

METHODIST GIRLS' SCHOOL

Founded in 1887



PRELIMINARY EXAMINATION 2025 Secondary 4

HUMANITIES (Geography)

Wednesday
27 August 2025

2260/02
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 photograph of a trail being used by visitors in Sungei Buloh Wetland Reserve. 
		With reference to Fig 1.1, state how local communities and nearby nature areas are dependent upon each other. [1]
		Local communities go into nearby nature areas to acquire knowledge about the natural world, and natural areas can thrive better through human intervention and protection like in a reserve. AO1 Both sides must be presented.
	(b)	Study Fig. 1.2 below, which is a news report on a hornet attack on visitors to Sungei Buloh Wetland Reserve in July 2024.
		Hornet Attack at Sungei Buloh Sungei Buloh Wetland Reserve is Singapore's first and only wetland reserve, and is a haven for migratory birds and a wide variety of flora and fauna. It's a popular spot for nature lovers and those seeking a tranquil escape from the city, offering unique experiences like exploring mangrove forests and spotting wildlife. An area inside the Sungei Buloh Wetland Reserve has been cordoned off from the public, following a hornet attack on July 14 that led to five people being taken to hospital. In a post uploaded onto Chinese social media site Xiaohongshu, a passer-by, who said that he often visits the wetland reserve, said he saw four ambulances and a row of people applying ice packs on their heads. Mr Leslie Chong, sales director of System Pest Control Services, told ST that hornets attack when they are provoked or when people are too close to their nest, causing the hornets to feel threatened. Mr Lim said that hornets are large-bodied wasps that live in large colonies that build their nests using plant fibres and, like honey bees, will “readily sting” to defend their hives. In natural environments, hornets may build their hives on trees, within low-lying shrubs, and even on the ground, he added.

Using Fig. 1.2, explain why conflicts can occur in spaces where people visit nature. [3]

- Conflicts occur due to human presence in natural habitats, as people may intentionally or unintentionally disturb wildlife or come too close to animal habitats.
- **impact of people on nature** - visitors may accidentally provoke animals (e.g., hornets) or come too close to nests, causing the animals to feel threatened and attack.
- **impact of nature on people** - e.g. In Fig. 1.2, people were stung after getting too near a hornet nest in Sungei Buloh, and this happens due to the proximity of hives to visitor trails, and the nature of how hornets behave when hives are threatened.

AO2

Award 1 mark for explanation, 1 mark for using Fig.

(c) Study Fig. 1.3 (Insert), which shows a map of the Sungei Buloh Wetland Reserve.



(i) With reference to Fig. 1.3, explain how natural areas such as Sungei Buloh Wetland Reserve provides regulating and supporting ecosystem services. [4]

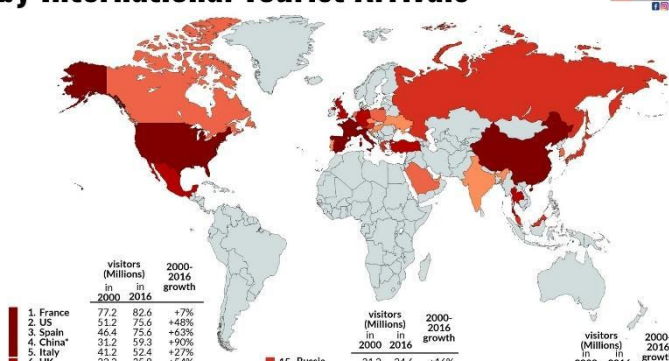
- **Regulating Services:** From the Fig, the large linear area that is reserved across about 3km, and also along the river system of Sungei Buloh itself.
- would mean that the mangroves would thrive and act as a regulator for coastal water quality.
- **Supporting Services:** Services such as the tidal ponds to the west side of the reserve would provide prey necessary for
- The support of larger migratory birds which explains the bird watching trails and the various lookouts and hideouts.

AO2

Accept other possible answers.

	(ii)	A group of students are keen to investigate why visitors to Sungei Buloh Wetland Reserve choose to visit the reserve, and the main attractions and activities visitors participate in. The students designed a survey to find out the reasons visitors chose to visit the reserve. Using Fig 1.3, choose two locations that the students can administer the survey and explain why these locations are suitable. [4]
		• They should choose the two visitor centres: firstly the Visitor centre near the Kranji carparks, and also the Wetland centre near the Neo Tiew carpark. • This is because the 2 centres are the main staging areas for the 2 main parts of the reserve, and most visitors will walk through them. • And also because the Visitor Centre will capture visitors who are there for the trail walks, • While the Wetland Centre will capture visitors who are there for bird watching and the short boardwalk. AO2. Accept other possible locations and explanations.
	(iii)	Suggest two survey questions that the students can include in their survey that can provide meaningful data for their research.
		• One question could be asking for the main reason for visiting the Reserve, with options such as birdwatching, walking the trail, etc., from which the respondent chooses from by ticking all relevant options. • Another question could be the age range of the visitor with options such as 13-19, 20-29 etc. to explore the possibility that age plays a part in determining the main reasons for visiting. AO2 Accept other possible answers.

[Total: 14]

2	Tourism																																																																																																																								
(a)	Study Fig. 2.1 (Insert), which shows a world map of the top 30 international tourism destinations from 2000 to 2016. Top 30 Most Visited Countries by International Tourist Arrivals Source: World Tourism Organisation (UNWTO), 2016 *China: not included Hong Kong and Macao  visitors (Millions) in 2000 in 2016 2000-2016 growth <table><tr><td>1. France</td><td>77.2</td><td>82.6</td><td>+7%</td></tr><tr><td>2. US</td><td>51.2</td><td>75.6</td><td>+48%</td></tr><tr><td>3. Spain</td><td>46.4</td><td>75.6</td><td>+63%</td></tr><tr><td>4. China*</td><td>31.2</td><td>59.3</td><td>+90%</td></tr><tr><td>5. Italy</td><td>41.2</td><td>52.4</td><td>+27%</td></tr><tr><td>6. UK</td><td>23.2</td><td>35.8</td><td>+54%</td></tr><tr><td>7. Germany</td><td>19.0</td><td>35.6</td><td>+87%</td></tr><tr><td>8. Mexico</td><td>20.6</td><td>35.0</td><td>+70%</td></tr><tr><td>9. Thailand</td><td>9.6</td><td>32.6</td><td>+240%</td></tr><tr><td>10. Turkey</td><td>9.6</td><td>31.3</td><td>+226%</td></tr><tr><td>11. Austria</td><td>18.0</td><td>28.1</td><td>+56%</td></tr><tr><td>12. Malaysia</td><td>10.2</td><td>26.8</td><td>+163%</td></tr><tr><td>13. Hong Kong</td><td>8.8</td><td>26.6</td><td>+202%</td></tr><tr><td>14. Greece</td><td>13.1</td><td>24.8</td><td>+89%</td></tr><tr><td>15. Russia</td><td>21.2</td><td>24.6</td><td>+16%</td></tr><tr><td>16. Japan</td><td>4.8</td><td>24.0</td><td>+400%</td></tr><tr><td>17. Canada</td><td>19.6</td><td>20.0</td><td>+2%</td></tr><tr><td>18. Saudi Arabia</td><td>6.6</td><td>18.0</td><td>+173%</td></tr><tr><td>19. Poland</td><td>17.4</td><td>17.5</td><td>+1%</td></tr><tr><td>20. South Korea</td><td>5.3</td><td>17.2</td><td>+224%</td></tr><tr><td>21. Netherlands</td><td>10.0</td><td>15.8</td><td>+58%</td></tr><tr><td>22. Macao</td><td>5.2</td><td>15.7</td><td>+202%</td></tr><tr><td>23. Hungary</td><td>3.0</td><td>15.3</td><td>+410%</td></tr><tr><td>24. UAE</td><td>3.1</td><td>14.9</td><td>+381%</td></tr><tr><td>25. India</td><td>2.6</td><td>14.6</td><td>+462%</td></tr><tr><td>26. Croatia</td><td>5.3</td><td>13.8</td><td>+160%</td></tr><tr><td>27. Ukraine</td><td>6.4</td><td>13.3</td><td>+108%</td></tr><tr><td>28. Singapore</td><td>6.1</td><td>12.9</td><td>+112%</td></tr><tr><td>29. Czech Rep.</td><td>4.8</td><td>11.9</td><td>+148%</td></tr><tr><td>30. Portugal</td><td>5.7</td><td>11.4</td><td>+100%</td></tr></table>	1. France	77.2	82.6	+7%	2. US	51.2	75.6	+48%	3. Spain	46.4	75.6	+63%	4. China*	31.2	59.3	+90%	5. Italy	41.2	52.4	+27%	6. UK	23.2	35.8	+54%	7. Germany	19.0	35.6	+87%	8. Mexico	20.6	35.0	+70%	9. Thailand	9.6	32.6	+240%	10. Turkey	9.6	31.3	+226%	11. Austria	18.0	28.1	+56%	12. Malaysia	10.2	26.8	+163%	13. Hong Kong	8.8	26.6	+202%	14. Greece	13.1	24.8	+89%	15. Russia	21.2	24.6	+16%	16. Japan	4.8	24.0	+400%	17. Canada	19.6	20.0	+2%	18. Saudi Arabia	6.6	18.0	+173%	19. Poland	17.4	17.5	+1%	20. South Korea	5.3	17.2	+224%	21. Netherlands	10.0	15.8	+58%	22. Macao	5.2	15.7	+202%	23. Hungary	3.0	15.3	+410%	24. UAE	3.1	14.9	+381%	25. India	2.6	14.6	+462%	26. Croatia	5.3	13.8	+160%	27. Ukraine	6.4	13.3	+108%	28. Singapore	6.1	12.9	+112%	29. Czech Rep.	4.8	11.9	+148%	30. Portugal	5.7	11.4	+100%
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(i)	Using Fig. 2.1, describe the global distribution of the top 30 international tourism destinations in the world in 2016. [3]																																																																																																																								
	• General pattern / overview: Most of the top 30 international tourism destinations are located in the Northern Hemisphere or in Developed Countries. • Continent: There is a high concentration of top destinations in Europe, including France, Spain, and Italy. European nations take up 5 of the top 10 countries. • Specific: the top three destinations have significantly more arrivals compared to other destinations. No. 3 Spain has 75.6 million arrivals, which is a gap of 16 million No.4 China with 59.3 million. AO2 Accept other possible answers.																																																																																																																								
(ii)	With reference to Fig. 2.1, explain how ability to travel has led to rapidly growing tourist destinations.[3]																																																																																																																								
	• Growth in disposable incomes and increased leisure time due to paid vacation such as potential 4 day work weeks in countries such as Iceland. • Tourism growth is also facilitated by business innovations which make travel planning more convenient such as internet based booking of accommodations, transport and attraction tickets such as agoda.com • And lower transportation costs through the development of more fuel efficient airplanes such as the Airbus A350. AO2 Accept other possible answers.																																																																																																																								

	(b)	Study Fig. 2.2 below, which is a news report on the state of tourism of Ha Long Bay, a famous tourist destination in Vietnam.
		Vietnam's Ha Long Bay is losing its famous turquoise hue as pollution and over-development threaten its wildlife and picture-perfect image. The UNESCO site is one of Vietnam's most popular tourist destinations, with more than seven million people visiting its blue-green waters and rainforest-topped limestone islands last year. But the bay's popularity, and the subsequent rapid growth of Ha Long City—now home to a cable car, amusement park, luxury hotels and thousands of new homes—have severely damaged its ecosystem. The surrounding town is already heavily developed, with docks and luxury apartments clogging the shoreline. Last month pictures were published in state media of an enormous construction site running through the waters of a neighboring bay, sparking outrage among conservationists. Conservationists estimate there were originally around 234 types of coral in the bay—now the number is around half. There is also a huge problem with both human and plastic waste. On Thursday tourists queued up for seats in a boat-plane to wing their way over the bay and see its more than 1,900 islands from the air. "I was actually expecting for more blue waters in Vietnam," said Anete Cimbule from Latvia.
		Using Fig 2.2, explain why Ha Long Bay can be placed at the stagnation stage of the tourism destination cycle. [3]
		• Environmental degradation – The natural appeal of Ha Long Bay (e.g. turquoise water, coral reefs) is declining due to pollution, coral loss, and plastic waste. • Overdevelopment – Rapid construction (e.g. amusement parks, cable car, luxury hotels) has led to overcrowding and visual pollution, reducing the bay's charm. • Tourist dissatisfaction or declining image – Visitors express disappointment (e.g. expecting more blue waters), indicating the destination is no longer meeting expectations. AO2 Accept other possible answers.
	(c)	'Ecotourism is the most effective approach for achieving sustainable tourism development.' How far do you agree with this statement? Explain your answer.
		<u>Relevant Content</u> Ecotourism • 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 highly unevenly distributed, with most of the benefits being channelled to non-poor locals

A possible approach:

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.

Sample conclusion:

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

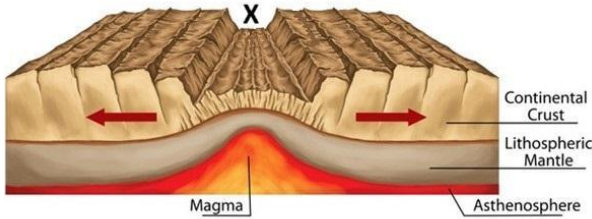
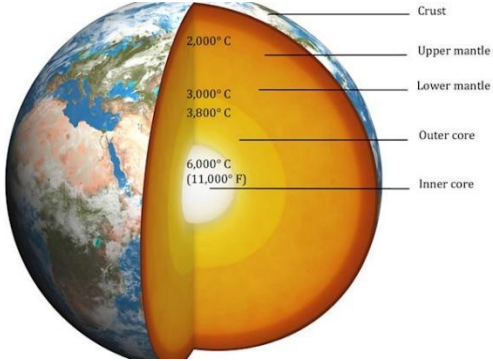
AO3

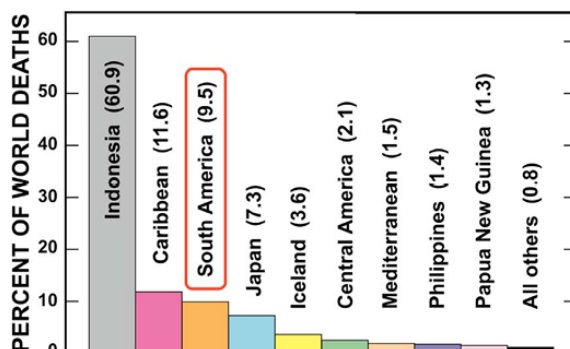
[Total: 18]

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 a diagram of a plate tectonic landform. 
	(i)	Identify the type of plate boundary in Fig. 4.1. [1] Continental-Continental Divergence AO2
	(ii)	With reference to Fig. 4.1, explain the tectonic landforms that form along X. [4] - Diverging tectonic plates pull apart continental crust, causing tensional forces that stretch the crust, causing it to fracture. - The crust breaks along normal faults due to the stress, creating parallel fractures. Land subsides/sink along these faults to form a linear depression called a rift valley - The thinning crust due to the tensional pulling of the crust exposes mantle material at the aesthenosphere to be exposed to significantly lower pressure. - The mantle material liquefies and forms magma which rise and eventually erupt unto the surface of the crust. Repeated eruptions will lead to the formation of volcanoes. AO2
	(b)	Study Fig. 4.2 (Insert), which shows the earth's internal structure and temperature. 

		With reference to Fig 4.2, explain how convectional currents are the driving force that causes the movement of tectonic plates. [4]																						
		- Heat from the inner core and lower mantle causes mantle material to heat up. The high temperatures (up to 6000°C) heat the lower mantle, especially near the core. - Hot mantle material becomes less dense and rises. As it rises, it carries energy upwards in the form of convection currents. - As it reaches the upper mantle, it spreads out beneath the crust. The lateral movement of mantle material drags the tectonic plates along with it. - Cooler mantle material then sinks back down, creating a continuous cycle. This sinking of denser, cooler material completes the convection current, maintaining plate motion. AO1																						
	(c)	Study Fig. 4.3 (Insert), which is a graph showing the percentage of fatalities from volcanic eruptions since 1600 by country.  <table><tr><th>Region</th><th>Percentage of World Deaths</th></tr><tr><td>Indonesia</td><td>60.9</td></tr><tr><td>Caribbean</td><td>11.6</td></tr><tr><td>South America</td><td>9.5</td></tr><tr><td>Japan</td><td>7.3</td></tr><tr><td>Iceland</td><td>3.6</td></tr><tr><td>Central America</td><td>2.1</td></tr><tr><td>Mediterranean</td><td>1.5</td></tr><tr><td>Philippines</td><td>1.4</td></tr><tr><td>Papua New Guinea</td><td>1.3</td></tr><tr><td>All others</td><td>0.8</td></tr></table>	Region	Percentage of World Deaths	Indonesia	60.9	Caribbean	11.6	South America	9.5	Japan	7.3	Iceland	3.6	Central America	2.1	Mediterranean	1.5	Philippines	1.4	Papua New Guinea	1.3	All others	0.8
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		Using Fig 4.3, describe the global distribution of fatalities from volcanic eruptions since 1600. [3] - Indonesia accounts for the majority of volcanic fatalities. It has the highest percentage (60.9%) of world deaths from eruptions. - High fatality rates are also seen in other tectonically active regions. The Caribbean (11.6%) and South America (9.5%) are significant contributors. - Regions around the Pacific Ring of Fire dominate the chart. Including Japan (7.3%), Central America, the Philippines, and Papua New Guinea. AO2. Reserve 1 mark for 3rd point above.																						
	(d)	Evaluate the risks and benefits of staying in volcanically active areas.																						
		Benefits: Fertile soil: Volcanic ash enriches soil, supporting agriculture (e.g. in Java, Indonesia). Geothermal energy: Renewable and clean energy source (e.g. Iceland). Tourism opportunities: Attracts tourists, boosting local economies (e.g. Mount Fuji, Japan). Mineral resources: Valuable minerals (e.g. sulfur) found near volcanoes. Harms: Loss of life and property: Violent eruptions can destroy homes and kill people (e.g. Mount Merapi, Indonesia). Health hazards: Ash and gases can cause respiratory problems.																						

	Disruption to livelihoods: Damage to infrastructure, farmland, and water sources. Max 3 marks if one sided. Evaluation statement 1 mark.
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Table of Specifications

Section	Question	AO1	AO2	AO3
A	1(a)	1		
	1(b)		3	
	1(c)(i)	4		
	1(c)(ii)		4	
	1(c)(iii)		2	
B	2(a)(i)		3	
	2(a)(ii)	3		
	2(b)		3	
	2(c)			9
C	3(a)(i)		4	
	3(a)(ii)	3		
	3(b)			6
	3(c)	5		
	4(a)(i)		1	
	4(a)(ii)	4		
	4(b)	4		
	4(c)		3	
	4(d)			6
Total		16	19	15