

ANDERSON SECONDARY SCHOOL
Preliminary Examinations 2025
Secondary Four Express



CANDIDATE NAME:

CLASS:

INDEX NUMBER:

GEOGRAPHY

2279/01

Paper 1

26 August 2025

1 hour 45 minutes

0800 - 0945

Additional Materials: Insert

MARK SCHEME

1	Cluster 1: Geography in Everyday Life	
	A group of students from Horizon High School is interested to find out residents' perception of urban heat within a precinct. They want to investigate if the type of surface material influences the likelihood and frequency of residents spending time in various outdoor locations. They tested the hypothesis: 'Residents prefer to visit outdoor locations with natural surfaces than artificial ones due to lower perceived heat.' To prepare for their investigation, the students conducted a pilot survey on a Saturday afternoon. Fig. 1.1 shows an excerpt from their fieldwork journal that documents insights gained during the pilot survey. Excerpt from the students' fieldwork journal Date: 5 May 2025 Time: 2:00 PM - 4:00 PM Location: Ang Mo Kio Block 400s (near a small community garden) Sample size: 10 residents Notes: - Managed to find respondents quite easily. Many residents were reluctant to stop for long interviews due to the heat. Administered a short closed-ended questionnaire and attempted mental mapping. Some participants found it hard to draw detailed maps from scratch. Q5 was interpreted differently by different respondents. Fig. 1.1	
(a)	(i)	Suggest a measure that students could be implemented to mitigate a possible risk faced during their investigation. [2]
		Award 1m for identification of possible risk. Award 1m for suggesting a reasonable measure to mitigate it. • Risk: Heat stress / Dehydration / Sunburn [1] • Mitigation: Students should stay hydrated by drinking plenty of water/ wear light and loose clothing/ take frequent breaks in shaded areas/ schedule fieldwork during cooler periods of the day [1] Accept all plausible answers. AO1
	(ii)	Using Fig. 1.1, suggest why conducting a pilot survey is important. [2]
		Award 1 mark for suggesting a benefit of pilot survey, up to 1m. Award 1 additional mark for a further elaboration, up to 1m. • To identify potential problems/challenges with fieldwork methods to make changes/improve/refine [1]

		○ E.g. After finding out that most respondents do not know how to draw maps from scratch, they can provide base maps for the actual investigation [1 additional mark] • To assess feasibility of the investigation [1] ○ Whether or not the selected time, duration and venue is easy to find respondents if the timeframe [1 additional mark] AO2
(b)	The students decided to conduct a questionnaire to investigate their hypothesis near four different outdoor locations within the precinct: a playground with artificial turf, a community garden with natural soil, a basketball court with concrete surface, and a park lawn with grass.	
	(i)	Explain why convenience sampling may not be an appropriate choice of sampling method for their investigation. [4]
		Award 1m for each explanation, up to 4m. Award max of 1m for further elaboration of each description, if applicable. • Convenience sampling is carried out in an ad hoc manner that is most accessible to the researcher. [1] • Hence does not take into consideration factors like a person's sex, age and ethnicity that may influence data collected [1] ○ For instance, an active youth may be more likely to spend time at basketball court in spite of perceived higher heat. [1 additional mark] • Does not create a representative sample with a proportional makeup of the whole population [1 additional mark] ○ Hence data collected may not be reliable [1 additional mark] AO2

- (ii) Study Tables 1.1 and 1.2, which shows information the students collected with the questionnaire.

Table 1.1

Information collected with the questionnaire

Q2: How likely are you to visit the following locations?

Area	Very Likely (%)	Likely (%)	Unlikely (%)	Very Unlikely (%)
Playground (Artificial Turf)	25	40	25	10
Community Garden (Natural Soil)	35	45	15	5
Basketball Court (Concrete)	20	30	30	20
Park Lawn (Grass)	40	35	15	10

Table 1.2

Q3: How frequent do you to visit the following locations?

Area	Daily (%)	3–4 Times a Week (%)	1–2 Times a Week (%)	Rarely/Never (%)
Playground (Artificial Turf)	10	25	35	30
Community Garden (Natural Soil)	15	35	30	20
Basketball Court (Concrete)	5	15	25	55
Park Lawn (Grass)	20	30	30	20

Results of the questionnaire

Using Tables 1.1 and 1.2, describe the relationship between the residents' likelihood and frequency of visits to the different locations. [3]

Award 1m for description of relationship, up to 2m.
Award 1m for elaboration of each relationship.

- There is no clear co-relation between likelihood and frequency of visits to the locations. [1]
- Out of 4 locations, only 2 showed strong alignment between likelihood and frequency of visits to the location. [1]
 - Park Lawn and Community Garden with highest % of likelihood of visiting (75% and 80% respectively) which corresponds to them having the highest frequency of visiting of 50% [1 additional mark]
- The other 2 locations showed that high likelihood of 50% and above of visiting did not translate into frequency of visits. [1]
 - E.g. especially for playground where there is a relatively high % of residents (65%) reporting likelihood of visit, yet half of that figure rarely/never ever visit. [1 additional mark]

OR

- There is generally a positive co-relation [1]
- Places where residents reported high likelihood of visits do correspond with places with high frequency of visits. [1]
 - Park Lawn and Community Garden with highest % of likelihood of visiting (75% and 80% respectively) which corresponds to them having the highest frequency of visiting of 50% [1 additional mark]
 - Likewise Basketball Court and Playground have comparatively lower % of likelihood of visiting which corresponds to the comparatively lower frequency. [1 additional mark]/specific e.g. such as there is high % of 50% of residents who mentioned they are not likely to visit Basketball court and that correspond to the high % of 80% residents who rarely or never visit it, or at most 1-2 times a week. [1 additional mark]
- There is generally a negative co-relation [1]
- Residents generally indicated a high likelihood to visit all locations, with more than 50% who indicated they will visit, but a vast majority would frequent them at most twice a week. [1]
 - For instance, for playground with a relatively high 65% who are likely or very likely to visit has about double of residents saying they will visit only at most twice a week [1 additional mark]
 - Even though half of the residents indicated likelihood to visit, more than thrice of them only visited at most twice a week [1 additional mark]
 - Despite community garden having the highest 80% likelihood, only half of the residents would visit frequently of at least thrice a week [1]

Also accepted: If students talk about the relationship between likelihood and frequency at natural vs artificial surfaces, cap at 1m at question is not asking for conclusion of likelihood and frequency across the different locations.

AO2

- (iii) Figs. 1.4 and 1.5 show bar graphs representing the results of the questionnaire from Tables 1.1 and 1.2.

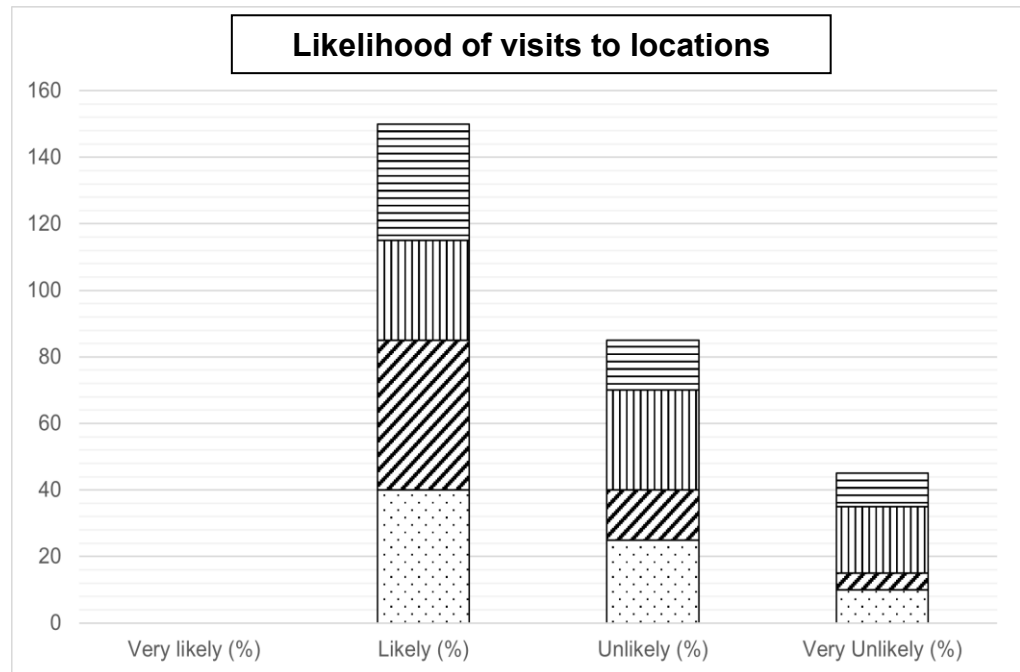


Fig. 1.4

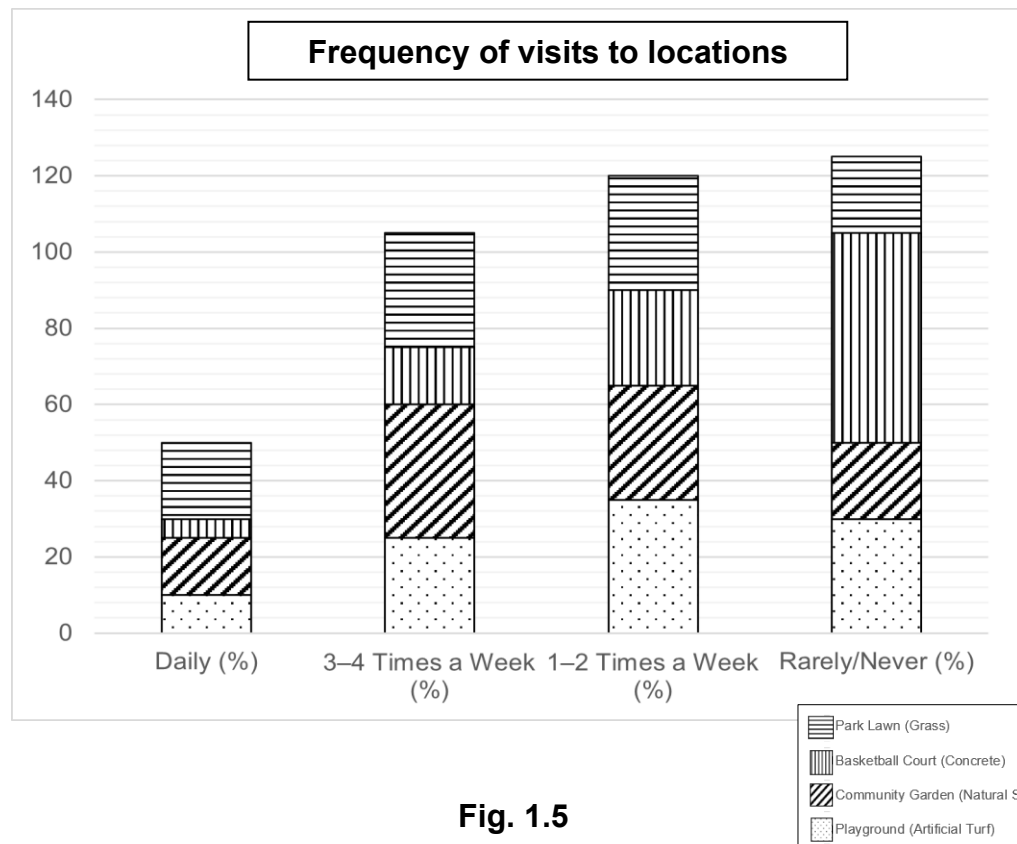


Fig. 1.5

Use information from Table 1.1 to complete the bar graph for the percentage of residents who are very likely to visit the four locations. [3]

		Likelihood of visit to locations <table><caption>Data for Likelihood of visit to locations</caption><thead><tr><th>Likelihood</th><th>Dotted (%)</th><th>Diagonal (%)</th><th>Vertical (%)</th><th>Horizontal (%)</th></tr></thead><tbody><tr><td>Very likely (%)</td><td>25</td><td>35</td><td>20</td><td>40</td></tr><tr><td>Likely (%)</td><td>40</td><td>45</td><td>30</td><td>55</td></tr><tr><td>Unlikely (%)</td><td>25</td><td>15</td><td>30</td><td>15</td></tr><tr><td>Very Unlikely (%)</td><td>10</td><td>5</td><td>15</td><td>10</td></tr></tbody></table> Award 3m for % plotted correctly for 4 locations. Award 2m for % plotted correctly for 3 locations. Award 1m for % plotted correctly for 2 locations. AO1	Likelihood	Dotted (%)	Diagonal (%)	Vertical (%)	Horizontal (%)	Very likely (%)	25	35	20	40	Likely (%)	40	45	30	55	Unlikely (%)	25	15	30	15	Very Unlikely (%)	10	5	15	10
Likelihood	Dotted (%)	Diagonal (%)	Vertical (%)	Horizontal (%)																							
Very likely (%)	25	35	20	40																							
Likely (%)	40	45	30	55																							
Unlikely (%)	25	15	30	15																							
Very Unlikely (%)	10	5	15	10																							
	(iv)	Evaluate the usefulness of data collected in Tables 1.1 and 1.2 in helping students understand residents' preferences for visiting outdoor locations due to perceived heat. [6]																									
		Award 1m for each explanation of data is useful / not useful, up to 4m. Award 1m for further elaboration of each explanation. Award a maximum of 3m to explanation of data being either useful / not useful. <u>Useful</u> - It provides quantitative data on the likelihood and frequency of visits to various outdoor locations [1] - Allows students to identify patterns and trends. [1 additional mark] - For example, the high likelihood and frequency of visits park lawn and community garden can help students identify preference to visit outdoor locations with natural surface areas [1 additional mark] - Strengthens validity of conclusion [1] - Having two data sets of likelihood and frequency of visits allows students to triangulate between residents' intention and behaviour [1 additional mark] - Allow students to draw conclusions from multiple sources of information [1 additional mark]																									

		<u>Not useful</u> • Data lacks qualitative insights that could explain why residents prefer locations [1] ○ Prevents students from fully understanding the motivations of residents' behaviours [1 additional mark]/ cannot verify if residents' perception of heat in the locations is truly the deciding factor for their preferences. [1 additional mark] • Data lacks information on demographics, time of use for e.g. [1] ○ Which play crucial roles in influencing residents' preferences [1 additional mark] AO3
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[Total: 20 marks]

2	Cluster 2: Tourism	
(a)	Study Fig. 2.1, which shows an excerpt about tourism in Shikoku and Tohoku, Japan. Tourism in Shikoku and Tohoku, Japan In rural Shikoku, Japan, the government partnered with local communities to promote it as a 'slow travel' destination by restoring historical towns and promoting traditional crafts. Disused railway lines were transformed into heritage trails. Old merchant houses were converted into stylist guesthouses, cafes and art spaces, combining heritage with modern aesthetics. Street murals, creative workshops, and pop-up food events are regularly organised to provide interactive, Instagrammable experiences that blend culture and lifestyle. Digital marketing and influencer campaigns have been widely used to spotlight hidden gems, successfully drawing a younger, experience-seeking crowd. Fig. 2.1	
	(i)	Using Fig. 2.1, identify the stage in the evolution of a tourist destination that Japan is in. [1]
		Rejuvenation [1] AO1
	(ii)	Justify your answer in (a)(i) . [3]
		Award 1m for each justification, up to 3m. Award 1m for elaboration of each justification. • Efforts are being made to attract more tourists by revitalising and diversifying the tourism experience.[1] • There is rebranding of the traditional town to be appealing to the younger crowd [1] ○ Development of new experiences that cater to the interests of a younger crowd that may typically not be interested in traditional towns [1 additional mark] • There are innovative efforts to advertise the revamped destination through digital platforms and reposition the rural town in the tourism market [1] AO2
(b)	Describe a way tourism can impact a country's culture negatively. [2]	
	Award 1m for description of how tourism can impact culture negatively. Award 1m for elaboration for each description. • Tourists may behave in ways that locals find disrespectful, such as dressing inappropriately at religious sites. [1] ○ Over time, this can cause locals to develop negative attitudes towards tourists [1 additional mark]	

- and in some cases, tourists may even become victims of crime due to rising tensions. [1 additional mark]

OR

- Customs and art forms are modified or performed repeatedly to please tourists/traditional cultural practices may be commodified [1]
 - This can cause locals to lose a sense of belonging and identity, leading to feelings of disconnection or conflict within the community. [1 additional mark]

AO1

(c) Study Figs. 2.2 and 2.3, which shows information about sustainable tourism.

Community-based Tourism

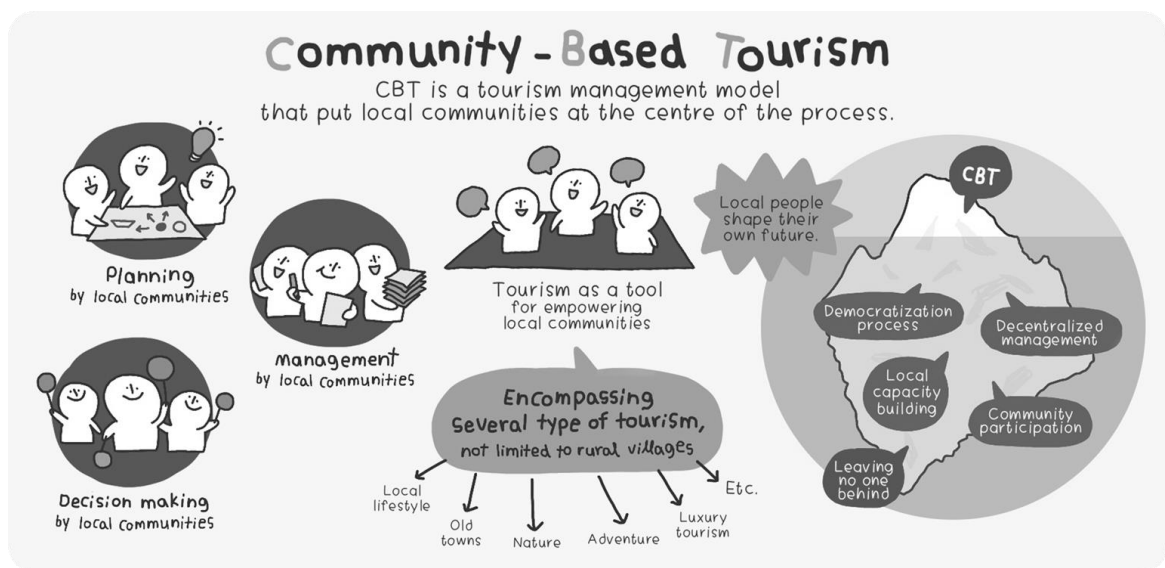


Fig. 2.2

Global ecotourism market

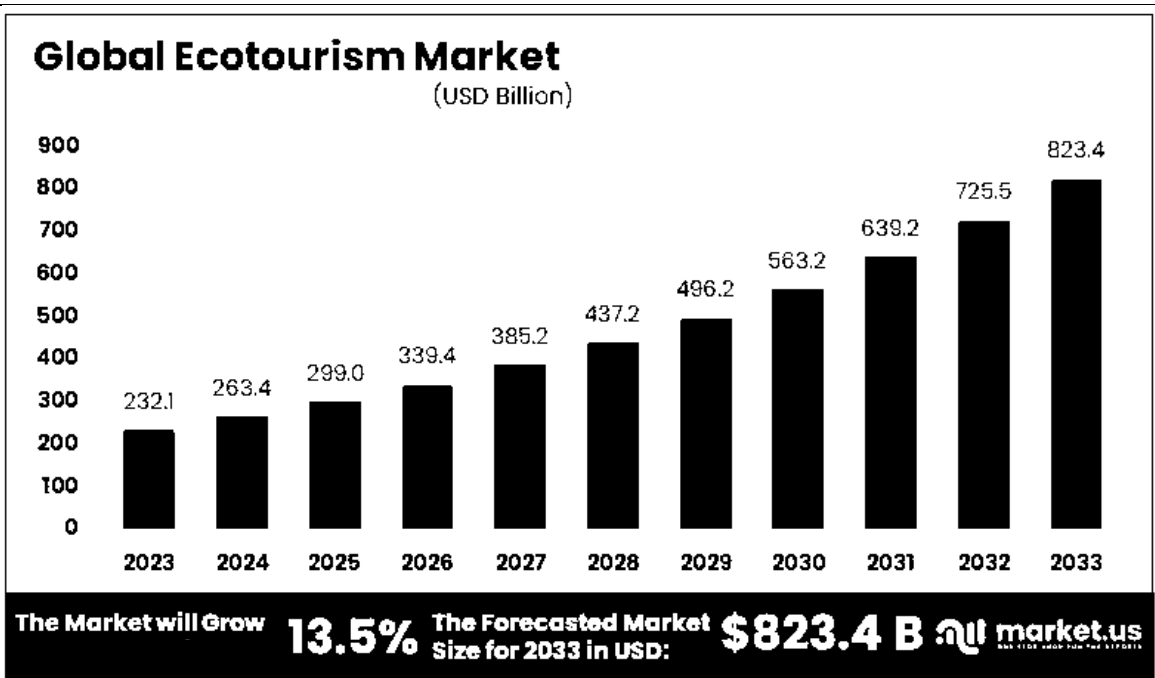


Fig. 2.3

‘Community-based tourism is more effective than ecotourism in achieving sustainable tourism development.’

With reference to Figs. 2.2 and 2.3, to what extent do you consider this statement to be true? Explain your answer. [9]

Relevant content

Community-based tourism

- innovative small-scale tourism managed by local communities including homestays and agricultural tourism
 - Fig. 2.2: locals are involved in every step of the way, from planning to decision-making and management, emphasising local ownership.
 - Locals have good ground knowledge of the communities’ economic, social and environmental needs and hence increased community participation can ensure that needs are met in a sustainable way.
 - Increased employment to locals → minimise leakages, ensures benefits of tourism remain within community, benefits locals directly (economic sustainability)
 - Fig. 2.2: Community-based tourism can come in the form of showcasing local lifestyle, old towns, nature etc. Educating/increasing tourists’ appreciation of local cultures and environment help to develop respect for local cultures and environment. Locals are more inclined to implement sustainable practices that protect their environment, ensuring that tourism development does not compromise environment/heritage. (social, environmental sustainability)
- limitations include the potential loss of local culture and competition from larger-scale tourism operators
 - Possible loss of culture if locals offer tourism experiences to suit tourists’ needs in order to attract them → commodification of culture

- Locals may lack the necessary skills and finances to further develop the local tourism industry e.g. language barrier, lack of skills/education to compete with large-scale tourism businesses.

Ecotourism

- Comprises diverse approaches that lie on a spectrum from hard to soft ecotourism
- Aims to conserve natural environment and benefit local communities → contributes to environmental, economic and social sustainability
 - Fig. 2.3: Growing ecotourism market. 4-fold increase within just 10 years meant generation of revenue to destination country and local communities. (economic sustainability)
 - High profitability encourages destination to protect and preserve natural habitats and environment, use resources sustainability. Entrance fees and tourist revenue help fund conservation. (environmental sustainability)
- Limitations include uncertainty over continuity of efforts in conserving nature and involving local communities
 - Uncertainty over continuity of efforts in conserving nature. Fig. 2.3 shows growing ecotourism market, which also reflects increasing volume of eco-tourists. Destinations may be overwhelmed by tourists.
 - High volume of tourists may destroy the environment they seek to protect.
 - May prioritise profits from ecotourism → some principles of ecotourism compromised
 - Uncertainty over involvement of local communities. High volume of tourists means high demand for manpower to cater to tourists' needs. Locals may not be sufficiently equipped with skills and knowledge, so businesses may hire non-locals instead.

A possible approach:

While CBT emphasises local ownership and cultural preservation, ecotourism similarly provides economic opportunities for local people through employment. Communities benefit financially, further encouraging their participation in conservation efforts. Furthermore, ecotourism projects often operate within formal conservation framework regulated by governments and international organisations. While ecotourism is growing, having regulatory oversight meant that tourism development is more likely to follow guidelines on carrying capacity limits, environmental standards, and community involvement policies. In contrast, community-based tourism initiatives being highly managed by locals may lack the resources or expertise to manage tourism sustainably, risking overexploitation or cultural commodification.

Level 3	7-9m	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 .
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	Level 2	4-6m	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.
	Level 1	1-3m	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.
	Level 0	0m	No creditworthy response.
	AO3		

[Total: 15 marks]

3	Cluster 3: Climate
(a)	Explain how temperature varies with altitude. [4]
	Award 1m for each explanation, up to 4m. Award 1m for elaboration of each explanation, if any. • Incoming solar radiation reaches the Earth as shortwave radiation [1] • Earth's surface absorbs this shortwave radiation and re-radiates it as longwave radiation [1] • As the surface of the Earth warms up, it diffuses heat to the lower layers of the atmosphere first, followed by the upper layers.[1] • Hence, areas of higher altitudes will be cooler because less heat gets transferred upwards. [1] OR • Gravity pulls most of the air molecules towards the ground surface. [1] • Hence air at higher altitudes is thin and is unable to absorb heat as effectively as denser air at lower altitudes [1] • because it has a smaller concentration of vapour and gases to trap heat [1] • As a result, places of low altitude have higher temperatures [1] AO1
(b)	Study Figs. 3.1 and 3.2 (Insert), which show the distribution of average temperatures in January and July.
	With reference to Figs. 3.1 and 3.2, compare the average temperatures Tempin January and July. [4] Award 1m for each comparison, up to 3m. Award 1m for elaboration of comparison. • In both January and July, average temperatures are higher at lower latitudes. [1] ◦ Temperatures generally decreased from about 25 degC to -30degC at the poles [1 additional mark] • Highest temperature of 30 -35 dc is experienced between 20 – 40 degree south and north in Jan and Jul respectively [1] • Temperatures in Northern hemisphere is lower in Jan than Jul [1] ◦ Temperatures go to as low as -40dc at 80 degree north in Jan while lowest temperature in Jul is only 0dc. [1 additional mark] • Temperatures in Southern hemisphere is higher in Jan than Jul [1] ◦ Lowest temperature at 80 degree south in Jan is 5dc while lowest temperature in Jul dips to -20dc. [1 additional mark] • Temperatures in January is generally similar at places with similar latitudes while there is greater fluctuation in July [1]

- In Jan, 25dc is generally experienced at 0 to 10 degree north and 0 to 30 degree south while in Jul it is experienced at 0 to 50 degree north and 0 to 20 degree south. [1 additional mark]

AO2

(c) Study Fig. 3.3, which shows a climate graph.

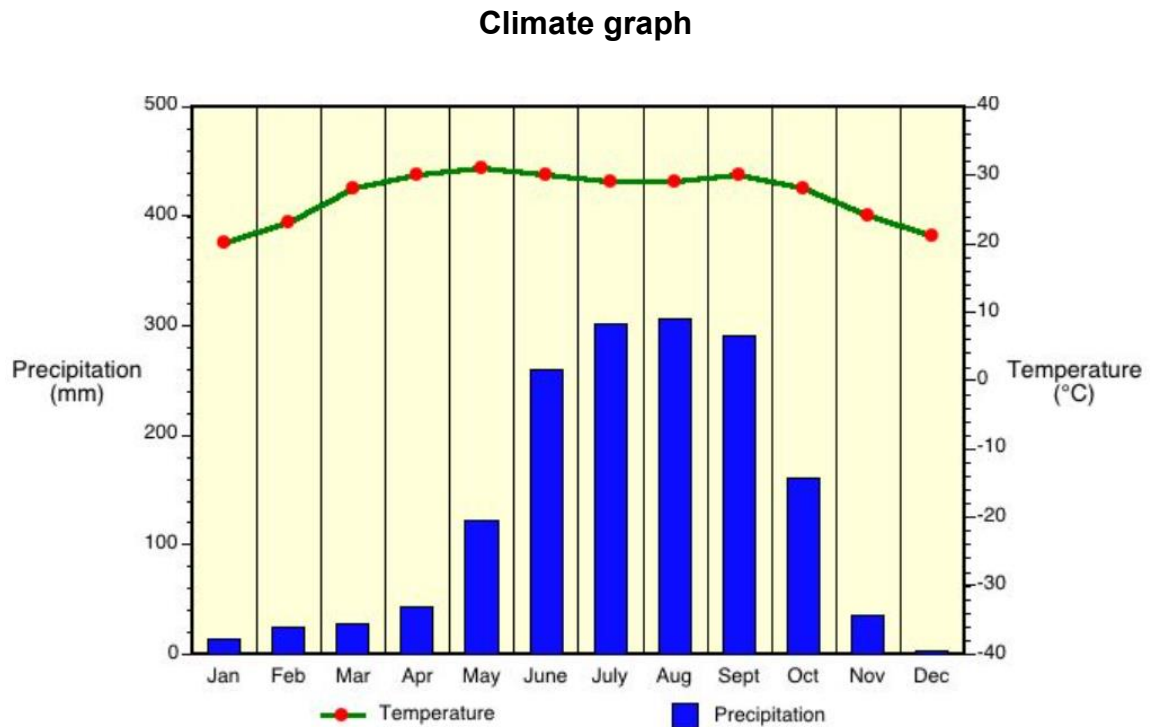


Fig. 3.3

Using Fig. 3.3, describe the climatic characteristics shown in the climate graph.[4]

Award 1m for each description, up to 3m.
Award 1 additional mark for elaboration of each description.

- It is a tropical monsoon climate [1]
- It has a small annual temperature range [1]
 - of 10 dc [1 additional mark]
- It has a high annual temperature [1]
 - of 29.2 dc. [1 additional mark]
- It has distinct wet and dry season [1]
 - With June – Sep being the wet months and Nov to Apr being dry [1 additional mark]

AO2

(d) The table below lists strategies used to build community's resilience to climate change.

Table 3.1

Strategies to build community's resilience to climate change

	<table><tr><td>Changes in consumption patterns</td></tr><tr><td>Building sea walls</td></tr><tr><td>Educating communities</td></tr><tr><td>Low carbon technologies</td></tr></table> Identify a strategy from Table 3.1 for each category below. Each strategy should only be used once. Mitigation strategies: Adaptation strategies: [3]	Changes in consumption patterns	Building sea walls	Educating communities	Low carbon technologies
Changes in consumption patterns					
Building sea walls					
Educating communities					
Low carbon technologies					
	Award 3m for all strategies correctly identified. Award 2m for 3 strategies correctly identified. Award 1m for 1or 2 strategies correctly identified. Mitigation strategies: Changes in consumption patterns, low carbon technologies Adaptation strategies: Educating communities, building sea walls AO1				

[Total: 15 marks]

