

METHODIST GIRLS' SCHOOL

Founded in 1887



PRELIMINARY EXAMINATION 2026 Secondary 4

HUMANITIES (Geography)

Monday **2260/02**

17 August 2026

1 hour 45 minutes

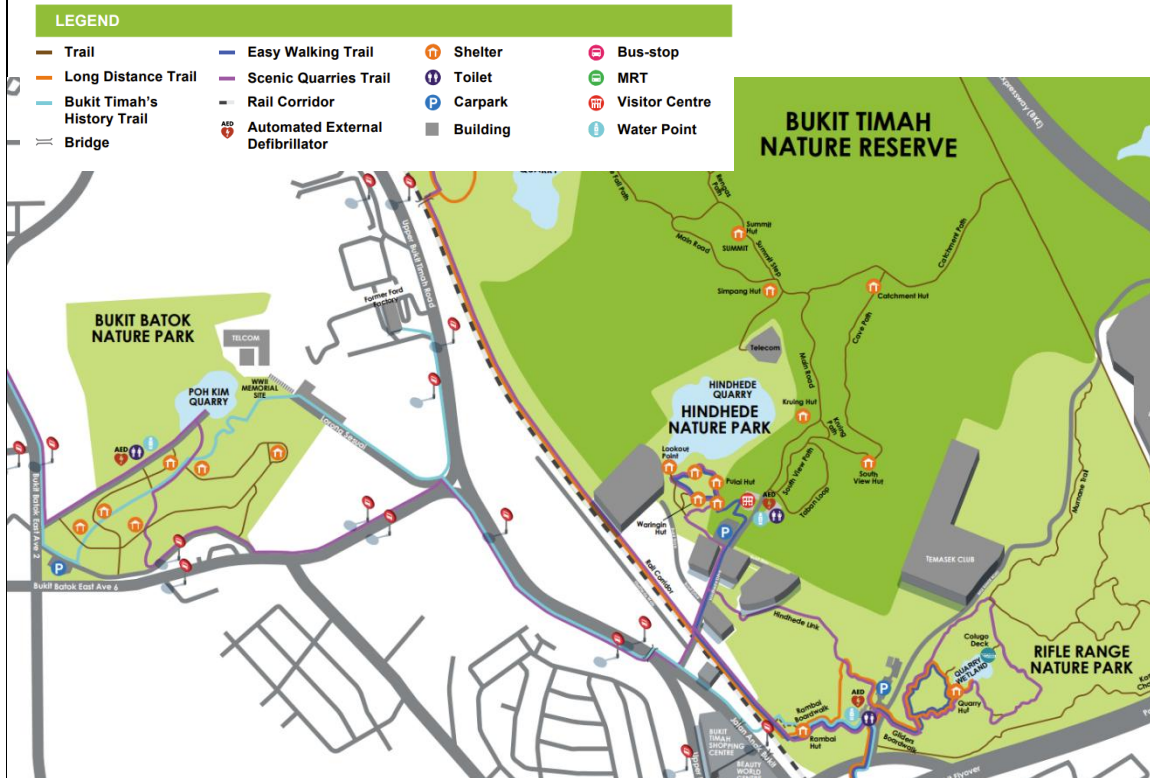
ANSWER SCHEME

Section A

Answer Question 1 and Question 2.

1	Cluster 1: Geography in Everyday Life	
(a)	Study Fig. 1.1 (Insert), which shows a part of the Rail Corridor near Bukit Timah.	
		
(i)	Using Fig. 1.1, identify one supporting ecosystem service provided by the Rail Corridor. [1]	
	• Examples include: • Lianas growing on trunks and branches of larger trees • Habitat for plants and animals • Biodiversity conservation • Nutrient cycling Award 1 mark for one valid supporting ecosystem service. Accept other possible answers AO2	
(ii)	Explain how green areas the Rail Corridor contributes to residents' sense of place. [2]	
	Content - Green areas may: • provide opportunities for recreation and relaxation • create pleasant surroundings • encourage repeated visits • strengthen emotional attachment • provide memorable experiences • strengthen community interaction • preserve local heritage and identity • improve mental well-being leading to positive association with the place Award 1 mark for each explained point above. Up to 2 points. AO1	

- (b) Study Fig. 1.2 (Insert), which is a signage alerting users of potential hazards along the Rail Corridor, and Fig. 1.3, which is map that includes the map of part of the Rail Corridor with the location of AEDs ((Automated External Defibrillator)).



Using Figs. 1.2 and 1.3, explain how such maps and signages can help build community resilience in Singapore. [3]

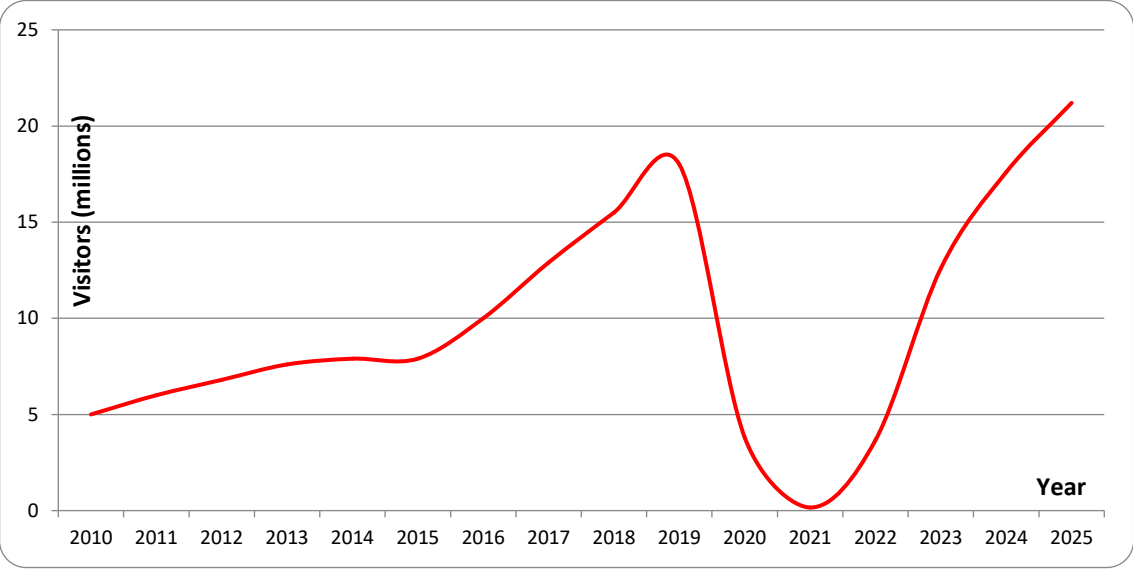
Content:

- Sustainable communities are built when awareness about potential hazards is raised

		• Signages and maps improve visitor awareness and increases safety • The signage such as lightning warning help users locate AEDs and shelter quickly Marking guidance • Award 1 mark for explaining how community resilience is increased • Award 1 mark for each valid explanation from the figures • Award up to 2 marks for developed explanations. Examples • <i>Hazard signs warn users about uneven ground. (1) Hazard signs warn users about uneven ground, reducing accidents and making the Rail Corridor safer for all users. (1) AED maps allow visitors to quickly locate emergency equipment, improving survival during cardiac emergencies (1)</i> AO2 Accept other possible answers.
c)	(i)	A group of students wishes to investigate how different groups of visitors use the Rail Corridor throughout the day. They intend to conduct pedestrian counts and questionnaires at several access points.. Using Fig. 1.3, elaborate on how the students should collect their data for their investigation. [3]
		Content: Student should • select several access points shown on the map • conduct pedestrian counts and surveys at these points due to how the access point is the main gateway to certain parts of the parks • count users during fixed time intervals at different times of day, and on different days to account for peak and off peak times and days • record different user groups separately (walkers, cyclists, joggers etc.) to show different types of uses of the parks • choose a sampling method which is appropriate Marking guidance • Award 1 mark for each valid step. • Award up to 3 marks for a well-developed methodology. AO2. Accept other possible points such as a consideration of locations and explanations.
	(ii)	Suggest three questionnaire questions that would help students understand why visitors choose to use the Rail Corridor. [3]
		Indicative answers: Credit any suitable questionnaire questions. • Why are you visiting the Rail Corridor today? • How often do you visit? • How did you travel here? • Which activity are you mainly carrying out? • Why did you choose this location? • Which facilities do you use? Marking guidance • Award 1 mark per suitable question.

		• Questions must be relevant to the investigation likely to generate useful data AO1 Accept other possible answers.
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[Total: 14]

2	Tourism
(a)	Study Fig. 2.1 (Insert), which shows the annual number of visitors to Vietnam between 2010 and 2025.  (i) Using Fig. 2.1, describe the trends in visitor numbers to Vietnam between 2010 and 2025. [3]
	Indicative content: Award one mark for each valid description of the trend. • Overall increasing trend from 2010 to 2025. • Gradual increase from approximately 5 million (2010) to about 18 million (2019). • Sharp decline between 2019 and 2021. • Rapid recovery after 2021. • Visitor numbers exceeded pre-pandemic levels by 2025. AO2 All points should include data points. Accept other possible answers.
(ii)	Explain reasons for the increase in visitor numbers in rapidly growing tourist destinations such as Vietnam. [3]
	Indicative content • Improved accessibility through expansion of airports and international flight routes. • Government promotion of tourism. • Increased use of social media and digital marketing. • Development of tourist infrastructure. • Greater variety of tourist attractions. • Improved accommodation. • Growth of the middle-income population worldwide.

		- Easier visa requirements. - Competitive travel costs. Marking guidance - Award 1 mark for each valid reason identified - Award 1 extra mark for detailed explanation of identified reason Example <i>Countries such as Vietnam built more international airports which lead to increasing accessibility (1) This reduced reducing travel time by encouraging direct routes to cities and results in more overseas tourists to visit. (1)</i> AO1 Accept other possible answers.
	(b)	Study Fig. 2.2 below, which is a news report on tourism management in Komodo National Park.
		Komodo National Park limits tourist visits to 1,000 per day Komodo National Park has become one of Indonesia's fastest-growing tourist destinations. Visitor numbers have increased rapidly following improvements in transport links and extensive promotion on social media. However, conservationists have expressed concern that overcrowding is damaging coral reefs, disturbing Komodo dragons and increasing litter in protected areas. The high number of tourists visiting the area each year is considered to put excessive pressure on the environment. The latest tourism data has shown that visits reached 429,509 visitors in 2025 with 68 percent of that total consisting of international tourists. This number has exceeded the annual tourism carrying capacity of the entire region according to a 2022 study. The study previously set the carrying capacity for both land and water areas at 378,870 visitors per year. To reduce environmental impacts, the Indonesian government has introduced measures including limiting daily visitor numbers, increasing entrance fees, designating specific walking trails and restricting access to sensitive habitats. Local businesses have expressed concerns that these measures could reduce tourism income, while environmental groups argue that stricter regulations are still needed.
		Using Fig. 2.2, explain why Komodo National Park may be entering the stagnation stage of the tourism destination cycle. [3]
		Indicative content - Visitor numbers have exceeded carrying capacity. - Environmental degradation is occurring such as coral reefs being damaged and wildlife being disturbed. - Visitor management measures have been introduced and entrance fees are increasing which are signs of government response to stagnation issues. Marking guidance - Award 1 mark for each identification of one characteristic of the stagnation stage. - Award 1 mark for well elaborated link to characteristics of the stage.

		A02 Accept other possible answers.
	(c)	"Strict visitor management and other aspects of ecotourism are effective in achieving sustainable tourism." How far do you agree with this statement? Explain your answer.
		<u>Relevant Content</u> Ecotourism • Small scale tourism to natural areas with emphasis on guided and regulated tours and education of both hosts and tourists. • Educate and increase tourists' appreciation of nature • Put in place measures to minimise the negative impact on the environment • Uncertainty over the continuity of efforts in conserving nature • Uncertainty over involving local communities Community-based Tourism • Encourage the local community to participate in decision-making on tourism development in their community • Put in place measure to increase economic and social benefits to local communities • Educate and increase tourist appreciation of local culture and protection of the environment • Loss of culture • Competition with large-scale tourism developments Pro-poor tourism • Training • Increasing access to micro-finance • Inability to significantly reduce poverty as compared to direct investment in social services • Economic benefits may be high unevenly distributed, with most of the benefits being channelled to non-poor locals <u>A possible approach:</u> The answer could begin by acknowledging that the effectiveness of ecotourism in achieving sustainable tourism development depends greatly on the local context, such as the natural environment, community involvement, and governance. With reference to specific ecotourism initiatives, the answer could then outline the conditions under which ecotourism delivers the greatest benefits, such as strong environmental protection measures, equitable sharing of revenue, and active participation of local communities. Relevant case studies and examples could be used to illustrate successful outcomes, such as biodiversity conservation and livelihood improvement. The answer could also consider the alternative view that other approaches, such as community-based tourism and pro-poor tourism, may in some cases be equally or more effective. The evaluation could weigh these perspectives before arriving at a reasoned conclusion on whether ecotourism or other approaches should be prioritised over other tourism development strategies. <u>Sample conclusion:</u> Ecotourism is the most effective approach to sustainable tourism development because it combines environmental conservation with visitor education, ensuring long-term protection of natural areas. While community-based and pro-poor tourism bring social and economic

benefits, they may not prioritise environmental sustainability to the same extent. Well-managed ecotourism delivers lasting benefits for both nature and local communities, making it the most impactful strategy overall.

(DL Competency: Critical Thinking: Evaluation information and arguments)

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 (Limited Evidence)	0	No creditworthy response

AO3

[Total: 18]

Section B

Answer **either** Question 3 **or** Question 4.

Question 3 is a DUMMY question. Students should not be attempting to answer the question.

4		Cluster 4: Tectonics
	(a)	Study Fig. 4.1 (Insert), which shows the distribution of ocean trenches and volcanoes around the Pacific Ocean.



(i) Using Fig. 4.1, describe the distribution of volcanoes. [3]

Content

- Most ocean trenches are found around the margins/boundary of the Pacific Ocean (Ring of Fire).
- They are located mainly along plate boundaries such as between the Pacific plate and the Eurasian plate.
- Trenches are concentrated along the western coast of North and South America.
- Trenches are found east of Asia and around Japan, the Philippines and Indonesia.

Award **1 mark** for each valid descriptive point. Answer should be a mix of at least 2 categories (Plate names, continent names, country names)

□

A02

(ii) Explain the relationship between the distribution of ocean trenches and volcanoes. [4]

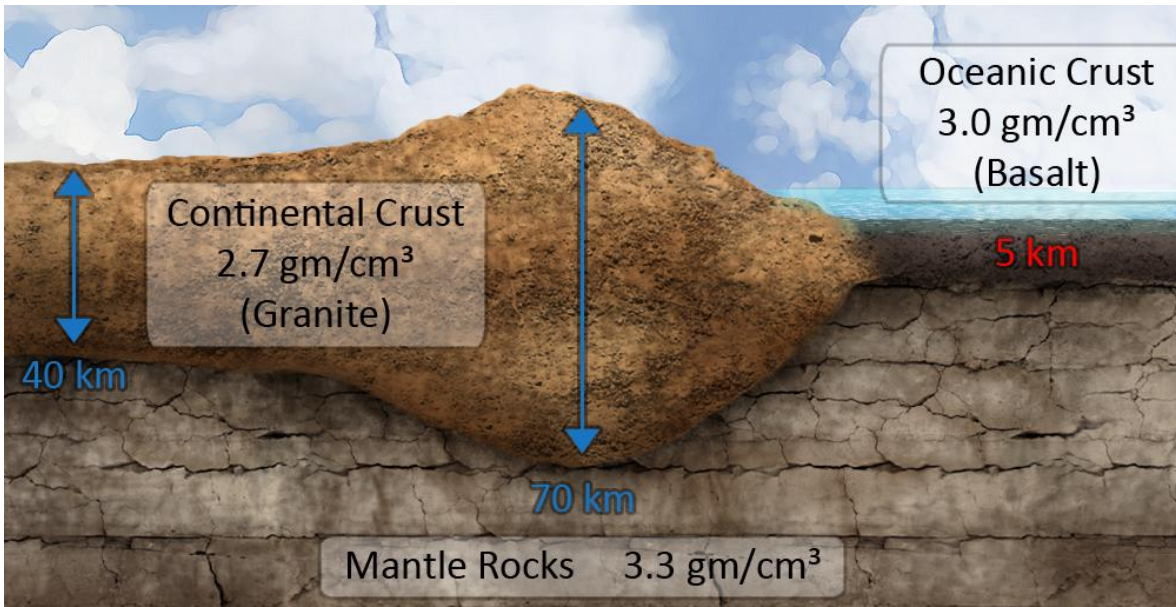
Indicative content

- Volcanoes are commonly located close to ocean trenches.
- Both occur along convergent plate boundaries.
- Oceanic plates subduct beneath another plate at trenches.
- Subduction causes partial melting of the descending plate and magma rises through weaknesses in the crust.
- Volcanoes form parallel to, but landward of, ocean trenches.

Marking guidance

Award: 1 mark for identifying the relationship between volcanoes and trenches. 2–4 marks when answer explains the relationship using plate tectonic processes.

A02

	(b) Explain how slab pull force is a driving force that causes the movement of tectonic plates. [3]
	Indicative content • Oceanic plate is denser and is pulled in converge with the lighter continental plate through convectional currents • The denser oceanic plate sinks into the mantle at the subduction zone. • Gravity and the weight of the denser oceanic plate pulls the descending slab downwards to the mantle/asthenosphere. Marking guidance Award 1 mark Identifies slab pull or sinking of the plate. 2 marks explain that increased density causes the plate to sink and pull the plate. 3 marks fully explain the sequence: cooling → increased density → subduction → gravitational pull → plate movement. A01
	(c) Study Fig. 4.3 (Insert), which shows the main differences between continental and oceanic plates.  The diagram illustrates the cross-section of the Earth's crust and upper mantle. On the left, the thick, light-brown continental crust is shown with a double-headed blue arrow indicating its thickness, ranging from 40 km to 70 km. A label box identifies it as 'Continental Crust' with a density of 2.7 gm/cm³ and composition of (Granite). To the right, the thin, dark grey oceanic crust is shown with a red label '5 km' indicating its thickness. A label box identifies it as 'Oceanic Crust' with a density of 3.0 gm/cm³ and composition of (Basalt). Below both crust types, the mantle rocks are shown in a cracked, greyish-brown texture, with a label box indicating a density of 3.3 gm/cm³.
	With reference to Fig. 4.3, describe the main differences between continental and oceanic plates. [2] Indicative content • Continental crust is less dense at 2.7gm/cm³ compared to oceanic 3.0gm/cm³ • Continental crust is thicker at 40 to 70km compared to 5km depth • Continental crust is mainly granitic while Oceanic crust is mainly basaltic. • Continental crust is generally older while Oceanic crust is generally younger. Marking guidance • Award 1 mark for each correct comparison A02

	(d) Evaluate the risk of living next to shield volcanoes compared to stratovolcanoes [6]								
	Indicative content <table border="1" data-bbox="284 248 1350 566"> <tr> <td data-bbox="284 248 855 327">Stratovolcanoes riskier than Shield</td><td data-bbox="855 248 1350 327">Stratovolcano risk can be lower or curtailed</td></tr> <tr> <td data-bbox="284 327 855 405">High silica, low viscosity causes conditions for higher risk</td><td data-bbox="855 327 1350 405">Low silica low viscosity can cause unpredictable lava flows</td></tr> <tr> <td data-bbox="284 405 855 483">High explosive potential that can cause tephra and lethal lahar, pyroclastic flow</td><td data-bbox="855 405 1350 483">Monitoring and early warning and evacuations can reduce risk</td></tr> <tr> <td data-bbox="284 483 855 566">Gas trapped due to plugging can increase explosive damage and release of ash</td><td data-bbox="855 483 1350 566"></td></tr> </table> Award 2 marks for each comparison. 4 marks max for one sided answer. AO3	Stratovolcanoes riskier than Shield	Stratovolcano risk can be lower or curtailed	High silica, low viscosity causes conditions for higher risk	Low silica low viscosity can cause unpredictable lava flows	High explosive potential that can cause tephra and lethal lahar, pyroclastic flow	Monitoring and early warning and evacuations can reduce risk	Gas trapped due to plugging can increase explosive damage and release of ash	
Stratovolcanoes riskier than Shield	Stratovolcano risk can be lower or curtailed								
High silica, low viscosity causes conditions for higher risk	Low silica low viscosity can cause unpredictable lava flows								
High explosive potential that can cause tephra and lethal lahar, pyroclastic flow	Monitoring and early warning and evacuations can reduce risk								
Gas trapped due to plugging can increase explosive damage and release of ash									

Assessment Objectives

AO1	AO2	AO3
2+3+3+3+4 (15)	2+3+3+3+3+3+3 (20)	9+6 (15)