Anglo-Chinese School
(Independent)

PRELIMINARY EXAMINATIONS

YEAR 4 O-LEVELS

GEOGRAPHY **2279/01**

Wednesday **20 August 2025**

Marking Scheme

Answer **all** questions.

1	**Cluster 1: Geography in Everyday Life**			
	(a)	A group of students conducted a geographical investigation on why the Dover-Medway and Mediapolis areas were selected for upcoming residential developments. They studied factors such as accessibility, proximity to amenities and services, and quality of life. Study Fig. 1.1 (Insert), which shows the location of upcoming residential areas in the Dover-Medway and Mediapolis region.		
		The students designed a closed-ended questionnaire to test the hypothesis: "Residential developments are more likely to be located near public transport and educational institutions."		
		(i)	With reference to Fig. 1.1, describe the geographical factors that may have influenced the selection of Dover-Medway and Mediapolis for new residential developments.	**[3]**
			Award 1 mark for each valid description of a geographical factor with reference to the map. **Possible responses include:** • **Proximity to public transport** – The areas are near MRT stations like Dover, Buona Vista, and Kent Ridge, offering convenient travel options. • **Access to educational institutions** – Schools such as Singapore Polytechnic, ACS(I), ACJC, and NUS are nearby, attracting families with children. • **Nearby employment opportunities** – Located close to one-north, Mediapolis, and Singapore Science Park, providing job prospects within commuting distance. • **Availability of amenities and recreational spaces** – Parks like Kent Ridge Park and the Rail Corridor offer green space for leisure. • **Existing urban infrastructure** – The areas are already served by major roads and amenities like The Star Vista mall and healthcare facilities like NUH. *Accept other plausible descriptions*	
		(ii)	With reference to Fig. 1.1, state **three** questions and response options which the students could use for their closed-ended questionnaire to find out nearby residents' views on the suitability of these locations for housing.	**[3]**
			Award 1 mark for each appropriate question and response set. Responses should reflect a closed-ended question format. **Possible question and response options include:** 1m for each question and response pair. No marks awarded if answer did not include plausible response options.	

			1. **How important is proximity to MRT stations when choosing a residential area?** ☐ Not important ☐ Somewhat important ☐ Very important 2. **Are there sufficient amenities such as shopping malls and parks in this area?** ☐ Yes ☐ No ☐ Not sure 3. **Do you think the presence of schools and educational institutions nearby improves the attractiveness of the area for housing?** ☐ Yes ☐ No *Accept other suitable closed-ended questions and responses.*	
		(iii)	Suggest how the students could manage the limitations of unforeseen factors affecting the study.	
			Award 1 mark for each valid and relevant strategy to address limitations due to unforeseen factors. Answers do not need describe what kind of unforeseen factors there may be. **Possible responses include:** • **Conduct pilot surveys** – Trial runs help identify unclear questions or logistical issues before the main data collection. • **Have backup data collection methods** – Use online forms or digital surveys in case of bad weather or participant unavailability. • **Increase sample size or survey period** – Extending the study duration allows more data to be collected, improving reliability. • **Use multiple locations or time slots** – Avoid bias caused by collecting data only at specific times or places. • **Ensure clear instructions and question wording** – Minimises misinterpretation and inconsistent responses from participants. *Accept other plausible strategies.*	**[3]**
	(b)	Another group of students want to find out how weather conditions affect public use of the Kent Ridge Park in Fig. 1.1 (Insert). The students wanted to test the hypothesis: "Fewer people visit public parks when temperatures are above 30°C." They gathered data on daily temperatures and park visitor numbers over ten days, shown in Table 1.1 (Insert).		
		(i)	State the temperatures on the days with the highest and lowest number of visitors.	
			Highest number of visitors: 421 visitors on Day 2 with a temperature of **28.4°C** Lowest number of visitors: 52 visitors on Day 9 with a temperature of **33.1°C** *Answers only need to state temperature with appropriate units. No other data required.*	**[2]**

		(ii)	Using Table 1.1, evaluate how well the data supports the students' hypothesis.	**[5]**
			Award 1 mark for each valid evaluation of how well the data supports the students' hypothesis. Max 4 marks if answer does not provide any relevant data from Table 1.1. Possible responses include: • The data generally **supports the students' hypothesis.** • Day 9 had one of the highest temperatures (**33.1°C**) and the lowest number of visitors (**52**), supporting the hypothesis. • Days with temperatures below **30°C** (Days 2, 4, 7, 8) generally had higher visitor numbers. • For example, **Day 2 (28.4°C) had the highest number of visitors (421).** • However, on Day 6 (33.4°C), the park had 328 visitors, which is an anomaly. o This could be due to it being a public holiday or the weekend, which generally attracts more people. *Accept other plausible evaluations*	
		(iii)	Evaluate the validity of the investigation conducted by the students.	**[4]**
			Award 1 mark for each evaluation of the validity of the investigation. Possible responses include: • The investigation is valid as the **data collected corresponds to the aim of the investigation**, which is **daily average temperature and the number of visitors.** • The investigation is **valid as primary data was collected for 10 days**, which is a **reasonable number of days** to collect data. • The investigation **may not be valid as the data only includes two variables: temperature and number of visitors.** o Other variables such as **rainfall, weekends, holidays, or special events are not accounted for.** • The investigation **may not be valid as the method of collecting visitor numbers is not mentioned** – if it was observational, there could be inaccuracies or inconsistency in counting. *Accept other plausible evaluations*	
				[Total: 20]

2 Cluster 2: Tourism

(a) Explain reasons why people are motivated to travel. **[4]**

Award 1 mark for each valid explanation on why people are motivated to travel. Award an additional 1 mark for a valid further elaboration of a point.

Possible responses include:

- People travel due to the **need for relaxation / stress relief** from a busy working/academic life.
- People also travel due to the **desire for personal growth / self-fulfillment**.
- People also travel to **seek interests in unique travel experiences**.
  - This can include **new or exciting niche travel experiences**, such as visiting **Antarctica or trekking in remote areas**.
- People are motivated to travel to **seek out cultural learning or to broaden their perspectives.**

Accept other plausible explanations related to motivation to travel, not mobility or ability.

(b) Table 2.1 shows changes in the average number of annual paid leave days and the number of tourist departures (millions) out of a developed country.

Table 2.1

Changes in average number of annual paid leave days and number of tourist departures

	2015	2016	2017	2018	2019	2020	2021	2022	2023
Average number of annual paid leave days	7	8	9	10	11	12	13	14	18
Number of tourist departures (millions)	6.4	7.2	7.8	10.5	11.2	0.04	0.2	8.6	15.3

(i) Using Table 2.1, account for the relationship between the average number of annual paid leave days and number of tourist departures.

Award 1 mark for each valid explanation for the relationship between the average number of annual paid leave days and number of tourist departures.

Award up to a maximum for 2 marks if answer has no data from Table 2.1.

Possible responses include:

- As the average number of annual paid leave days increases, the number of tourist departures increases.
  - For example, in 2015, there are 7 annual paid leave days and a total of 6.4 million tourist departures. Both increased to 18 annual paid leave days and 15.3 million tourist departures in 2023. **[3]**

			• This can be due more leisure time allocated away from work, allowing people to travel overseas more often or more easily. • From 2020 to 2021, a global pandemic forced international borders to close, resulting in the drastic drop in tourist departures on both years (0.04 million in 2020 and 0.2 in 2021) despite the number of paid leave days increasing from 12 to 13. • In 2022, the international borders have reopened, leading to the increase of tourist departures at 8.6 million. *Accept other plausible explanations.*	
		(ii)	Using Table 2.1, plot the data for 2020 to 2022 on Fig. 2.1 and draw a best fit line.	[3]

Relationship between number of annual paid leave days and number of tourist departures

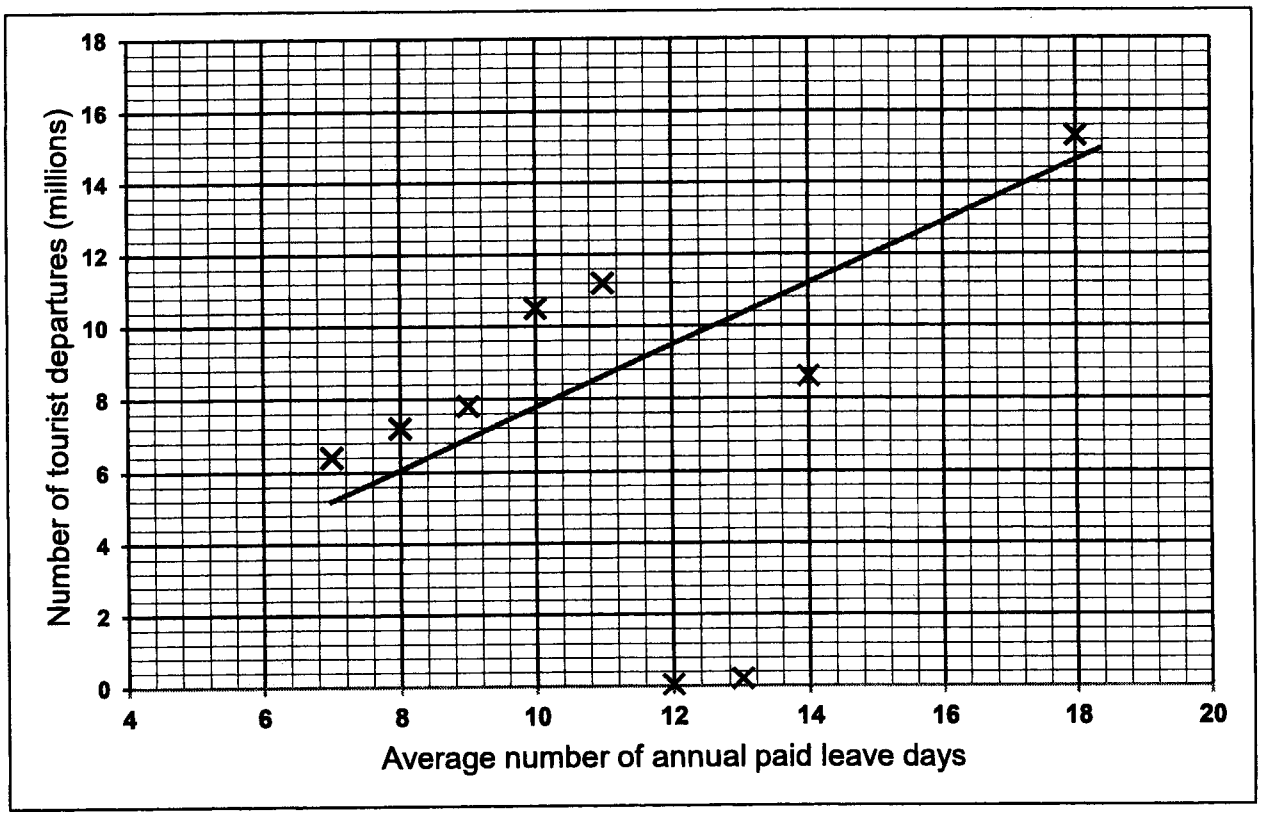

Fig. 2.1

Award 1m for 2 correctly plotted data, 2m for all 3 data points correctly plotted.
Award 1m for a reasonably drawn trendline.

	(c)	Study Fig. 2.2 (Insert), which shows a sign placed near a tourist attraction in Singapore.	
		With reference to Fig. 2.2, explain how the sign helps Singapore achieve sustainable tourism development.	[2]

		Award 1 mark for each valid explanation of how the sign helps Singapore achieve sustainable tourism development, up to a maximum of 2 marks. Possible responses include: • The sign helps to **preserve biodiversity and protect marine life.** • It also prevents **environmental degradation of water bodies and surrounding areas that can be caused by fishing** • It also **encourages responsible tourist behaviour** by **highlighting consequences such as a fine.** • It may also assist in **maintaining scenic quality and cleanliness of the area** for future visitors. *Accept other plausible explanations.*	
		Explain the role of international organisations in influencing sustainable tourism development.	**[3]**
		Award 1 mark for each valid explanation of the role of international organisations in influencing sustainable tourism development, up to a maximum of 3 marks. Possible responses include: • International organisations can offer **consultancy to countries on how sustainable tourism development** can be achieved. o For example, the UNWTO worked with Ha Tay Province in Vietnam to develop a tourism environment in the village, setting up handicraft workshops to generate employment and income. • They also **provide financial assistance to different stakeholders**, such as tour operators or local governments on developing tourism sustainably. o For example, ActionAid International worked with areas in Myanmar to take small groups of tourists on tours, with the revenue going to the locals and community development projects. • **Education efforts** by the international organisation can also help **raise public awareness** on how stakeholders can contribute to sustainable tourism development. *Accept other plausible explanations.*	
			[Total: 15]

3 Cluster 3: Climate

(a) Study Fig. 3.1 (Insert), which shows global temperature anomalies for each year from 2013 to 2022. Global temperature anomalies refer to how much hotter each year was compared to the 20th-century average.

(i) Describe the trend in global temperature anomalies shown in Fig. 3.1. **[3]**

Award 1 mark for providing the overall trend in global temperature anomalies.

Award 1 further mark for providing a specific trend with data from Fig. 3.1., up to 2 additional marks.

Possible responses include:

- Overall, the global temperature anomaly has increased from 0.62°C in 2013 to 1.10°C in 2022.
- There was a slight downward trend from 2016 to 2018, from 0.99°C to 0.85 °C.
- The most significant increase was from 2014 to 2015, from 0.65°C to 0.90°C

Accept other plausible trends.

(ii) Suggest anthropogenic factors that may have contributed to this trend. **[3]**

Award 1 mark for each valid suggestion on anthropogenic factors that may have contributed to this trend, up to a maximum of 3 marks.

Answers do not need explicit reference to Fig. 3.1.

Possible responses include:

- One major factor is the **burning of fossil fuels** such as coal, oil, and natural gas, which releases large amounts of carbon dioxide into the atmosphere.
- **Deforestation also contributes by reducing the number of trees that can absorb carbon dioxide.**
- **Industrial activities and urbanisation** increase greenhouse gas emissions through energy use and transportation.
- **Agricultural practices**, including livestock farming, release methane, a potent greenhouse gas that intensifies global warming.

Accept plausible answers pertaining to the dip in global temperature anomalies as well, such as:

- Increased **volcanic activity** during those years may have released ash and aerosols into the atmosphere, reflecting sunlight and cooling the Earth slightly.
  Stricter **climate regulations or renewable energy efforts** in some countries might have also contributed to reduced emissions during that time, although the effect may be small.

	(b)	'Changing consumption patterns is the most effective mitigation strategy to reduce greenhouse gas emissions.' How far do you agree with this statement? Explain your answer with examples.	**[9]**

Relevant content – Mitigation strategies

- Changing consumption patterns
- International agreements and cooperations
- Low Carbon technologies
- Clean/Renewable energy sources.

Level	Marks	Descriptors (marking rubrics)
3	7 – 9	Develop **arguments** that support **both sides, i.e.** changing consumption patterns against other mitigation strategies, of the discussion **clearly**, using a **range of points** with **good elaboration**. **Examples** of mitigation strategies used by countries or organisations were used to demonstrate a **comprehensive understanding** of the issue. Examples must also include an understanding of the effectiveness of the mitigation strategy, i.e. how successful was it to reduce greenhouse gas emissions. **Evaluation** is derived from **well-reasoned consideration** of the **arguments on the effectiveness of the mitigation strategy to reduce greenhouse gas emissions.**
2	4 – 6	Develops arguments that support one side of the discussion well, using one or two points with some elaboration. Examples used demonstrate a good understanding of the issue. Evaluation is well supported by arguments on the effectiveness of the mitigation strategy to reduce greenhouse gas emissions.
1	1 – 3	Arguments are unclear with limited description or mere listing. No examples provided or examples are generic, Demonstrating a basic understanding of the issue. Evaluation is simple, missing or unclear.
0	0	No credit worthy response

[Total: 15]

End of Paper

Anglo-Chinese School
(Independent)

PRELIMINARY EXAMINATION 2025
YEAR FOUR O-LEVELS

Paper 2 Geography **2279/02**

MARKING SCHEME

1 (a) Using Fig 1.1, explain how the garden may provide provisioning and cultural ecosystem services. [2m]

Fig. 1.1 for Question 1(a)

Garden in a housing estate in Singapore

Award 1 mark each for correct explanation of 2 services, up to max 2 marks.

Possible responses include:

The vegetables grown at the community garden provide provisioning ecosystem services where the vegetables can be source of food supply for residents

The nice scenery of plants in garden provide cultural ecosystem services to residents to relax as they enjoy the scenery

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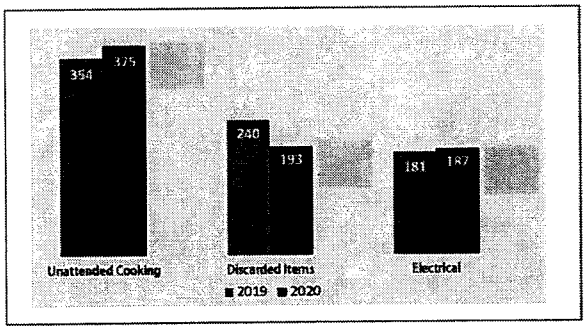
1 (b) (i) Using fig 1.2, compare the trend in the top three causes of residential fires between 2019 and 2020. [2m]

Fig. 1.2 for Question 1(b)

Causes of residential fires in Singapore



Award 1 mark each for correct description of a similarity and difference with data from the graph, up to max 2 marks. Max 1 mark if no data is quoted in answer.

Possible responses include:

The similarity is there is increase in fires due to unattended cooking by 21 and electrical by 6.
The difference is there is decrease in fires due to discarded items by 47

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1 (b) (ii) Describe how fires can negatively affect the residents. [2m]

Award 1 mark each for correct description of 2 points, up to max 2 marks.

Possible responses include:

Fires can cause injuries and deaths to residents who suffer from the burns or smoke inhalation
Residents have to spend money repairing damage to their homes from the fires

1 (b) (iii) Explain how building community resilience might reduce the risk of residential fires. [2m]

Award 1 mark each for correct explanation of 2 points on community resilience, up to max 2 marks.
No marks awarded for writing having extinguisher or fire alarm at home.

Neighbours can help to look out for any fire occurrences and help to extinguish the fire before it can spread to more houses while waiting for the arrival of SCDF

Volunteers who are the Community First Responders can help to educate the neighbours on fire hazard and encourage them to be alert while cooking, not to charge PMD illegally and look out for spoilt electrical wiring to prevent residential fires.

1 (c) Explain how the activity helps to enhance a sense of place for children. [2m]

Award 1 mark each for 2 well-explained points, up to max 2 marks.

Possible responses include

The weekly training sessions formed good memories for the children as they train together with their friends
The repeated activity done weekly will enhance their sense of place as they keep going to the same place for the taekwondo training

1 (d) With reference to Fig 1.4, describe the negative impacts that nature may bring to society. [2m]

Award 1 mark each for correct description of 2 points including attack by wildboar

Possible responses include:

Wild boar may attack human and caused injuries when they are provoked
Monkeys might enter our house to search for food and caused items to be broken

(or otters might eat the expensive koi fishes and caused financial loss to residents)

1 (e) With reference to fig 1.5, evaluate the effectiveness of recycling bins in promoting environmental stewardship in neighbourhoods in Singapore.[3m]

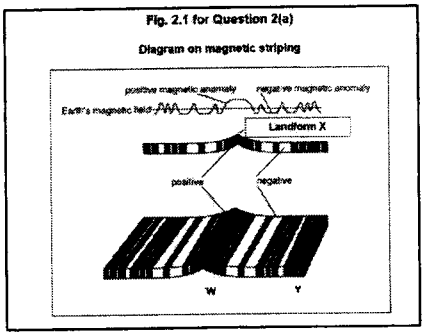
Award 1 mark each for correct explanation of at least one point on effective and not effective with max 3 marks. Answer must be based on the photo.

Possible responses include

It is effective because there is a recycling bin in the neighbourhood for the residents to recycle items

However it not effective because the bin is overflowing with rubbish indicating that there might not be enough recycling bins in the area
It is not effective because residents might not be aware of what items are accepted for recycling and throw all types of items into the bin

2 (a) Using Fig. 2.1, identify landform X and state whether rocks W or Y are older. [2m]

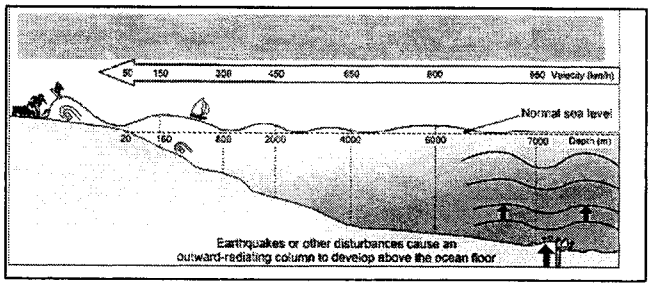


Award 1 mark each for correct identification of X and the older rocks, up to max 2 marks

Landform X is mid-oceanic ridge

Y are older rocks

2 (b) Using Fig 2.2, describe the formation of a tsunami. [4m]



Award 1 mark each for correct description of 4 points on formation of tsunami, up to max 4 marks.
Max 3 marks if no data from diagram is quoted in answer.

Possible responses include:

Undersea earthquake causes the seabed to be displaced
The waves start with great wavelength and low wave height away from the coast and very high wave height and short wavelength at the coast
The waves travel towards the coast decreasing the wave speed from 950km/h to 50km/h
The depth of sea decreases from 7000km to around 20km at the coast

4 (c) "Land use planning is the most important strategy in building community resilience to earthquakes and volcanic eruptions."
How far do you agree with this statement? Explain your answer. [9m]

level	marks	Descriptors
3	7 – 9	Develops **arguments** that support **both side** of the discussion **clearly**, using a **range of points** with **good elaboration**. **Examples** of locations of earthquakes and volcanic eruptions were used to demonstrate a **comprehensive understanding** of the issue. **Evaluation** is derived from **well-reasoned consideration** of the most **important strategy** for **community resilience**
2	4 – 6	Develops arguments that support one side of the discussion well, using one or two points with some elaboration. Examples used demonstrate a good understanding of the issue. Evaluation is well supported by arguments on land use planning or other strategies for community resilience
1	1 – 3	Arguments are unclear with limited description or mere listing. No examples provided or examples are generic. Demonstrating a basic understanding of the issue. Evaluation is simple, missing or unclear.
0	0	No credit worthy response

Land use planning

- reduce community's exposure to tectonic hazards by controlling and minimising development in high-risk areas
- strict guidelines to control development using hazard maps with data on past earthquakes
- this will lower injuries and damage to properties
- limitation is that some locals will still not follow the guidelines on locating their houses
- eg the Japanese have been following the strict guidelines on location of houses away from high-risk areas

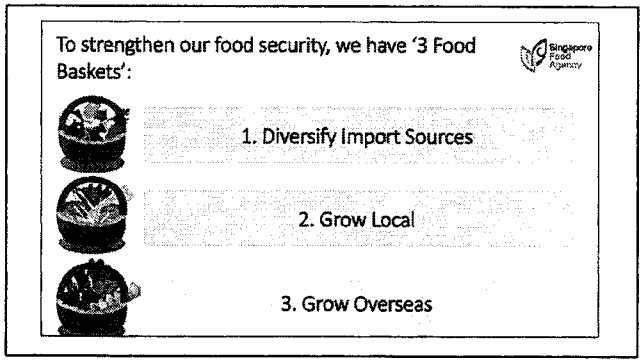
Monitoring and warning systems

- devices used to detect seismic waves and earthquakes to make predictions and send warnings on potential hazards
- warnings enable locals to evacuate to safer place thus lowering death rate
- eg tsunami warning system in the Pacific Ocean helped to detect oncoming tsunami and able to give early warning to the residents to evacuate to safety
- limitation is that the systems might be expensive and need constant maintenance or the warning might not be accurate in detection of hazard

Increase preparedness for response and recovery

- evacuation drills can be conducted often to remind residents on evacuation procedures and routes to reduce injuries and death rate
- limitation is that some communities lack the knowledge and not much effort done to educate the locals on community preparedness or some developing countries are suffering from political instability with corrupted governments who are not interested in community resilience efforts
- eg Japanese practice evacuation drills yearly on 1st September known as Disaster Prevention day in schools and the residential areas to familiarize the locals on evacuation routes and thus lower the death rate for the Tohoku tsunami in 2011
- eg Haiti earthquake in 2010 caused 220000 deaths with many locals not knowing the evacuation routes and looting took place instead of rescue personnel helping the survivors

3 (a) With reference to Fig 3.1 and named examples, describe two strategies from the 'food baskets' to maintain an adequate food supply in Singapore. [4m]



Award 2 marks for correct description of 2 strategies from the diagram with named examples, up to max 4 marks.
Max 3 marks if no named examples are given in the answer.

Possible responses include:

Singapore diversify our import of more than 90% of our food sources from around 170 countries such as Malaysia, Thailand and Vietnam, to reduce dependence on single source

Singapore grow locally by having our own vegetable, chicken and fish farms so that we are not reliant on others if there are any disruptions to global food supplies. Example Seng Choon egg farm in Lim Chu Kang rear many chickens in the modern farm which produces thousands of eggs daily.

(or Singapore grow overseas where our local farmers ventured overseas in Australia and China such as Sky Greens company in China to grow vegetables there and output is sent back to us)

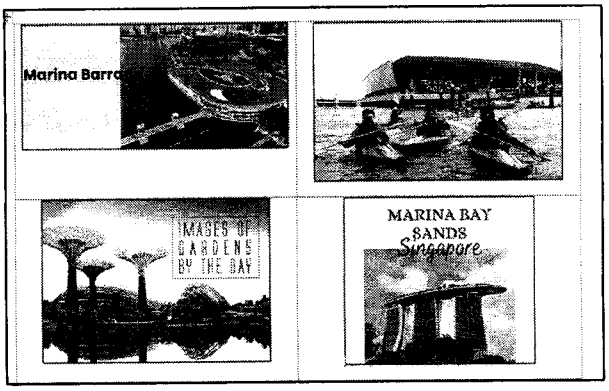
3 (b) Explain the challenges Singapore would face if a nearby region were to experience a mega-earthquake. [3m]

Award 1 mark each for correct explanation of 3 challenges of mega-earthquake, up to max 3 marks.

Possible responses include

Places that are built on stronger and more resistant rocks will be less affected by earthquakes in our nearby region.
Places built on reclaimed land are more prone to soil liquefaction caused by earthquakes which will cause destruction of buildings and infrastructure here
Some parts of Singapore which are low-lying will be subjected to flooding from tsunami from the mega earthquake. Floods will cause more damage to properties and increase death rate.

3 (c) Using Fig 3.2, explain how the development of the Marina Bay area supports Singapore's goals for sustainable development. [3m]



Award 1 mark each for correct explanation of 3 types of sustainable development, using named locations as shown in in Fig 3.2, up to max 3 marks.
Max 2 marks if no named areas are quoted in answer.

Possible responses include

Marina Bay Sands provide many job opportunities or economic sustainability such as working as waiter and front desk in the hotel or in the many shops in the mall.

Gardens by the Bay provide environmetal sustainabity with use of solar power, recycled water in toilets and many energy-friendly resources in the Flower Dome area

Marina Barrage provides social sustainability where recreational activities such as kayakking can be done for people to socialise and enjoy themselves

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3 (d) Evaluate the effectiveness of two initiatives to build social resilience to achieve sustainable development in Singapore. [4m]

Award 1 mark each for correct explanation of 2 points each in terms of effective and not effective for the 2 initiatives, up to max of 4 marks.

Possible responses include

Developing skills throughout life through skills future work study program is effective as workers pick up skills and gain work experience together with on the job training and classroom training. However it may not be that effective because not all workers have the time to go for courses to upgrade their skills.

Creating shared spaces is effective in bringing people together to foster relationships to build social resilience and community bonding. This is done with building of more children playground in the newer HDB estates with creative equipment using sustainable resources. However it might not be that effective because not all children prefer to play in outdoor playground and choose indoor playground with aircon comfort.

3 (e) (i) Explain what is meant by the urban heat island effect. **[2m]**

Award 1 mark each for 2 points on correct definition, up to max of 2 marks.

Possible responses include

Urban heat island effect occurs at area with many buildings and concrete surfaces. The buildings absorb and retain heat during the day and release it slowly at night thus making the area warmer at night and at daytime

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3 (e) (ii) With reference to Fig 3.3, explain how the development of Jurong Island contributes to Singapore's economic growth without compromising the quality of life of nearby residents. **[4m]**

Award 1 mark each for well-explained 2 points each on economic growth and quality of life of Juronng Island, up to max of 4 marks.

Possible responses include

There are few petro-chemical industries at Jurong Island which provides jobs for the locals and ensure high economic growth for Singapore.

(or there are also few companies specialising in clean energy in the Island)

There are many trees grown at Jurong Island to ensure shade, areas to relax for workers and to make the area more attractive. The trees will reduce urban heat island effect in the Island.
