

St. Joseph's Institution
Year 4 Preliminary Examination 2026
Geography 2260/02

Qn	Answer	Marks
1ai	Using Fig. 1.1, describe the trend in Singapore's highest PSI reading from 2012 to 2022. Award 1 mark for each description of the trend of PSI reading from 2012 to 2022, to a maximum of 3 marks. Award a maximum of 1 additional mark for further development of each description, where applicable. Possible responses include: • The PSI readings fluctuated significantly from 2012 to 2022 with a few sharp peaks and several years with relatively low PSI readings [1 mark] • The PSI peaked in 2013 at 400, which is the highest value in the period. This is at least 13 times higher compared to the lowest PSI reading recorded in 2020 [1 additional mark] • Similarly, 2015 and 2016 also recorded very high PSI levels with PSI reading of about 340 and 320 respectively [1 mark] • In contrast, some years such as 2020 (PSI 30) and 2022 (PSI 50) had much lower readings. [1 mark]	3
1aii	With reference to Fig. 1.1, suggest the impacts on human and natural systems if the PSI level increases above 300. Award 1 mark for each <u>negative</u> impact on human and natural systems, to a maximum of 3 marks. Award a maximum of 1 additional mark for further development of the impact, where applicable. Possible responses: Impact on human system • When the air quality becomes hazardous it can lead to health issues such as respiratory infections, heart diseases and lung cancer [1 mark] • Exposure to high levels of PM2.5 (particulate matter such as soot, smoke and dust) may cause lung function to decline in older adults as it enters the bloodstream and lodge deep in human lungs [1 additional mark] Impact on natural system • The pollutants can deposit into water bodies, potentially causing acid rain, contaminating water quality [1 mark]	3

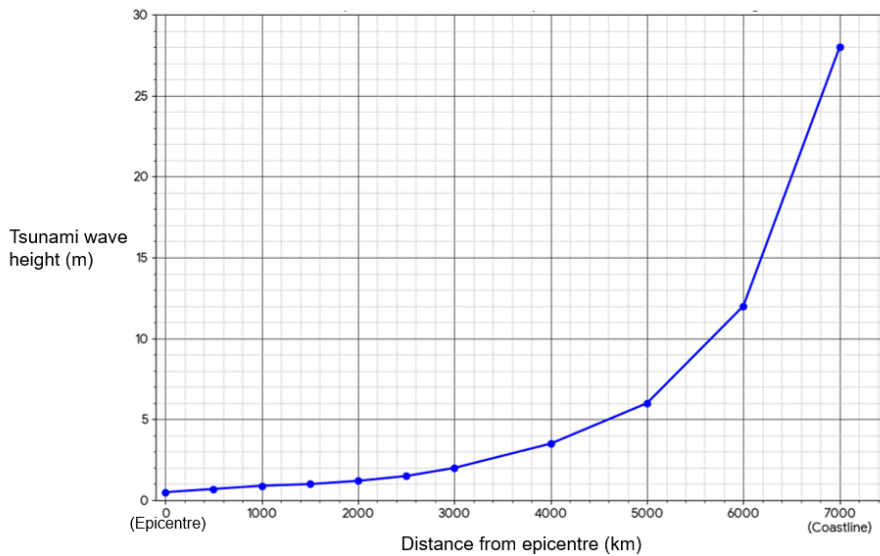
	• PSI levels above 300 are generally linked to massive forest and peatland fires, which directly destroy habitats, reduce biodiversity, and eliminate vegetation [1 mark] • High levels of PM2.5 (fine particulate matter) and other smoke pollutants block sunlight and create a persistent, thick haze [1 mark]. This reduction in solar radiation inhibits the ability of plants to photosynthesize, hindering growth [1 additional mark]	
1bi	Using Fig. 1.2, assess the effectiveness of community resilience day in a HDB town. Award 1 mark for an assessment that provides <u>support</u> for the effectiveness of community resilience day. Award 1 mark for an assessment that <u>does not</u> support the effectiveness of community resilience day. Award a maximum of 1 additional mark for further development of the evaluation. Possible responses include: <u>Effective</u> • It provides practical resilience-building activities ◦ Examples such as <i>fire-fighting try-outs</i>, <i>lifesaving skills</i>, <i>SGSecure tips</i>, and <i>home team roadshows</i> show that the event focuses on <u>equipping residents with emergency preparedness skills</u> [1 mark]. This is effective because community resilience depends on people who have the knowledge and skills to respond to crises [1 additional mark]. • It strengthens the relationship among residents and raises their awareness of potential hazards ◦ The free admissions and walk-ins lower barriers to participation. This inclusiveness strengthens social cohesion, which is a key aspect of resilience [1 mark]. • The inclusion of trusted organisations (e.g. SCDF, Singapore Police Force, SGSecure) enhances credibility [1 mark]. This reassures the public that the information and activities are reliable and relevant to real emergency situations [1 additional mark] <u>Less effective</u> • The “uniform try-on for kids” is largely recreational than educational [1 mark]. As such it is not a very effective strategy for promoting community resilience because it contributes little to the core goal of building knowledge, skills, and preparedness for emergencies [1 additional mark].	3

1bii	Suggest one factor that can affect the sphere of influence of an event such as Community Resilience Day. Award 1 mark for one factor that is elaborated. Possible response: • Accessibility – Events located near MRT stations, bus stops, or major roads are easier to reach, so they attract people from a wider area [1 mark].	1
1c	Using Fig. 1.3, evaluate how well the data supports the students' hypothesis. Award 1 mark for an evaluation that provides <u>support</u> for the hypothesis, to a maximum of 2 marks. Award 1 mark for an evaluation that <u>does not</u> support the hypothesis, to a maximum of 2 marks. Award a maximum of 1 additional mark for further development of the evaluation. Possible responses include: <u>Support</u> • For town centre X, the number of vehicles on Saturday is consistently higher for all timings [1 mark]. The average number of vehicles for town centre X on Saturday is 283 vehicles while on Wednesday it is lower at about 144 vehicles. OR • Town centre X shows that generally there were almost twice as many vehicles on Saturday than on Wednesday [1 mark]. For e.g., on Wednesday between 10.00 – 10.15, there were 110 vehicles and the number increased by almost to 210 which is about 91% on Saturday (210 – 110/110). [1 additional mark] • The peak on Saturday at 380 vehicles is 65% higher than the peak on Wednesday at 230 vehicles [1 mark]. <u>Does not support</u> • Town centre Y shows more traffic on Wednesday at 3 survey times compared to Saturday (10.00 – 10.15; 14.00 -14.15 & 16.00 – 16.15) [1 mark]. • Between 18.00 – 18.15, the number of vehicles for both Saturday and Wednesday is very similar at 350 and 340 respectively, a difference of only 10 vehicles [1 mark]	4

2a	Explain how globalised information sharing has shaped tourism trends. Award 1 mark for an explanation on how globalised information sharing has shaped tourism trends. Award 1 additional mark for further exemplification. Possible responses include: - Globalised information sharing driven by the improvement of ICT such as the internet, have made travel information widely accessible and rapidly disseminated [1 mark]. - Social media platforms such as Instagram and TikTok allow destinations to gain global attention quickly. For example, visually appealing locations can go viral, attracting large numbers of tourists within a short period [1 additional mark]. OR - Globalised information sharing has influenced the type of tourism experiences sought by travellers. Tourists are increasingly drawn to unique and “Instagrammable” activities, leading to the growth of niche tourism such as cultural, food, and adventure tourism [1 mark]. - This reflects a shift from traditional sightseeing to more experiential travel [1 additional mark]. OR - Online platforms like TripAdvisor enable tourists to access reviews and recommendations from other travellers. This allows for more independent travel planning and reduces reliance on travel agencies [1 mark]. - As a result, tourists can customise their itineraries and make informed decisions based on peer feedback [1 additional mark]	2
2bi	With reference to Fig. 2.1, explain the growing popularity of this type of tourism. Award 1 mark for an explanation on the popularity of the type of tourism. Accurate identification of the type of tourism must be included in the explanation. Award 1 additional mark for further exemplification. Possible responses include: Health tourism is gaining popularity due to changing lifestyles, rising stress levels, and increased global awareness of wellness practices [1 mark] - Health tourism provides tourists with activities that are relaxing and enhance their mental or spiritual wellness such as yoga retreats [1 additional mark]	2

	These wellness facilities are also often located in scenic and culturally rich destinations, allowing tourists to combine relaxation with travel experiences [1 additional mark]	
2bii	Using Fig. 2.2, describe the stage of tourism development of Sri Lanka. Award 1 mark for the accurate identification and description of the stage of development. Award 1 additional mark for supporting with evidence. Possible responses include: - Stage 3: Development Stage - Tourists arrivals increase rapidly at the development stage [1 mark]. In Sri Lanka, October 2025 recorded 165,193 visitors, the highest-ever monthly figure, exceeding the previous record set in 2018 [1 additional mark] - At the development stage, there is heavy advertising of the destination [1 mark] as evident in the focused destination marketing by Sri Lanka [1 additional mark].	2
2c	Using Fig. 2.3, suggest how the increase in entrance fees will impact the people and Bach Ma National Park. Award 1 mark for each positive <u>and</u> negative impact, to a maximum of 2marks. Award 1 additional mark for further elaboration. Possible responses include: Positive - Previously, locals received no direct financial benefits. - With the local community receiving 40% of the revenue, they will be more receptive to tourists as they will be able to find employment and receive wages, improving their livelihoods [1 mark]. - This encourages locals to support conservation and reduce conflicts such as illegal logging and poaching [1 additional mark]. Negative - The decrease in the share of revenue by 40% for the park means that there is less funds available for maintenance and conservation of the park [1 mark]. - The substantial increase in fees by US\$9.30 for international tourists may deter price-sensitive visitors from visiting the park, resulting in overall reduction in revenue for maintenance and conservation of the park [1 additional mark].	3

2d	'Education and training are the most effective strategies in ensuring sustainable tourism development.' How far do you agree with this statement? Explain your answer. Relevant content • Education of tourists (in ecotourism & community-based tourism) and education/training of locals (in all 3 approaches) • Locals' participation in decision making processes • Measures, policies, laws	9
4ai	Name the type of plate boundary shown in Fig. 4.1. Continental – continental convergent plate boundary [1 mark] <u>Not acceptable</u> convergent	1
4aii	With reference to Fig. 4.1, explain the formation of the Himalayan Mountains. Award 1 mark for each explanation on the formation of the Himalayan Mountains, to a maximum of 3 marks. Award a maximum of 1 additional mark for further development of the explanation Possible responses include: • When the Eurasian and Indian plates collide, subduction does not take place as both are continental plates. This is because the continental plates are buoyant [1 mark]. • However, the collision caused enormous pressure and the rocks and sediments between the plates were compressed [1 mark], uplifted and buckled to form fold mountains, which are the Himalayan Mountains [1 mark]	3
4bi	Using the data in Table 4.1, complete the line graph in Fig. 4.2. • Data points for 6000km and 7000km must be plotted to get 1 mark	1

**4bii**

With reference to Fig. 4.2, account for the differences in tsunami wave heights.

3

Award 1 mark for each explanation on how the wave height differs from the epicentre to the coastline to a maximum of 3marks.

Possible responses include:

- In the deep ocean near the epicentre, the wave height is low at less than 1m because the massive volume of displaced water is spread over an extremely long wavelength [1 mark].
- As the tsunami enters shallower water near the coastline, the bottom of the wave drags against the ocean floor. Greater friction with the shallower seabed causes the wave to slow down [1 mark].
- As the front of the wave slows, the back of the wave catches up (the waves get closer together), causing the wavelength to decrease and the water to pile up and increase in height up to 28m[1 mark].

4c

Using Fig. 4.3, describe the global distribution pattern of regions which experience middle to very high degrees of seismic hazards.

4

Award 1 mark for each description of the global distribution pattern, to a maximum of 4 marks.

Possible responses include:

- Regions with middle to very high degree of seismic hazards are mainly found along plate boundaries [1 mark].

	• A major concentration is around the Pacific Ocean, forming the Ring of Fire, including the western coasts of North and South America, Japan, the Philippines, and Indonesia [1 mark]. • Another belt of high degree of seismic hazards stretches from the Mediterranean region across the Middle East along the Arabian plate to the Himalayas and Southeast Asia [1 mark]. • In contrast, regions located away from the plate boundaries, such as those in central Africa, Australia and northern Asia, generally experience middle degree of seismic hazards [1 mark].	
4d	With reference to Fig. 4.4, suggest the effectiveness of earthquake monitoring and warning systems. Award 1 mark for a suggestion on the effectiveness of the monitoring and warning systems. Award 1 additional mark for further development of the suggestion. Possible responses include: • The use of a closely spaced sensor network (5–20 km spacing) ensures that seismic waves and ground deformation are picked up almost instantly near the epicenter, maximizing the warning time for areas further away [1 mark]. This allows individuals to take immediate cover under sturdy furniture or evacuate, significantly reducing injuries from falling debris. [1 additional mark] • With an early warning system, automated signals can trigger emergency braking on high-speed trains to prevent derailments [1 additional mark]. • It also allows gas utilities to automatically shut off valves to prevent post-earthquake fires [1 additional mark]	2
4e	Compare the characteristics of eruptions from stratovolcanoes and shield volcanoes. Award 1 mark for comparing a similarity and 3 marks for the differences, to a maximum of 4 marks. Possible responses include: • Both volcanoes release lava and gases during eruptions [1 mark] • Stratovolcano eruptions are violent and explosive while shield volcanoes eruptions are gentler and more effusive [1 mark]	4

	• Stratovolcanoes eject massive columns of ash and tephra, volcanic bombs and pyroclastic flows. Shield volcanoes produce mainly lava flows with little ash [1 mark] • Stratovolcanoes eject lava which is more viscous while shield volcanoes lava is runny and less viscous [1 mark]. • Shield volcanoes lava flows faster and further away while stratovolcanoes lava flows shorter distance [1 mark].	
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