security measures. Singapore is expanding NEWater and desalination plants to ensure a stable water supply during droughts or unpredictable rainfall caused by climate change. • Diversifying food sources and enhancing local production. To adapt to climate-related disruptions in global food supply, Singapore is investing in local

farms, high-tech agriculture, and alternative proteins as part of its "30 by 30" goal—producing 30% of its nutritional needs locally by 2030.

Accept other possible answers.
AO1

- (c) Study Fig. 3.3 (Insert), which shows comparing tourist arrivals for Singapore and Thailand between 2014 and 2024.



Using Fig. 3.3, compare tourist arrival numbers for Singapore and Thailand between 2014 and 2024. [3]

- Overall higher tourist arrivals in Thailand than Singapore. Throughout 2014–2024, Thailand consistently received more international tourists than Singapore. For example, in 2019, Thailand had 39.92 million arrivals while Singapore had 19.12 million.
- Both countries experienced a sharp decline in 2020 due to COVID-19. Tourist arrivals fell dramatically in 2020, with Singapore dropping to 2.74 million and Thailand to 6.70 million.
- Tourism recovery in both countries, but Thailand rebounded faster. By 2024, Thailand is projected to reach 32.40 million visitors, closer to pre-COVID levels, while Singapore is projected to reach 16.52 million, still below its 2019 peak.

AO2

Award 4 marks for any of the 5 points above. Accept other possible answers.

- (d) Study Fig 3.4, which is an article about the current challenges affecting tourism development in Singapore.

Tourist numbers slowing down in Singapore.

Some travel agencies were hoping for numbers to return to pre-COVID-19 levels much earlier, especially for the Chinese, who formed the biggest proportion of tourists.

Yet, the higher costs in Singapore compared to the region have led many tourists to spend less time in the country or look elsewhere, said observers. Oriental Travel and Tours managing director Stanley Foo said "I think business generally has been good,

	definitely much better than last year. I think we saw an increase of about 20 to 30 per cent compared to last year.” However, the agency has seen a switch in the types of tourists coming to Singapore. Before the pandemic, the largest groups of tourists were from China, India and Indonesia, but these tourists are now choosing to travel to neighbouring countries instead, noted Mr Foo. “What happened is that hotel prices have increased, the costs of their tours have increased, and these tourists coming from China and India are actually changing their destination from Singapore to our neighbouring countries. Most recently, we have also seen our neighbouring countries coming up with new strategies to attract them to their countries,” he said. He believes Singapore is now less attractive to these travellers because of the accommodation prices, adding that Chinese tourists “can spend three nights in our neighbouring country instead of one night in Singapore”. For some tourists, however, checking Singapore off their travel list is worth the price. One Indian tourist told CNA: “Cost, of course, is a bit (on the) higher side, but ultimately, you need to go to four to five countries to see all those things which you can see in a single country in Singapore, so we thought of spending more.” One American tourist interviewed agreed that the country has a rich and diverse culture, but “the only thing that puts me off from coming to Singapore is the costs associated with it” and that it is a “very expensive place” to visit. Local attractions such as Gardens by the Bay told CNA that ticket sales are still about 80 per cent of pre-COVID-19 levels. However, the attraction is hoping that having new exhibits will help draw more people. “We showcase plants in an immersive way. We are constantly exploring how we can bring in new experience to our business,” said Gardens by the Bay senior director of business development Ong Kian Ann. “We are looking to do this by experimenting with different mediums and technologies.”
	With reference to Fig 3.4, evaluate the challenges and opportunities affecting tourism development in Singapore. [6]
	Possible points for challenges: • High costs deter regional tourists Singapore is now perceived as too expensive compared to neighbouring countries, especially by tourists from China and India, who now prefer cheaper alternatives in the region. • Competition from neighbours. Recent innovation by neighbouring countries have meant that their draw factor might now change travel decisions in favour of our neighbours. countries • Changing tourist demographics. There has been a shift in the types of tourists visiting Singapore, as core markets like China and India are no longer the top contributors who are also more cost conscious. Possible points for Opportunities: • Higher-value tourism potential: Tourists who still choose Singapore often value its efficiency, diversity, and compactness, with some willing to spend more for a richer experience, as one Indian tourist noted. • Innovation in attractions: Attractions like Gardens by the Bay are adapting by introducing new exhibits and immersive experiences to attract and retain visitors. 1 mark for point made. 1 extra mark for well elaborated point. Both challenges and opportunities should be covered, otherwise capped at 3 max marks.

		AO3
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[Total: 20]

Table of Specifications

Section	Question	AO1	AO2	AO3
A	1(a)(i)		4	
	1(a)(ii)	3		
	1(b)		4	
	1(c)	4		
B	2(a)(i)		3	
	2(a)(ii)	3		
	2(b)			9
C	3(a)(i)		3	
	3(a)(ii)	4		
	3(b)		4	
	3(c)		3	
	3(d)			6
Total		14	21	15