SINGAPORE CHINESE GIRLS' SCHOOL
PRELIMINARY EXAMINATION 2024
SECONDARY FOUR
O-LEVEL PROGRAMME

HUMANITIES
2260/02
Paper 2 Geography

INSERT

Tuesday **20 August 2024** **1 hour 45 minutes**

READ THESE INSTRUCTIONS FIRST

This Insert contains additional resources referred to in the questions.

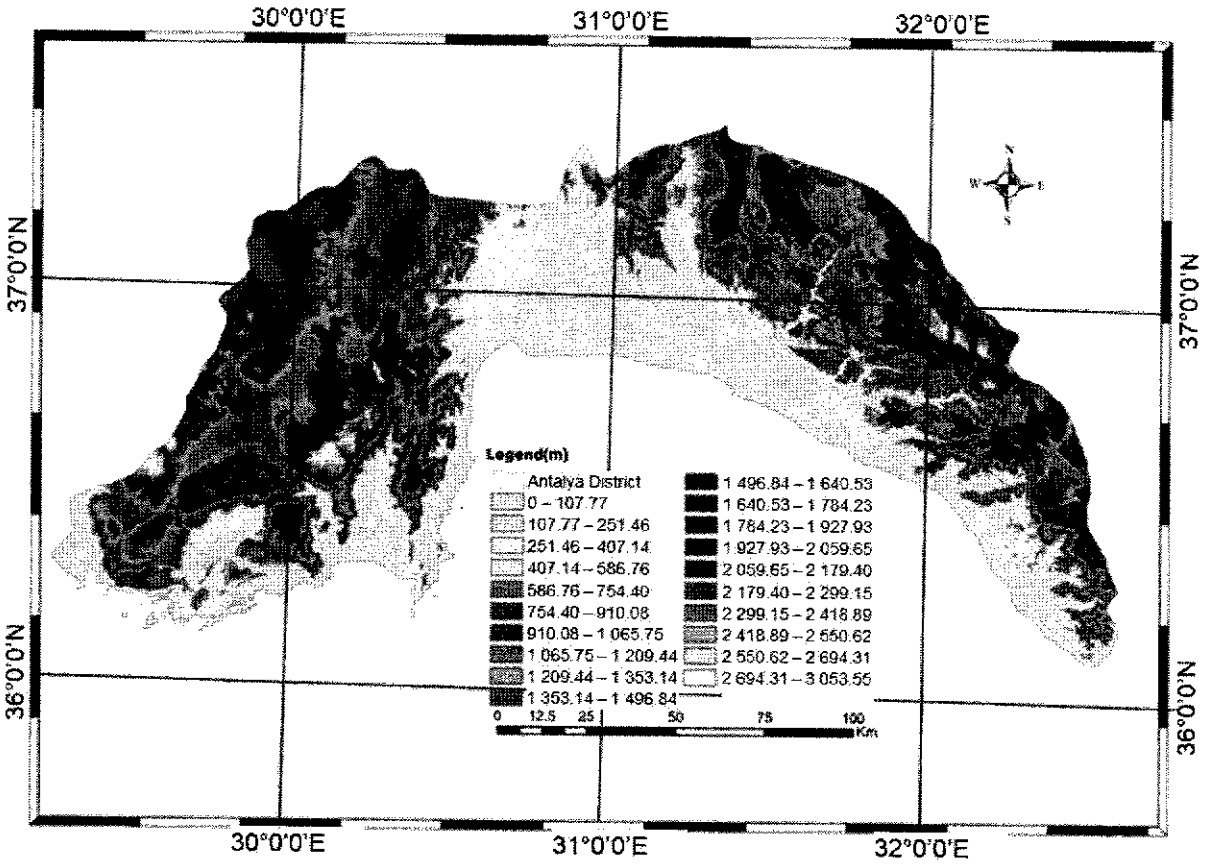
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The document consists of 2 printed pages.

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Fig. 3.1 for Question 3

Topographic Structure of Antalya



Source: https://www.researchgate.net/figure/Topographic-structure-of-Antalya-Province_fig4_348552938

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SINGAPORE CHINESE GIRLS' SCHOOL PRELIMINARY EXAMINATION 2024 SECONDARY FOUR

CANDIDATE NAME

CLASS | REGISTER NUMBER

CENTRE NUMBER | INDEX NUMBER

HUMANITIES

Paper 2 Geography **2260/02**

Tuesday **20 August 2024** **1 hour 45 minutes**

Candidates answer on the Question Paper.
Additional Materials: Insert

READ THESE INSTRUCTIONS FIRST

Write your name, class and register number on all the work you hand in.
Write in dark blue or black pen.
You may use a HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.

Answer **three** questions in total:
Section A
Answer Question 1 **and** Question 2.
Section B
Answer Question 3.

The Insert contains additional resources referred to in the questions.

The number of marks is given in brackets [ ] at the end of each question or part question.

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For Examiners' Use	
Question 1	/14
Question 2	/18
Question 3	/18
Total	/50

This document consists of 13 printed pages and 1 Insert.

Section A

Answer Question 1 **and** Question 2

1 Cluster 1: Geography in Everyday Life

(a) 'Forests can help to cool areas by generating rainfall'.

Identify the type of ecosystem service referred to by the statement above.

..... [1]

(b) Study Fig. 1.1, which shows the number of fire incidents in residential buildings in Singapore and their causes in 2022.

Causes of fire in residential buildings (2022)

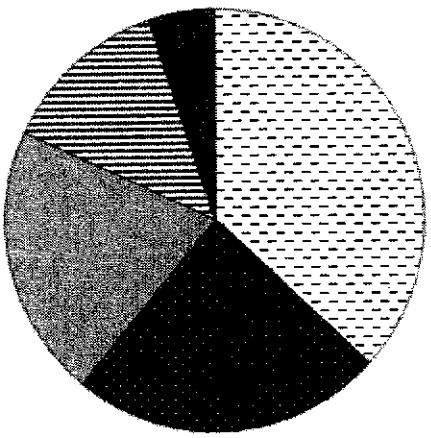


Fig. 1.1

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Source: Data from Singapore Civil Defence Force Annual Report 2022

(i) Describe the contributions of causes of household fires in Singapore in 2022.

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(ii) Explain how community resilience can be built to manage fire hazards.

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(c) A group of students in Singapore wanted to find out if living near nature areas will help to improve resident's mental wellbeing. They administered a questionnaire to 50 respondents living within 1 kilometre from nature areas and another 50 respondents who did not. The questionnaire assesses respondents' depression, anxiety and stress levels.

Study Table 1.1, which shows the number of respondents and the extent of their mental wellbeing.

Table 1.1
Number of respondents in each category

Extent of mental wellbeing	Depression		Anxiety		Stress	
	Within 1km	Beyond 1km	Within 1km	Beyond 1km	Within 1km	Beyond 1km
Normal	6	5	12	4	31	5
Mild	10	12	25	26	16	11
Moderate	14	15	9	5	1	23
Severe	12	16	0	7	2	6
Extremely Severe	8	2	4	8	0	5
Total respondents	***50***	***50***	***50***	***50***	***50***	***50***

Using Table 1.1, evaluate how well the data supports the hypothesis that living near nature areas will improve one's mental wellbeing.

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[Total: 14]

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2 Cluster 2: Tourism

(a) Study Fig. 2.1, which shows the cost of a ticket to fly to space with various private space travel companies.

Space Perspective - $125,000 for a 6-hour flight
Virgin Galactic - $450,000 for 15 minutes of weightlessness
Blue Origin - $28 million for the first flight
Axiom Space - $55 million including 10 days at an international space station

Fig. 2.1
Source: https://www.travelandleisure.com/trip-ideas/space-astronomy/space-tourism-is-here

With reference to Fig. 2.1, explain the factors that have affected the demand for space tourism.

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..... [3]

(b) Describe the characteristics of tourists who are likely to visit tourist destinations that are at its early stages of tourism development.

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..... [4]

(c) Study Fig. 2.2, which shows a news article headline regarding water shortage in Bali, Indonesia.

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Tourists to blame for water shortage across Bali that is threatening the lives of almost 50 million people

- **Bali is running out of freshwater, putting food security and quality of life at risk**
- **As growing tourism industry booms, the water shortage is tipped to get worse**
- **Also contributing to the crisis is Bali's wet season, which is two months overdue**

By KYLIE STEVENS FOR DAILY MAIL AUSTRALIA
PUBLISHED: 22:26 BST, 5 December 2019 | **UPDATED:** 22:26 BST, 5 December 2019

Fig. 2.2
Source:
https://www.dailymail.co.uk/news/article-7761323/Tourists-blamed-water-shortage-Bali-threatening-lives-50-million.html

With reference to Fig. 2.2, describe how tourism in Bali has led to negative impacts on locals.

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(d) 'Governments are most responsible for ensuring sustainable tourism at tourist destinations.'

To what extent do you agree with this statement? Explain your answer.

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Section B

Answer Question 3.

3 Cluster 3: Climate

(a) Study Table 3.1, which shows the mean monthly temperatures (°C) taken from a weather station in Antalya, Turkey.

Table 3.1
Mean monthly temperatures of Antalya (1991 to 2020)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean temp. (°C)	9.8	10.8	13.1	16.4	20.9	25.7	28.9	29.0	25.6	20.9	15.3	11.4

Source: Turkish State Meteorological Service

(i) Using Table 3.1, describe the temperature characteristics of Antalya.

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..... [3]

(ii) Fig. 3.1 (Insert) shows the topographic structure of Antalya. The weather station is located at 37°N, 31°E.

Using Fig. 3.1, state the range of altitude (to the nearest whole number) of this weather station. Explain why the temperatures recorded at weather stations along the same line of latitude may vary.

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(b) Explain the formation of relief rain.

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(c) Study Fig. 3.2, which shows an example of a food chain in the ocean.

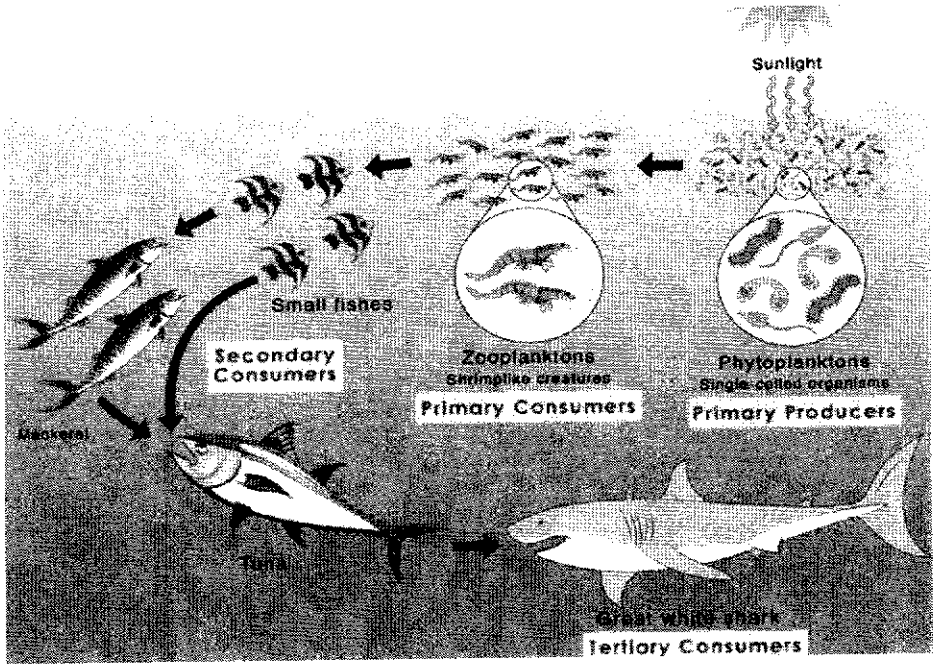


Fig. 3.2
Source: https://www.sciencefacts.net/ocean-food-chain.html

Using Fig. 3.2, explain the impact of climate change on ocean circulation and how it affects aquatic ecosystems.

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(d) Study Table 3.2, which are examples of climate action.

Complete the table to classify the various examples of climate action.

Table 3.2

Type of strategy		
Climate action	1. Afforestation	1. Constructing polders
	2. Using ground coffee as fertilisers for plants	2. Investing in high-tech farming
	3. Making the switch from conventional to electric cars	3. Setting up the Centre for Climate Research Singapore

[1]

[Total: 18]

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Additional page

If you use the following lined page to complete the answer(s) to any question(s), the question number(s) must be clearly shown.

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ANSWER SCHEME

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Section A

Answer Question 1 **and** Question 2

1 Cluster 1: Geography in Everyday Life

(a) 'Forests can help to cool areas by generating rainfall'.

Identify the type of ecosystem service referred to by the statement above. [1]

- Regulating ecosystem services [1]

AO1

(b) Study Fig. 1.1, which shows the number of fire incidents in residential buildings in Singapore and their causes in 2022.

Causes of fire in residential buildings (2022)

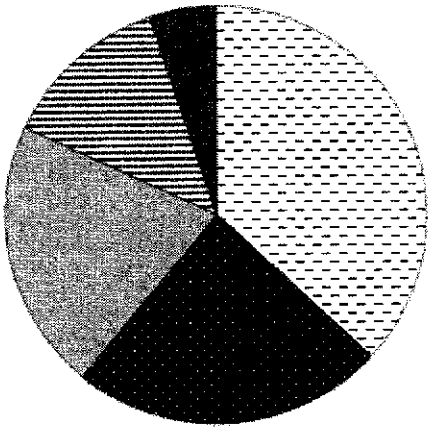


Fig. 1.1

Source: Data from Singapore Civil Defence Force Annual Report 2022

(i) Describe the contributions of causes of household fires in Singapore in 2022. [3]

- Unattended cooking contributed the largest proportion [1 mark].
- 37% or 346 out of 934 incidents [1 additional mark]
- Dropped light (cigarettes) contributed the least [1 mark].
- 13% or 121 out of 934 incidents [1 additional mark]

AO2, accept other plausible answers but cannot simply quote numbers for additional 1 mark

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		(ii)	Explain how community resilience can be built to manage fire hazards.	[4]
			Award 1m for each measure to manage fire hazards, up to a maximum of 4m. Award a maximum of 1 additional mark for further development of each measure, where applicable. • Improve residents' emergency preparedness to respond to fire hazards • The SCDF conducts a Community Emergency Preparedness Programme which focuses on key lifesaving skills and important emergency procedures • Strengthen the relationships amongst residents so that they can depend on one another during an emergency • The People's Association organizes a wide range of community activities aimed at fostering positive relationships amongst residents living in a neighbourhood • Residents in the neighbourhood can be involved in an inclusive planning process that involves community leaders, civil society organisations and the government • When residents participate actively in projects to minimise potential hazards, they can better understand the risks • In Singapore, the Community First Responders (CFR) volunteers support the government in search and rescue operations and educate the public on simple first aid and basic firefighting. • CFRs are alerted to minor rubbish chutes and bin fires within their immediate vicinity and help put out the fires • The total defence framework emphasizes that everyone has a part to play to build a strong, secure and cohesive nation. X Governments to supply every household with a fire blanket or jacket **AO1, 1m per point. This question is not just about disaster risk management in general, but focus is on building community resilience.**	

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(c) A group of students in Singapore wanted to find out if living near nature areas will help to improve resident's mental wellbeing. They administered a questionnaire to 50 respondents living within 1 kilometre from nature areas and another 50 respondents who did not. The questionnaire assesses respondents' depression, anxiety and stress levels.

Study Table 1.1, which shows the number of respondents and the extent of their mental wellbeing.

Table 1.1
Number of respondents in each category

Extent of mental wellbeing	Depression		Anxiety		Stress	
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Moderate	14	15	9	5	1	23
Severe	12	16	0	7	2	6
Extremely Severe	8	2	4	8	0	5
Total respondents	***50***	***50***	***50***	***50***	***50***	***50***

Using Table 1.1, evaluate how well the data supports the hypothesis that living near nature areas will improve one's mental wellbeing. [6]

Award 1 mark for each evaluation on how well the data supports the hypothesis, to a maximum of 6 marks. Award a maximum of 1 additional mark for further development of each evaluation, where applicable.

Possible responses include:
Support

- Respondents who lived within 1km of nature areas felt significantly less stress **[1 mark]**. 47 respondents (94%) had normal and mild stress levels compared to only 16 respondents (32%) who lived more than 1km from nature areas **[1 additional mark]**.
- Fewer respondents who live within 1km of nature areas had extremely severe anxiety issues **[1 mark]**. The number of respondents living beyond 1km who had extremely severe anxiety issues was double that of those who live within 1km.

Don't support

- However, respondents who live within 1km of nature areas were more depressed than those who did not **[1 mark]**. There were 4 times as many respondents living within 1km of nature areas who felt extremely severe depression compared to those who did not **[1 additional mark]**.
- Distance from nature areas did not have much impact on depression and anxiety **[1 mark]**. The numbers for mild depression and anxiety / moderate depression were similar for those who live within 1km of nature areas and those who did not **[1 additional mark]**.

Accept other plausible responses, at least 1m for support / don't support.

[Total: 14]

2 Cluster 2: Tourism

[Turn over

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	(a)	Study Fig. 2.1, which shows the cost of a ticket to fly to space with various private space travel companies. **Space Perspective** - $125,000 for a 6-hour flight **Virgin Galactic** - $450,000 for 15 minutes of weightlessness **Blue Origin** - $28 million for the first flight **Axiom Space** - $55 million including 10 days at an international space station **Fig. 2.1** *Source: https://www.travelandleisure.com/trip-ideas/space-astronomy/space-tourism-is-here* With reference to Fig. 2.1, explain the factors that have affected the demand for space tourism.	[3]
		• Motivation – the need to discover unique travel experiences [1] • to achieve personal growth and self-fulfilment [+1] • Ability – More space travel companies, therefore various packages and people can choose options based on what they can afford [1] • Economic development leading to higher disposable income [+1] • Mobility – availability of commercial flights provided by private space travel companies, not just government space missions [1] **AO2, 1m per point, max. +1 per factor**	
	(b)	Describe the characteristics of tourists who are likely to visit tourist destinations that are at its early stages of tourism development.	[4]
		Venturers [1/2]: • Spend money more readily • Are guided by their personal judgement rather than authority figures in making travel decisions • Often, they set travel trends for others • Prefer to be spontaneous and have a diversity of activities • Prefer to make their own travel plans, and often opt for niche tourism • Travel alone or in small groups • Explore less-developed, unique places even if it is less convenient. • Explores the world in all of its diversity, adventurous • More likely to visit new places or try new experiences each time they travel **AO1, 1m per point**	

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(c) Study Fig. 2.2, which shows a news article headline regarding water shortage in Bali, Indonesia.

Tourists to blame for water shortage across Bali that is threatening the lives of almost 50 million people

- **Bali is running out of freshwater, putting food security and quality of life at risk**
- **As growing tourism industry booms, the water shortage is tipped to get worse**
- **Also contributing to the crisis is Bali's wet season, which is two months overdue**

By KYLIE STEVENS FOR DAILY MAIL AUSTRALIA
PUBLISHED: 22:26 BST, 5 December 2019 | **UPDATED:** 22:26 BST, 5 December 2019

Fig. 2.2
Source:
https://www.dailymail.co.uk/news/article-7761323/Tourists-blamed-water-shortage-Bali-threatening-lives-50-million.html

With reference to Fig. 2.2, describe how tourism in Bali has led to negative impacts on locals. [2]

- Large number of tourists visiting means high demand for water in tourist resorts
- Lack of water for agriculture, threatening food security for the locals

AO2, 1m per point, accept other plausible answers. Not about what the negative impacts are!

(d) 'Governments are most responsible for ensuring sustainable tourism at tourist destinations.'

To what extent do you agree with this statement? Explain your answer. [9]

X Sustainable development is more than just controlling litter and pollution!
X "Stakeholders" is a collective term, not specific group of people

Relevant content
- Sustainable tourism is achieved when sustainability principles are applied to the economic, social and environmental aspects of tourism development.
- Governments establish policies, create plans and enforce regulations to manage tourism development.
- International organisations offer consultancy, financial assistance and raise public awareness.
- Businesses and local communities seek advice from others (probably government) and participate in decision-making.
- Tourists develop genuine interest in tourist destination regions and interact responsibly.

Possible approach
The answer makes clear a judgement on whether governments are most responsible for ensuring sustainable tourism at tourist destinations with reference to examples and/or case studies. An example of a regulation that governments can enforce is to limit the types of tourism activity and the number of tourists who can

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enter the country. For example, In Bhutan, the government regulates that tourists can only enter the country by organizing their trip with license tour operators who will ensure tourists adhere to laws and regulations to minimise negative impacts of tourism such as ensuring tourists only trek on designated trails. This is followed by discussing the limitations such as poor enforcement and government's decision to prioritise economic development. The answer should also consider how other stakeholders could also be responsible for sustainable tourism in the country. The evaluation could weigh the arguments discussed, arriving at a reasoned conclusion. Some possible arguments are:

- Governments are able to exert their influence at a national scale, with influence on a large number of people compared to local businesses.
- Governments can influence sustainable tourism development directly through laws and regulations whereas international organisations do not have jurisdiction within a country.
- However, international organisations can potentially reach out to greater number of people worldwide, to educate them to be responsible tourists.
- The local community will have more direct contact with tourists and can better guide them towards sustainable tourism.

Level 0
- No credit worthy response

Level 1 (1 – 3 marks)
- Arguments are unclear with limited descriptions 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 2 (4 – 6 marks)
- 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 various stakeholders' role in promoting sustainable tourism development.
- Evaluation is well supported by arguments.

Level 3 (7 – 9 marks)
- 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 various stakeholders' role in promoting sustainable tourism development.
- Evaluation is derived from a well-reasoned consideration of the arguments.

[Total: 18]

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Section B

Answer Question 3.

3 Cluster 3: Climate

(a) Study Table 3.1, which shows the mean monthly temperatures (°C) taken from a weather station in Antalya, Turkey.

Table 3.1

Mean monthly temperatures of Antalya (1991 to 2020)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean temp. (°C)	9.8	10.8	13.1	16.4	20.9	25.7	28.9	29.0	25.6	20.9	15.3	11.4

Source: Turkish State Meteorological Service

(i) Using Table 3.1, describe the temperature characteristics of Antalya. [3]

- Large annual temperature range of 19.2°C
- Distinct hot and cool/cold seasons OR 4 distinct seasons in the year
- Low mean annual temperature is 18.9°C
- Cool temperate climate [1/2]

AO2, 1m per point, accept other plausible points

(ii) Fig. 3.1 (Insert) shows the topographic structure of Antalya. The weather station is located at 37°N, 31°E.

Using Fig. 3.1, state the range of altitude (to the nearest whole number) of this weather station. Explain why the temperatures recorded at weather stations along the same line of latitude may vary. [5]

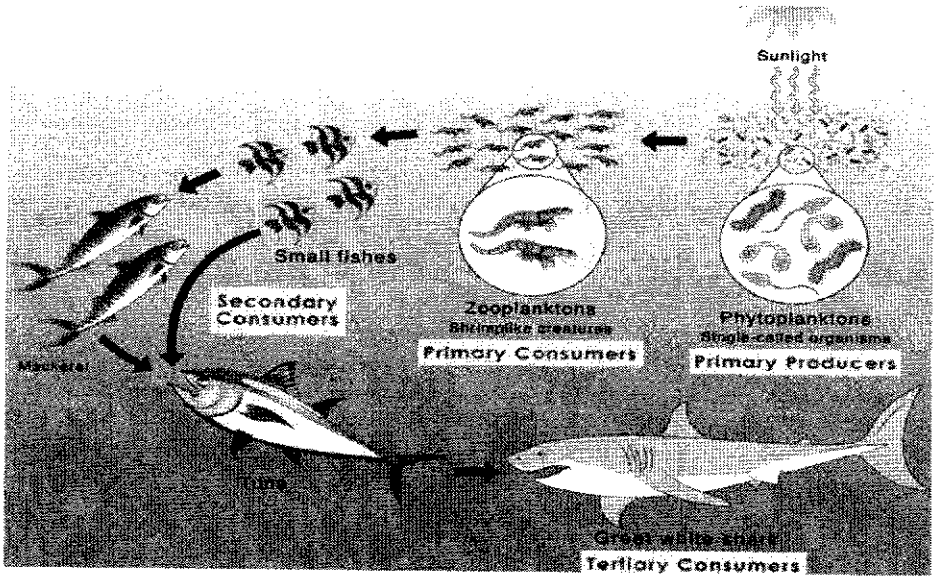
- State: 0 – 108m (-1/2m if no units) [1]

Explain: [Max. 4m]
- Altitude varies
- from 0 to 2550m [1]
- Temperatures are lower at higher altitudes [1]

At higher altitudes,
- air is less dense
- there are fewer molecules,
- gravity pulls most of the air molecules towards the group
- so air is less able to absorb and radiate heat.
- Ground is heated up by solar radiation and emits longwave terrestrial radiation [1]
- Terrestrial radiation heats up lower layers of air first, so temperatures are higher at lower altitudes [1]

AO2, 1/2m per point, unless stated otherwise.

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	(b)	Explain the formation of relief rain.	[5]
		• Prevailing winds picks up moisture over the sea and pushes the moist air up the windward side of a mountain • Air temperature drops as the moist air rises up, so capacity of air to hold water decreases and relative humidity increases • At dew point temperature, air becomes saturated OR RH is 100% and condensation occurs when the temperature decreases further • Clouds form when water vapour condenses into water droplets on condensation nuclei • Water droplets in the cloud collide and coalesce, become bigger and heavier until they are too heavy/large, they fall as precipitation or relief rain **AO1, 1m per point**	
	(c)	Study Fig. 3.2, which shows an example of a food chain in the ocean.  **Fig. 3.2** *Source: https://www.sciencefacts.net/ocean-food-chain.html* Using Fig. 3.2, explain the impact of climate change on ocean circulation and how it affects aquatic ecosystems.	[4]
		• Rising atmospheric temperatures reduces sinking of water at the poles • warm surface water mixes lesser with cooler, deeper waters and there is lesser exchange of nutrients between surface and deep waters • Slowing down of global ocean circulations separates the near-surface aquatic life such as phytoplanktons from the nutrients below • As phytoplankton decrease in numbers, zooplanktons that feed on the phytoplanktons lack food, entire food web and ecosystem affected • The changes in composition (or numbers) or aquatic species will disrupt marine food webs **AO2, 1m per point. Reserve 1m each for impact of climate change on ocean circulation and for impact on aquatic ecosystems**	
	(d)	Study Table 3.2, which are examples of climate action.	[1]

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Table 3.2

Type of strategy		
Climate action	1. Afforestation	1. Constructing polders
	2. Using ground coffee as fertilisers for plants	2. Investing in high-tech farming
	3. Making the switch from conventional to electric cars	3. Setting up the Centre for Climate Research Singapore

Complete the table to classify the types of climate action.

Type of strategy	*Mitigation*	*Adaptation*
Climate action	1. Afforestation	1. Constructing polders
	2. Using ground coffee as fertilisers for plants	2. Investing in high-tech farming
	3. Making the switch from conventional to electric cars	3. Setting up the Centre for Climate Research Singapore

AO1

[Total: 18]

End of paper

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