| Class | Index Number | Name |
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新加坡海星中学

# MARIS STELLA HIGH SCHOOL
# END-OF-YEAR EXAMINATION
# SECONDARY ONE

## GEOGRAPHY

**4 October 2022**
**1 hour 15 mins**

*Additional Materials:* NIL

**READ THESE INSTRUCTIONS FIRST**

Write your class, index number and name on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
Do not use staples, paper clips, highlighters, glue or correction fluid.

**Section A**
Answer **all** questions.

**Section B**
Answer **all** questions.

Write your answers on the spaces provided.
Candidates should support their answers with the use of relevant examples.

**You are to use the additional pages to continue your answers should there be a lack of space.**

At the end of the examination, submit your booklet.

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

The total number of marks for this paper is 36.

| For Examiner's Use |
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| 36 |

## Section A

**Answer all questions.**

**1 (a)** Fig. 1 shows the layers of the atmosphere.

**Layers of the atmosphere**

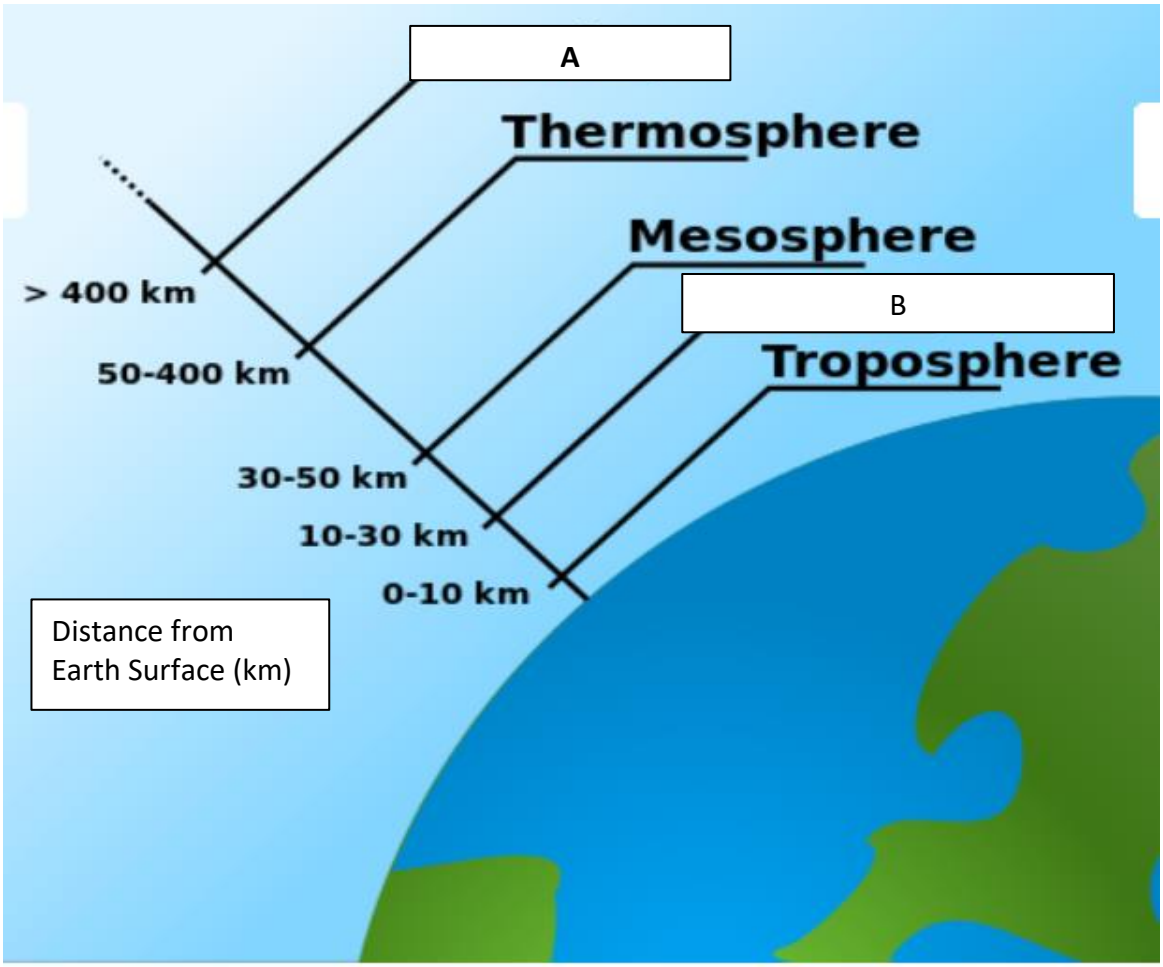


**Fig. 1**

Identify the two layers marked **A** and **B**.

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……[2]

**(b)** Fig. 2 shows the solar panels used at the Singapore Discovery Centre.

**Solar panels used at the Singapore Discovery Centre**

**Fig. 2**

**(i)** Use Fig. 2 to help you identify the natural resource and describe how it is being harnessed.

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**(ii)** Explain why some resources are classified as renewable.

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**(c)** Fig. 3 shows a conversation between a mother and her son on natural resources.

**A conversation between a mother and her son**

| | |
|---|---|
| One day, a boy and his mother go on a walk at a nearby park. | |
| Son: | Hey mom, why is there so much clear space in the middle of the park? |
| Mother: | That's what we call clearcutting. This is a logging practice where trees are cut down in a certain area. This system is an efficient method of harvesting and replanting trees and also increases farmland. |
| Son: | Oh wow! So it's a good thing? |
| Mother: | Well, not necessarily. You see there are both good things and bad things about clearcutting. These include increased stream flow during storms and a loss of habitat and species diversity. |

**Fig. 3**

**(i)** Use Fig. 3 to help you to state if the view of the mother is 'nature-centred' or 'human-centred'.

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……..……..…..[1]

**(ii)** With reference to 1c(i), explain your answer on the stated view.

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**(d)** Fig. 4 shows the climograph of Singapore in 2010.

**Climograph of Singapore in 2010**

**Temperature (°C)**

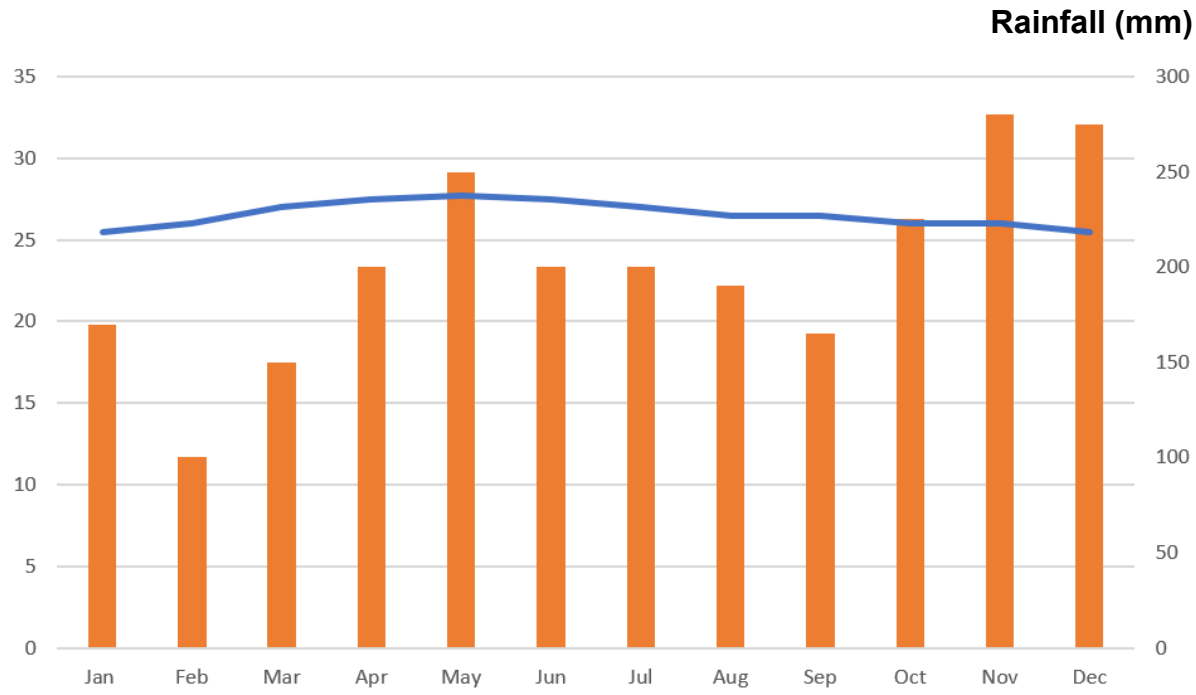


**Fig. 4**

Use Fig. 4 to help you describe the characteristics of Singapore's climate in 2010.

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……[4]

**(e)** Fig. 5 shows a label under the Water Efficiency Labelling Scheme (WELS) by the Public Utilities Board in Singapore.

**A Water Efficiency Labelling Scheme (WELS) label**

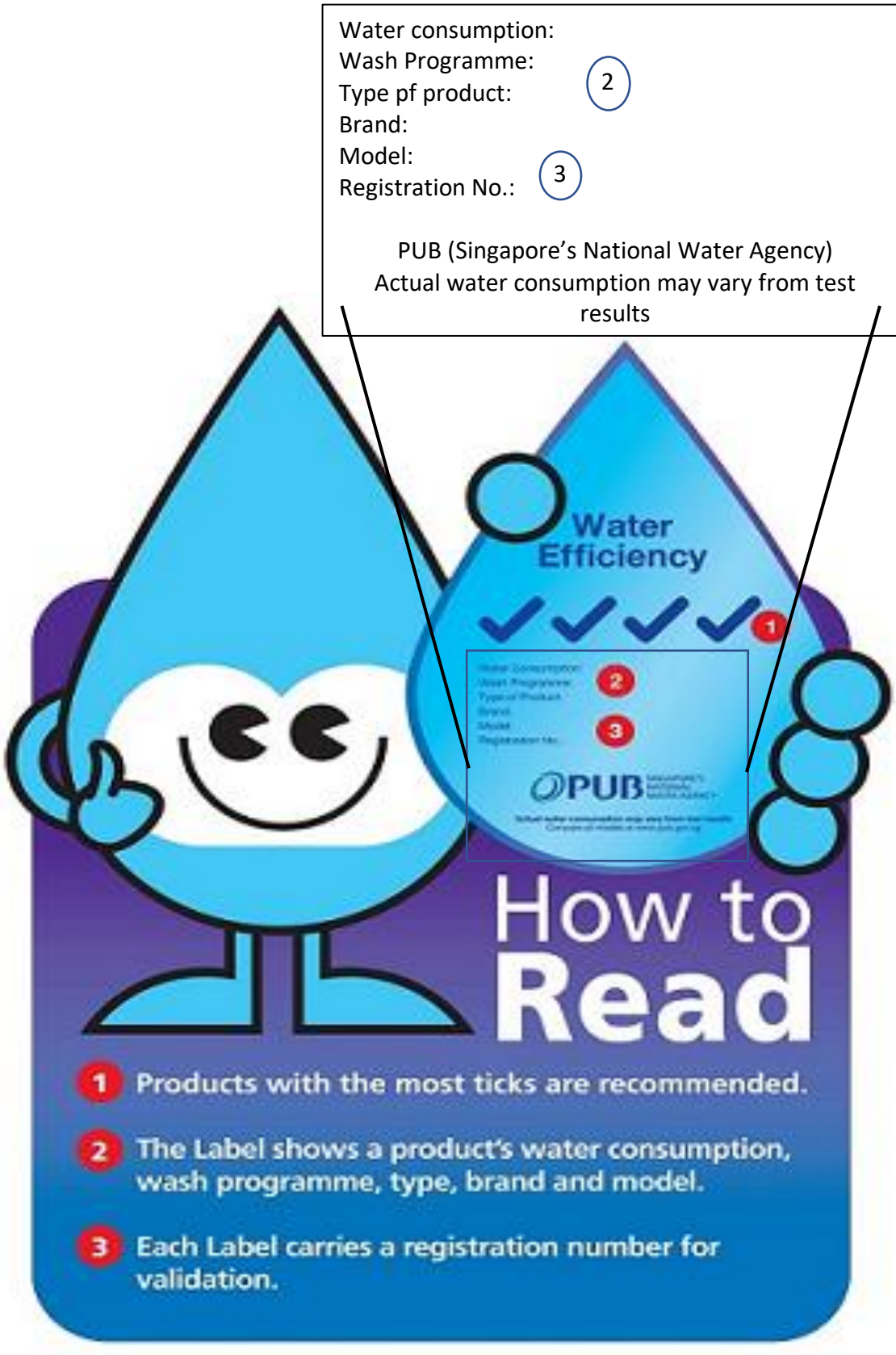


**Fig. 5**

**(i)** Use Fig. 5 to help you explain how Singapore manages our water supply by reducing water consumption.

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**(ii)** Suggest three ways that you can help to conserve water in Singapore.

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## Section B

**Answer all questions.**

**2** **(a)** Fig. 6 shows the distribution of mangroves globally.

**Global distribution mangroves**

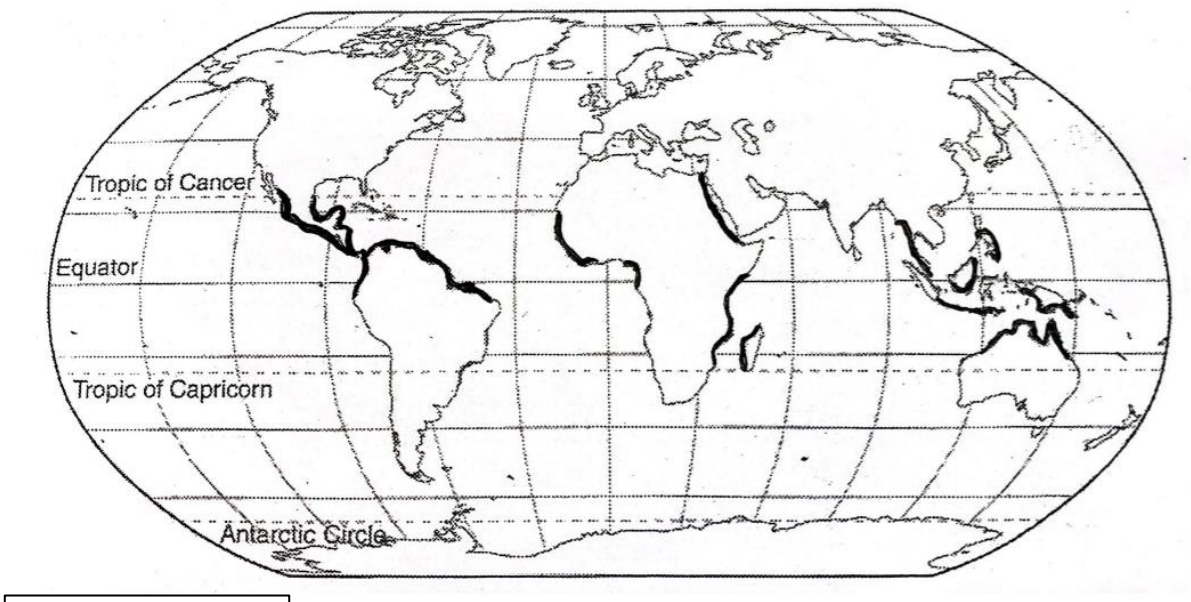


**Fig. 6**

**(i)** Use Fig. 6 to help you to describe the distribution of mangroves.

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……[3]

**(ii)** Explain two ways in which mangrove plants can help reduce coastal erosion.

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……[4]

**(iii)** Fig. 7 shows how mangroves adapt to the environment.

**Mangroves adaptation to the environment**

**Fig. 7**

Use Fig. 7 to help you explain two ways in which mangroves adapt to the environment.

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……[4]

**(b)** **(i)** Explain how deforestation leads to enhanced greenhouse effect.

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…….....[3]

**(ii)** Describe two ways in which tropical rainforests are used by people.

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**- End of Paper-**

## Additional Page

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

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新加坡海星中学

**MARIS STELLA HIGH SCHOOL**
**END-OF-YEAR EXAMINATION**
**SECONDARY ONE**

**GEOGRAPHY**

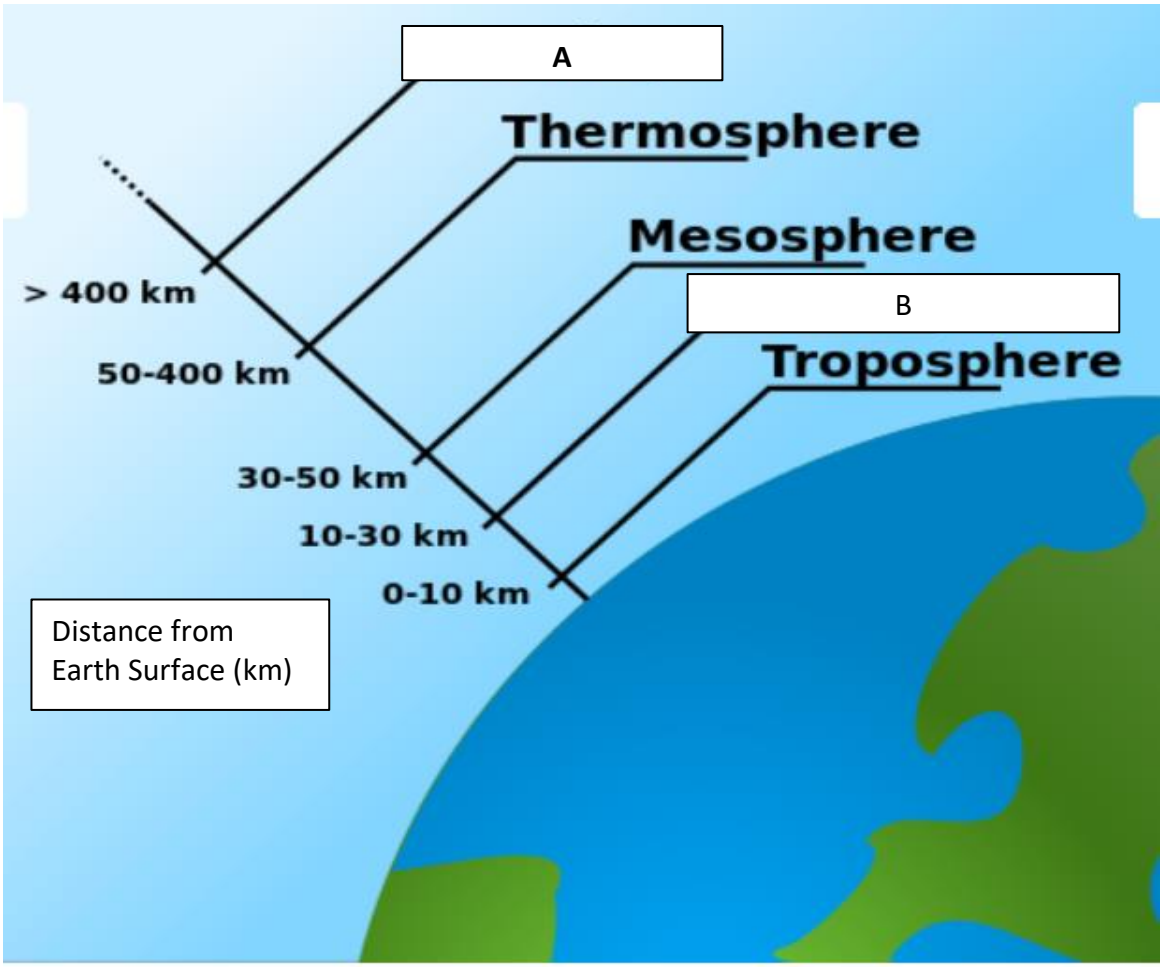
**4 October 2022**
**1 hour 15 mins**

*Additional Materials:* NIL

# ANSWER SCHEME

| For Examiner's Use |
|---|
| 36 |

This document consists of **9** printed pages inclusive of the cover page.

| | | |
|---|---|---|
| **Section A** | | |
| | | |
| **Answer all questions.** | | |
| | | |
| **1** | **(a)** | Fig. 1 shows the layers of the atmosphere.<br><br>**Layers of the atmosphere**<br><br>  <br><br><br>**Fig. 1** |
| | | Identify the two layers marked **A** and **B**. [2] |
| | | • Layer A: Exosphere<br>• Layer B: Stratosphere<br><br>Marker's comments:<br>Wrong spelling – zero mark. Some students do not know the layers and got both questions wrong. Others mixed up the 2 layers. |
| | **(b)** | Fig. 2 shows the solar panels used at the Singapore Discovery Centre. |

| | | |
|---|---|---|
| | | **Solar panels used at the Singapore Discovery Centre**<br>  <br>**Fig. 2** |
| | **(i)** | Use Fig. 2 to help you identity the natural resource and describe how it is being harnessed. [2] |
| | | ● Solar energy/ Sunlight<br>● Energy from the sun is captured/harnessed by solar cells. |
| | **(ii)** | Explain why some resources are classified as renewable. [2] |
| | | ● It can be replenished naturally/ easily.<br>● More or less within the same time period when they are used. |
| | **(c)** | Fig. 3 shows conversation between a mother and her son on natural resources.<br><br>**A conversation between a mother and her son** |

One day, a boy and his mother go on a walk at a nearby park.

Son: Hey mom, why is there so much clear space in the middle of the park?

Mother: That's what we call clearcutting. This is a logging practice where trees are cut down in a certain area. This system is an efficient method of harvesting and replanting trees and also increases farmland.

Son: Oh wow! So it's a good thing?

Mother: Well, not necessarily. You see there are both good things and bad things about clearcutting. These include increased stream flow during storms and a loss of habitat and species diversity.

**Fig. 3**

**(i)** Use Fig. 3 to help you to state if the view of the Singapore citizen is 'nature-centred' or 'human-centred'. [1]

- Human-centred.

**(ii)** With reference to c(i), explain your answer on the stated view. [2]

- Trees are removed/extracted for human use and benefits.
- Extraction of natural resources may lead to environmental degradation.

**(d)** Fig. 4 shows the climograph of Singapore in 2010.

**Climograph of Singapore in 2010**

**Temperature (°C)** **Rainfall (mm)**

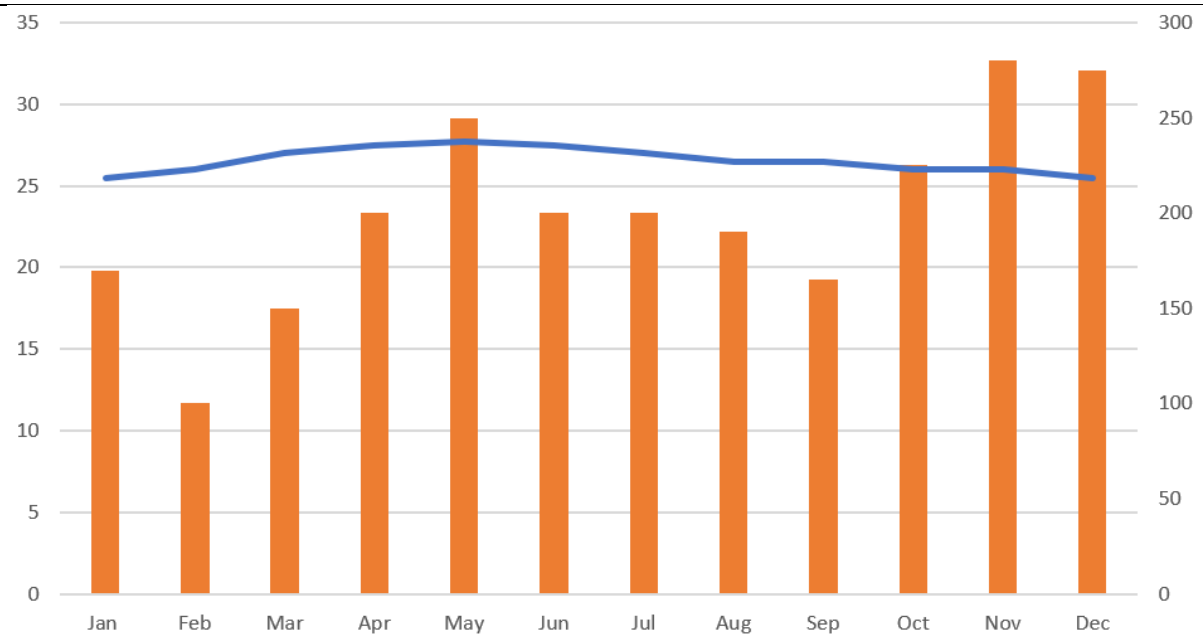



**Fig. 4**

Use Fig. 4 to help you describe the characteristics of Singapore's climate in 2010. [4]

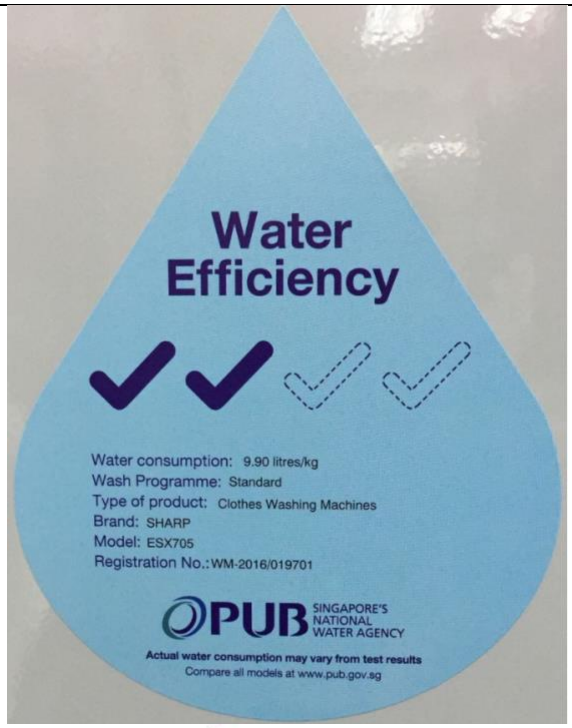
- It has a tropical climate.
- It has high temperatures throughout the year.
- The highest temperature is about 27°C in May.
- It has high rainfall throughout the year.
- It has consistent rainfall throughout the year with no distinct wet and dry season.
- The highest rainfall is about 330mm in November.

[1 mark on temperature, 1 mark on rainfall. Remaining 2 marks can be any points.]

Marker's comments:
Students who answered using GSE awarded 1 mark only.

**(e)** Fig. 5 shows a label under the Water Efficiency Labelling Scheme (WELS) by the Public Utilities Board in Singapore.

**A Water Efficiency Labelling Scheme (WELS) label**



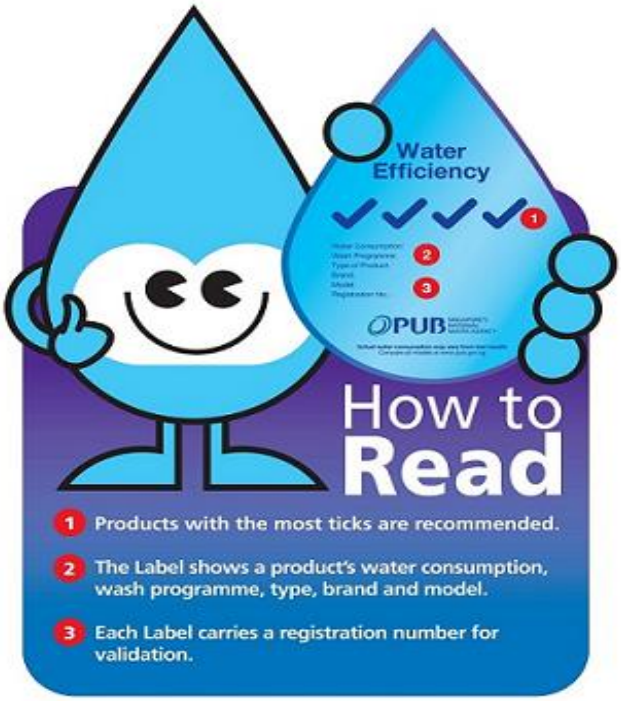




**Fig. 5**

| | | |
|---|---|---|
| | **(i)** | Use Fig. 5 to help you explain how Singapore manages our water supply by reducing water consumption. [2] |
| | | ● The WELS label uses a tick rating for water appliances.<br>● This allows people to be more aware of water-efficient products. |
| | **(ii)** | Suggest three ways that you can help to conserve water in Singapore.[3] |
| | | ● Collect rainwater to water plants.<br>● Switch off the tap when brushing teeth.<br>● Only run the washing machine when on full load. |

| | | |
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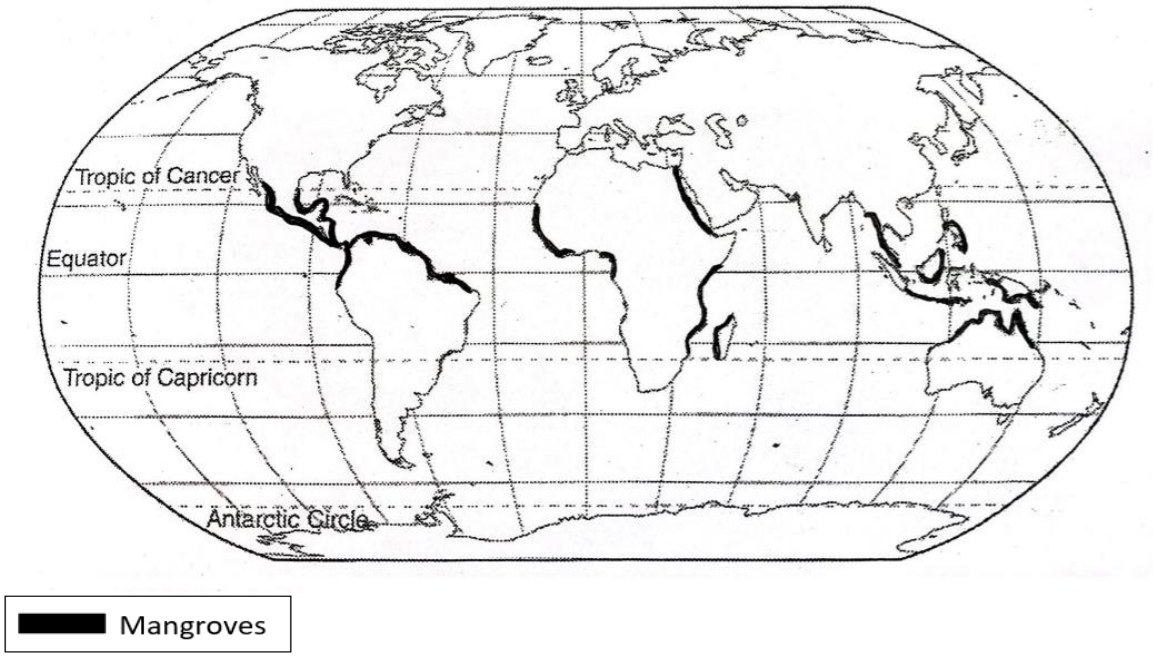
| | | Markers comments:<br>Ways which are similar or related will be awarded 1 mark only. |
| **2** | **(a)** | Fig. 6 shows the distribution of mangroves globally..<br><br>**Global distribution of mangroves**<br><br>  <br><br><br>**Fig. 6** |
| | **(i)** | Use Fig. 6 to help you to describe the distribution of mangroves. [3] |
| | | ● Mangroves are found between the tropics of Cancer and Capricorn / in the tropical area/ tropics.<br>● They can be found along the coast in North/ South America.<br>● They can be found along the coast in Africa.<br>● They can be found along the coast in Southeast Asia.<br>● They can be found along the coast in Australia/Oceania.<br><br>[Any three points above.] |
| | **(ii)** | Explain two ways in which mangrove plants can help reduce coastal erosion. [4] |
| | | ● The **dense root systems of mangrove plants** help to **trap and stabilise loose sediments on the coast.** |

| | | |
|---|---|---|
| | | ● This means that the sediments are less likely to be washed away by waves, currents and tides.<br>● The **roots, trunks and branches of mangrove plants cause friction with waves hitting the coast**.<br>● This will result in the waves losing energy so sediments are less likely to be washed away by waves, currents and tides. |
| | **(iii)** | Fig. 7 shows how mangroves adapt to the environment.<br><br>**Mangroves adaptation to the environment**<br><br>  <br><br>**Fig. 7** |
| | | Use Fig. 7 to help you explain two ways in which mangroves adapt to the environment. [4] |
| | | ● They grow partially above the soil surface, which enables them to take in oxygen directly from the air when they are exposed during low tides.<br>● This helps them to survive in the oxygen-poor soil.<br>● The roots help to anchor the mangrove plants to the soft soil.<br>● Thus preventing them from being uprooted and washed away by strong waves. |
| **(b)** | **(i)** | Explain how deforestation leads to enhanced greenhouse effect. [3] |
| | | ● When trees are cut down, carbon dioxide is released into the atmosphere.<br>● Fewer trees left behind to absorb the carbon dioxide in the atmosphere. |

| | | |
|---|---|---|
| | | • Increased amount of carbon dioxide traps more heat which leads to enhanced greenhouse effect. |
| | **(ii)** | Describe two ways in which tropical rainforests are used by people. [4] |
| | | <u>Points for Place of habitation:</u><br><br>• People use the tropical rainforest for habitation. (Identify)<br><br>• The indigenous people depend on the physical environment/forests/mangroves to meet their basic needs of food, water, shelter and clothing. (Describe)<br><br><u>Points for Place for recreation</u>:<br>• Tropical forests are used for recreation. (Identify)<br>• Some common activities include hiking, bird and wildlife spotting. (Describe)<br><br><u>Points for Sources of food</u>:<br>• Tropical rainforests provide a source food. (Identify)<br>• The indigenous people obtain food by hunting and gathering. **Or** Many common types of nourishing food from plants grow in tropical forests. (Describe)<br><br><u>Points for Sources of raw materials:</u><br>• Tropical rainforests provide a source of raw materials. (Identify)<br>• Wood is obtained for building and carpentry. **Or** Wood from tropical rainforests are valued for their strength, durability and colour. (Describe) |