

METHODIST GIRLS' SCHOOL

Founded in 1887



PRELIMINARY EXAMINATION 2026

Secondary 4

GEOGRAPHY

Paper 2

Friday
28 August 2026

2279/02
1 hour 45 minutes

ANSWER SCHEME

Section A

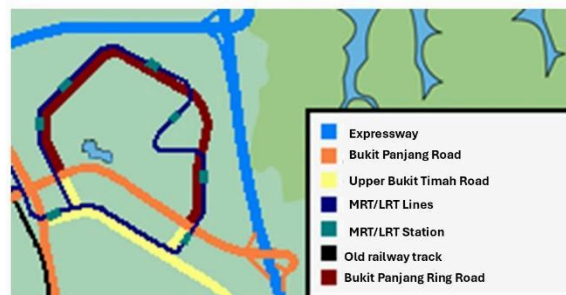
Answer **all** questions from this section.

1 Cluster 1: Geography in Everyday Life

- (a) Spatial patterns refer to non-random arrangements that are recognisable as shapes.

Study Figs. 1.1 and 1.2 (Insert), which show circular features such as the Bukit Panjang Ring Road and Bukit Panjang LRT.

Using Figs. 1.1 and 1.2, suggest how circular features such as the Bukit Panjang Ring Road and Bukit Panjang LRT benefit the residents of Bukit Panjang. [2]



Award 1 mark for each benefit, to a maximum of 2 marks.

Award 1 additional mark for further development of the description, where applicable.

Possible responses include:

- The LRT line runs through many neighbourhoods in the town and allows residents to access any LRT station easily, promoting convenient travel [1 mark]. For example, BP10 station serves the residents living in Fajar neighbourhood [1 additional mark].
- The Bukit Panjang Ring Road allows residents to access more major roads like Upper Bukit Timah Road and Bukit Panjang Road, which then allows them better connectivity within and out of town [1 mark].
- The Bukit Panjang Ring Road reduces congestion on the main roads as residents can access other areas within the town via the Ring Road [1 mark]. For example, a resident living in the Senja neighbourhood can travel to the Fajar neighbourhood using the Ring Road instead of using Bukit Panjang Road [1 additional mark].

- (b) Study Figs. 1.3 and 1.4 (Insert), which show the shop mix found in two local neighbourhoods, Yuhua Place and Toa Payoh Palm Spring.
- (i) Using Figs. 1.3 and 1.4, compare the shop mix in Yuhua Place and Toa Payoh Palm Spring. [2]



Award 1 mark for any similarity.
Award 1 mark for any difference.

Possible responses include:

- **Most shops in both neighbourhoods are beauty and wellness shops [1 mark].**
- **There are more shops offering other services (e.g. clinics and tuition centres) in Toa Payoh Palm Spring than Yuhua Place [1 mark].**

AO2

- (ii) Suggest how the shop mix in Yuhua Place and Toa Payoh Palm Spring can affect economic and social sustainability in urban neighbourhoods. [3]

Award 1 mark for each suggestion, to a maximum of 3 marks.

Award 1 additional mark for further development of the description, where applicable.

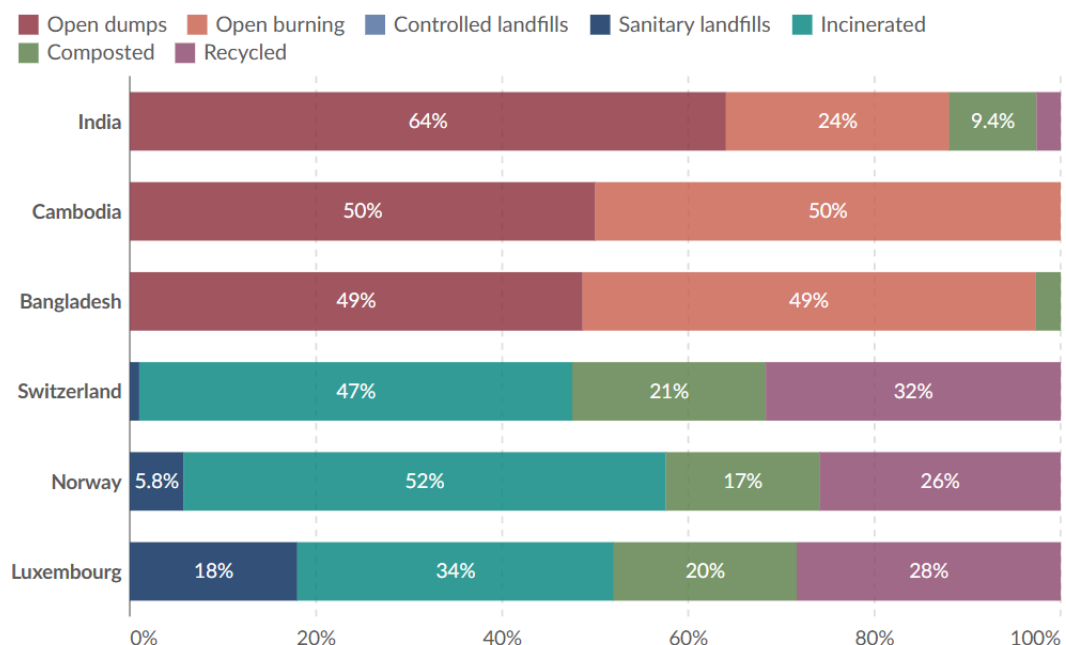
Possible responses include:

- A concentration of beauty and wellness shops can support economic sustainability by creating jobs and providing income for locals [1 mark]. Customers who seek these specialised services can increase business revenue and sustain local employment opportunities in the neighbourhood [1 additional mark].
- A limited variety of shops offering essential goods and services can result in residents travelling out of the neighbourhood, thereby reducing spending within the neighbourhood [1 mark].
- A range of services like F&B, beauty and wellness, retail as well as tuition services and clinics support residents' quality of life by providing convenient access to personal care, wellness and dining options [1 mark]. This makes the neighbourhood more liveable and meets the lifestyle needs of residents [1 additional mark].
- An over-concentration of beauty and wellness shop types may not cater to the needs of the residents [1 mark]. For example, these shops do not cater to the needs of families with young children as well as elderly folk [1 additional mark].

AO1

- (c) Study Fig. 1.5 (Insert), which shows how waste is managed in various countries in the world.

Using Fig. 1.5, compare how waste is managed in various countries in the world. [4]



Award 1 mark for each comparison, to a maximum of 4 marks.

Award 1 additional mark for further development of the description, where applicable.

Possible responses include:

- Majority of waste is left in open dumps in India, Cambodia and Bangladesh [1 mark]. Almost more than half is left in open dumps in each country [1 additional mark].
- The second most common way of managing waste is via open burning in India, Cambodia and Bangladesh [1 mark]. This ranges from 24-50% [1 additional mark].
- Waste is never managed in open dumps and via open burning in Switzerland, Norway and Luxembourg [1 mark].
- Instead, most of their waste is incinerated [1 mark].
- Other way of managing waste in Switzerland, Norway and Luxembourg includes composting and recycling [1 mark]. A fraction is left in landfills [1 additional mark].

AO2

- (d) Study Fig. 1.6 (Insert), a photograph of an active ageing centre in Singapore.

With reference to Fig. 1.6, suggest how active ageing centres can build sustainable urban neighbourhoods. [4]



Award 1 mark for each suggestion, to a maximum of 4 marks.

Award 1 additional mark for further development of the description, where applicable.

Possible responses include:

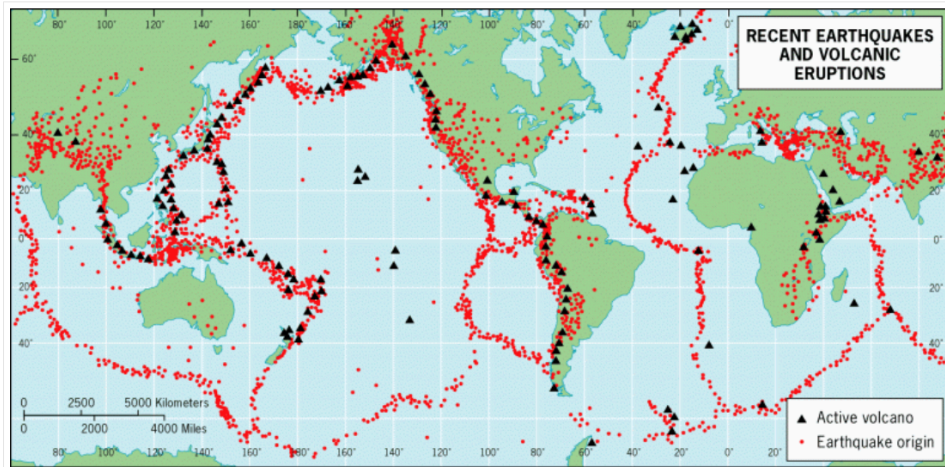
- AACs are communal or shared spaces where residents can interact with one another [1 mark]. This allows residents to strengthen social bonds and promotes mutual support and cooperation among neighbours in times of need [1 additional mark]. Stronger bonds can reduce social isolation and build a stronger sense of community in the neighbourhood [1 additional mark].
- Activities bring people from different ages and backgrounds together, strengthening social cohesion [1 mark].
- Community activities at AACs encourage seniors to remain physically, mentally, and socially active, improving their quality of life and allowing them to age well within their own communities [1 mark]. This contributes to a more inclusive and liveable neighbourhood that caters to the needs of an ageing population [1 additional mark].
- Active and independent seniors may also continue contributing to the local economy through employment, volunteering, or participation in community initiatives, supporting the resilience of the neighbourhood [1 mark].

AO1

[Total: 15]

2 Cluster 4: Tectonics

- (a) Study Fig. 2.1 (Insert), which shows the distribution of earthquakes and active volcanoes around the world.



- (i) With reference to Fig. 2.1, describe the distribution of earthquakes and active volcanoes around the world. [5]

Award 1 mark for each description of distribution of earthquakes and active volcanoes, to a maximum of 5 marks.

Award 1 additional mark for further development of the description, where applicable.

Possible responses include:

Both earthquakes and active volcanoes can be found:

- **Around the Pacific Ring of Fire [1 mark].** The ring of fire extends from New Zealand to the Philippines, Japan and across the Aleutian arc, and down the west coast of North and South America [1 additional mark].
- **Along the Mid-Atlantic Ridge [1 mark].** For example, in Iceland [1 additional mark].
- **In the African Rift Valley, or east Africa [1 mark].**
- **Away from plate boundaries, in the middle of the ocean [1 mark].** For example, there are active volcanoes found in Hawaii, in the Pacific Ocean [1 additional mark].

Earthquakes can also be found:

- **Along plate boundaries in the Southern ocean [1 mark].**
- **In the Mediterranean Sea through Greece, Turkey, Iran, and the Himalayan mountains before joining the Ring of Fire in Indonesia [1 mark].**

AO2

- (ii) Explain two factors that influence the risk of volcanic eruptions. [4]

Award 1 mark for each explanation of factors influencing disaster risk related to volcanic eruptions, to a maximum of 4 marks.

Award 1 additional mark for further development of the description, where applicable.

Possible responses include:

- **Nature of hazard:** The characteristics of magma influence the type and intensity of volcanic eruptions, affecting the level of disaster risk [1 mark]. Silica-rich magma is more viscous, trapping gases and causing more explosive eruptions that produce dangerous hazards such as pyroclastic flows and large amounts of tephra [1 additional mark].
- **Vulnerable conditions:**
 - The presence of surface and groundwater can increase the risk posed by volcanic eruptions [1 mark]. During an eruption, volcanic ash can mix with water to form lahars, which can travel rapidly downhill and bury settlements and infrastructure [1 additional mark].
 - Strong prevailing winds can also carry tephra over large areas, affecting more people, disrupting transport, and damaging agriculture [1 mark].
- **Exposure to volcanic eruptions:** Areas with larger populations or infrastructure located near volcanoes face greater disaster risk [1 mark]. A greater number of people and assets exposed to volcanic hazards means a higher likelihood of casualties, damage to property, and economic losses [1 additional mark].

AO1

- (b) Study Fig. 2.2, which shows reflections on disaster response efforts to the 2021 Haiti earthquake.

Using Fig. 2.2, evaluate the effectiveness of the disaster response to the 2021 Haiti earthquake. [6]

Reflections on the response to the 2021 Haiti Earthquake by a medical aid worker

We spent two weeks in 17 different hospitals, clinics, and field hospitals caring for the injured. The capacity of each location serving trauma patients varied tremendously – some sites had multiple teams on the premises, other sites had one provider only... Most of the hospitals had a mixture of local doctors and nurses, international aid organisations like Red Cross, as well as independent groups who arrived with or without invitation to assist, like church-based groups.

There was – by all appearances and experience – little coordination... For instance, a hospital had little idea what surgical facilities other hospitals in the area could provide or how to transfer patients who needed specialist treatment. Further, with no way to communicate with local authorities, it was hard to know 'who was in charge'. Each hospital registered patients in their own database, making it difficult to track patients across the country.

Award 1 mark for each evaluation of effectiveness of response strategies to disasters like earthquakes.

Award a maximum of 1 additional mark for further development of each evaluation, where applicable.

Possible responses include:

Effective:

- **There were 17 aid locations which increased the capacity to care for the injured [1 mark].**
- **Hospitals, clinics and field hospitals could offer a targeted level of aid to alleviate the conditions of the injured [1 mark].**
- **The presence of international aid groups boosted the resources and expertise available to tend to the injured [1 mark].**

Not effective:

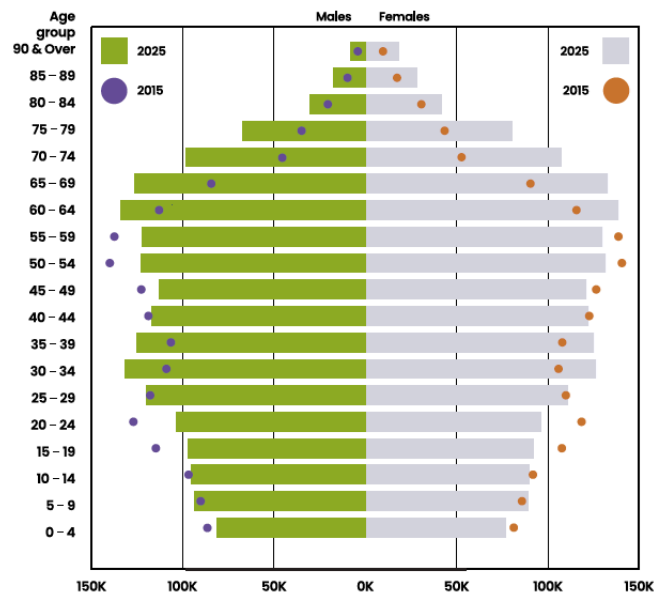
- **A lack of coordination between hospitals resulted in inefficient patient transfers, which could have delayed treatment and caused unintentional deaths [1 mark].**
- **A lack of coordination between the authorities and hospitals also hampered central distribution of resources across hospitals, delaying much-needed aid to less equipped centres [1 mark].**
- **There was a lack of clear directive from the authorities, leading many hospitals to make their own decisions and rely on their expertise and judgement [1 mark].**
- **A lack of a national patient database could have hampered search and rescue team efforts for family members affected by the earthquake [1 mark].**

AO3

[Total: 15]

3 Cluster 5: Singapore

- (a) Study Fig. 3.1 (Insert), which shows the age profile of Singaporean citizens in 2015 and 2025.



- (i) Using Fig. 3.1, describe the changes in age profile of Singaporean citizens between 2015 and 2025. [3]

Award 1 mark for each description of changes in age profile, to a maximum of 3 marks.

Possible responses include:

- There were fewer citizens aged 0-24 years in 2025 [1 mark].
- There were more citizens over the age of 60 in 2025 [1 mark].
- There were fewer citizens aged between 40-49 years in 2025 [1 mark].
- The number of citizens aged 25-29 was the same in 2015 and 2025 [1 mark].

AO2

- (ii) Explain the challenges Singapore faces due to changing demographics. [4]

Award 1 mark for each explanation of challenges, to a maximum of 4 marks.

Award a maximum of 1 additional mark for further development of each explanation, where applicable.

Possible responses include:

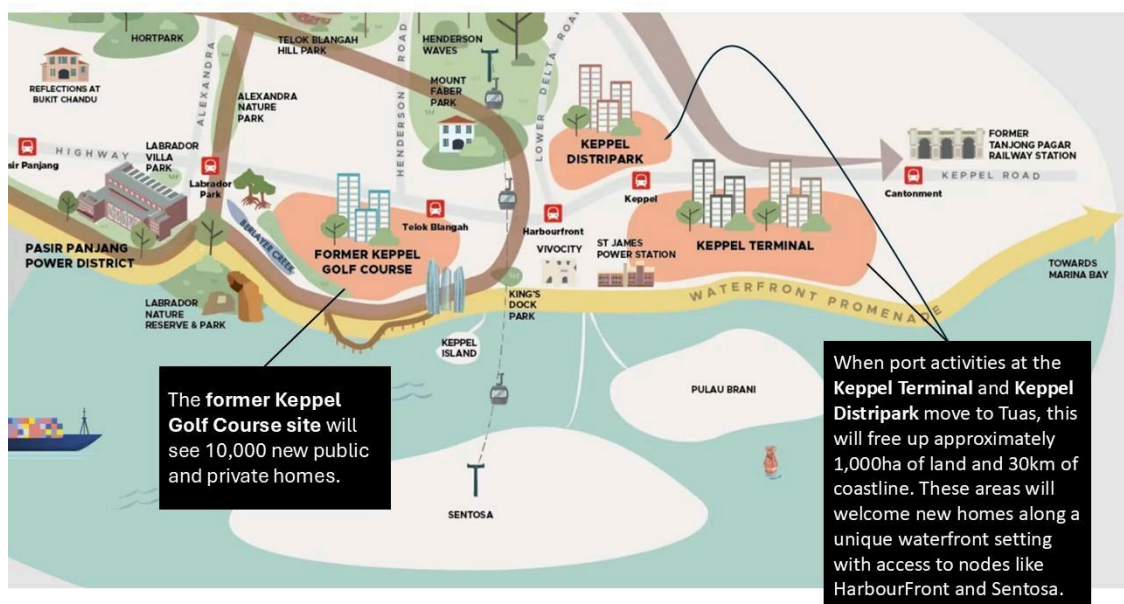
- With a falling birth rate and a low total fertility rate, this will affect the number of people that will eventually join the nation's workforce population [1 mark].
- Due to a falling workforce population, Singapore will need to rely on more foreign labour, hence making it vulnerable to any global shifts that causes labour shortages [1 mark]. For example, the COVID-19 pandemic in 2020 led to border closures around the world, restricting labour movement. This had a significant impact on a country like Singapore, which is heavily reliant on foreign labour [1 additional mark].
- With low fertility rates and an increasing life expectancy, there will be fewer members of the working population (Singaporeans under the age of 65)

providing and supporting each elderly person as Singapore's population ages [1 mark].

- With fewer working adults paying taxes, this will place a strain on Singapore's resources to provide elderly care and infrastructure [1 mark].
- Singapore will become increasingly diverse, and this may give rise to xenophobic
- tendencies among some Singapore citizens who believe that foreigners have negatively affected their job opportunities [1 mark]. Cultural differences between locals and non-residents also have the potential to cause misunderstandings or disagreements, resulting in disharmony in society [1 additional mark].
- With an ageing population, it could take longer to recover from such economic slowdown. This is because resources that have been previously allocated to care for the aged cannot be reallocated to aid economic recovery in the short run [1 mark]. The reliance on foreign workers also poses challenges because it is common for foreign workers to return to their home countries during an economic slowdown. This shortage of workers could hinder economic recovery [1 additional mark].

AO1

- (b) Study Fig. 3.2 (Insert), which shows an illustrative map of the Greater Southern Waterfront that aims to redevelop Singapore's southern coastline.



With reference to Fig. 3.2, explain how Singapore thrives as a small island city-state. [4]

Award 1 mark for each explanation of how Singapore thrives as a small island city-state, to a maximum of 4 marks.

Award a maximum of 1 additional mark for further development of each explanation, where applicable.

Possible responses include:

- The plan makes space for other land uses such as residential spaces, making efficient use of space given our small landmass [1 mark]. The Greater Southern Waterfront plan will move port activities at Keppel Terminal and Distripark to Tuas and free up 1,000ha of land and 30km of coastline [1 additional mark].

- The residential spaces are in close proximity to recreational areas and facilities, making it a liveable area [1 mark]. Residents can visit Sentosa and parks to engage in leisure activities, improving the quality of life [1 additional mark].
- The residential spaces are also situated close to business districts like Marina Bay and HarbourFront, allowing residents to commute conveniently to and from their homes [1 mark].
- Further, there will be new commercial spaces, creating more jobs for residents [1 mark].
- As Pulau Brani will be redeveloped into a leisure area, this will further boost the entertainment options for residents living at the Southern waterfront [1 mark].

AO2

- (c) 'Integrated master planning is the best approach to achieving sustainable development in Singapore.'

How far do you agree with this statement? Explain your answer. [9]

Relevant content

Approaches to sustainable development

- Building up resilience
- Integrated master planning
- Dynamic urban governance

Level	Marks	Generic Level Descriptors for 9-mark AO3 Questions
3	7-9	Develops arguments that support 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.
2	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.
1	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.
0	0	No creditworthy response.

A possible approach

The answer makes clear a judgement on whether integrated master planning is the best approach to sustainable development. Reference could be made to show how reviewing land use plans can support Singapore's long-term land use needs and strike a balance between economic and social development. The answer should also include a comparison to another approach such as building up resilience or dynamic urban governance, before arriving at a conclusion that a combination of approaches usually has the best outcomes. Building resilience ahead of demand, integrating land use planning with economic, social and environmental planning that is implemented and executed by clear political leadership can ensure a sustainable future for all.

AO3

[Total: 20]

Assessment Specification Grid

Question	Max Mark	Question part	AO1	AO2	AO3
1	15	(a)		2	
		(b)(i)		2	
		(b)(ii)	3		
		(c)		4	
		(d)	4		
		Total	7	8	0
2	15	(a)(i)		5	
		(a)(ii)	4		
		(b)			6
		Total	4	5	6
3	20	(a)(i)		3	
		(a)(ii)	4		
		(b)		4	
		(c)			9
		Total	4	7	9

AO1: $3 + 4 + 4 + 4 = 15\text{m}$

AO2: $2 + 2 + 4 + 5 + 3 + 4 = 20\text{m}$

AO3: $6 + 9 = 15\text{m}$