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CONVENT OF THE HOLY INFANT JESUS SECONDARY
Secondary 1 Express
End-of-Year Examination 2022

CANDIDATE NAME

CLASS 1/ ☐ REGISTER NUMBER ☐☐

GEOGRAPHY

6 October 2022

Additional Materials: Insert

1 hour 20 minutes

READ THESE INSTRUCTIONS FIRST

Write your name, class and register number in the spaces provided on the work you hand in.
Write in dark blue or black ink on both sides of the paper.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue, correction fluid or correction tape.

Answer **all** questions.

Write your answers to **Sections A and B** on the Question Booklet.

If you require more space for your answer to any part of the paper, you may continue writing it on pages 11 and 12 of the Question Booklet. Label the question number clearly beside your answer.

Candidates should support their answers with the use of relevant examples when required.

At the end of the examination, submit the Question Booklet and Insert.
The number of marks is given in brackets [ ] at the end of each question or part question.

Section A (Q1)	**4**
Section B (Q2)	**18**
Section B (Q3)	**18**
Total	**40**

This document consists of **12** printed pages and **1** insert.

[Turn over

Section A

This question is **compulsory**.

1 Study Fig. 1 (Insert), which shows a topographical map of Nino Town.

(a) State the 4-figure grid square of the church.

..... [1]

(b) State the compass direction of the school from the mosque.

..... [1]

(c) Find the straight-line distance between the trigonometrical station and the temple. (Answer should be in kilometres)

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..... [1]

(d) Using evidence from the map, suggest a reason why people would want to live in Nino Town.

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..... [1]

Section B

This section is **compulsory**.

2 **(a)** Study Fig. 2, which shows the freshwater consumption per capita in different parts of the world.

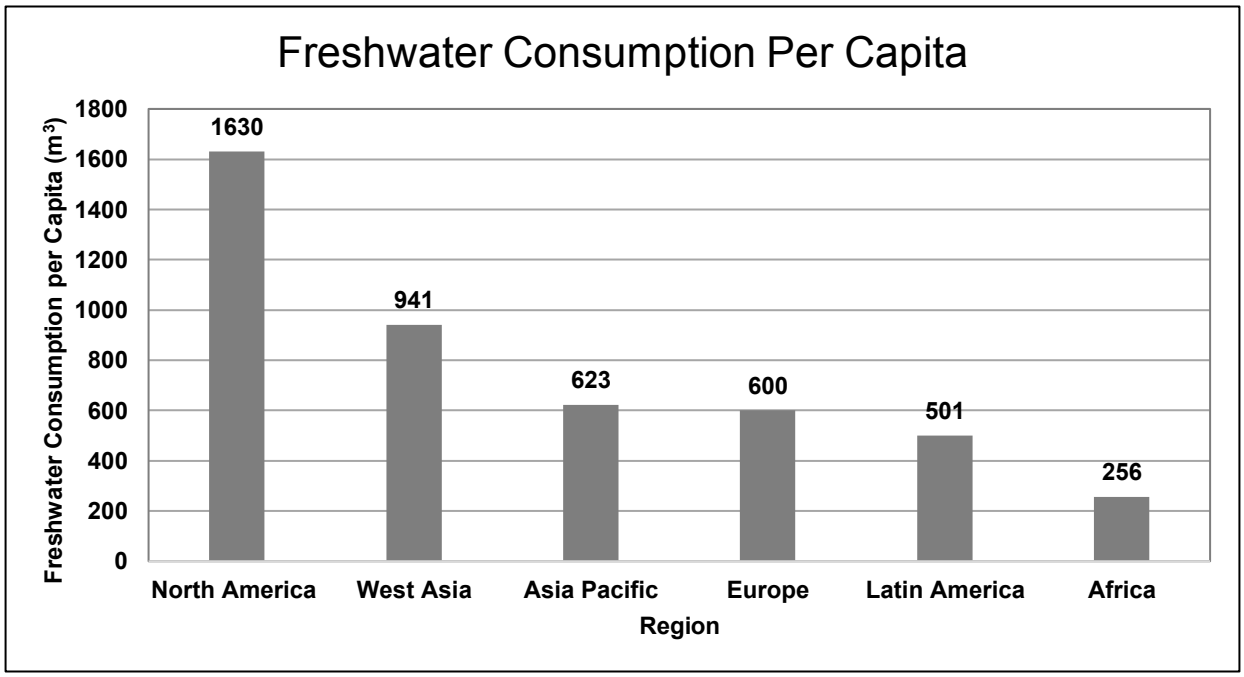

Fig 2

Using Fig 2, describe the freshwater consumption per capita of the world.

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..... [3]

(b) Describe how water is used in industries in Singapore.

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..... [2]

(c) Study Fig. 3, which shows a polluted coast.

A polluted coast

Fig. 3

Using Fig. 3, describe the human activities that can cause water pollution.

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..... [3]

(d) Study Fig. 4, which shows the impact of agriculture on a nearby river.

Impact of agriculture

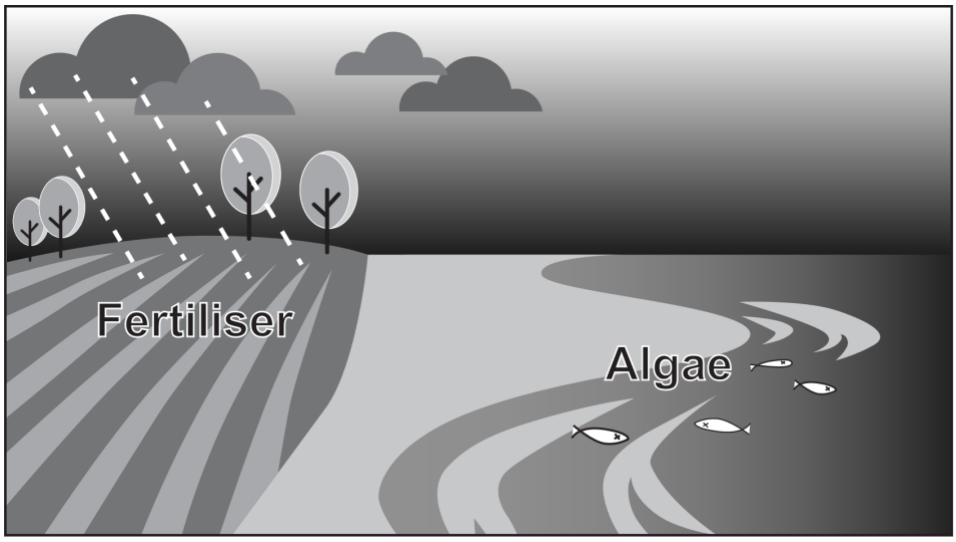

Fig 4

Using Fig 4, explain how farms may pose a threat to the river's aquatic life.

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..... [3]

(e) Describe the causes of river floods.

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(f) Explain the strengths and limitations of reducing water consumption to sustainably manage Singapore's water supply.

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..... [4]

3 **(a)** Study Fig. 5, which shows Indonesia's primary forest loss from 2004 to 2020.

Indonesia's primary forest loss from 2004 to 2020

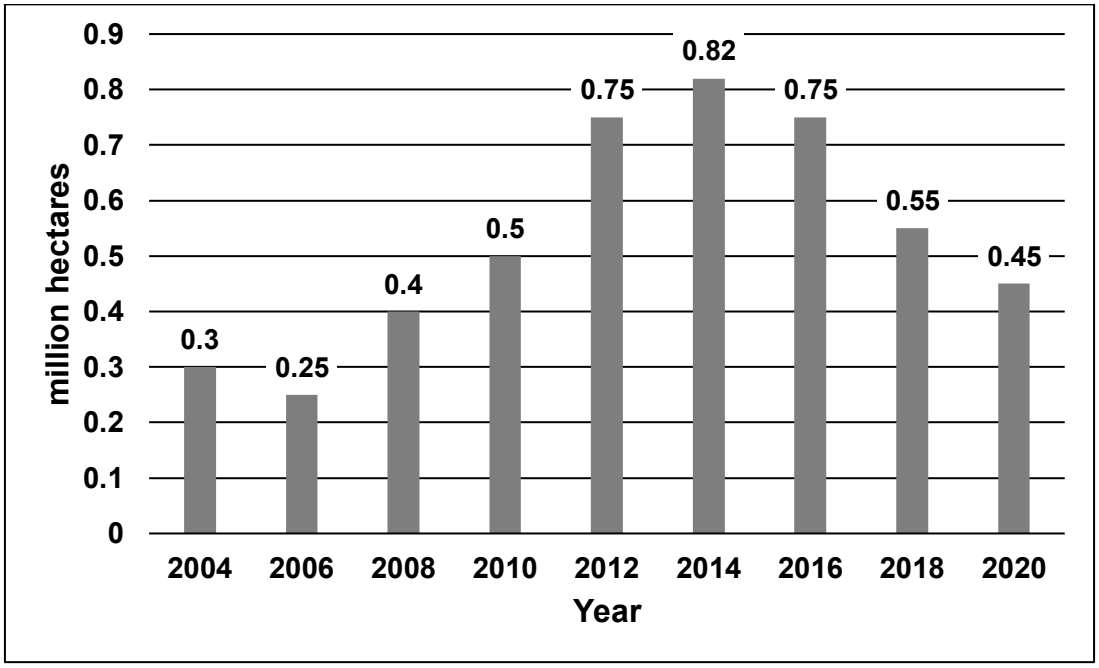

Fig. 5

Using Fig 5, describe the changes in Indonesia's primary forest loss from 2004 to 2020.

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(b) Study Fig. 6, which shows the adaption of tropical rainforest leaves.

A typical leaf in the tropical rainforest

Fig. 6

Using Fig. 6, explain how leaves adapt to tropical climatic conditions.

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..... [3]

(c) Explain why mangrove forests are usually found in sheltered environments.

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..... [2]

(d) Explain how deforestation may result in an enhanced greenhouse effect.

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..... [3]

(e) Study Fig. 7, which shows the role of natural vegetation in reducing soil erosion.

Role of natural vegetation in reducing soil erosion

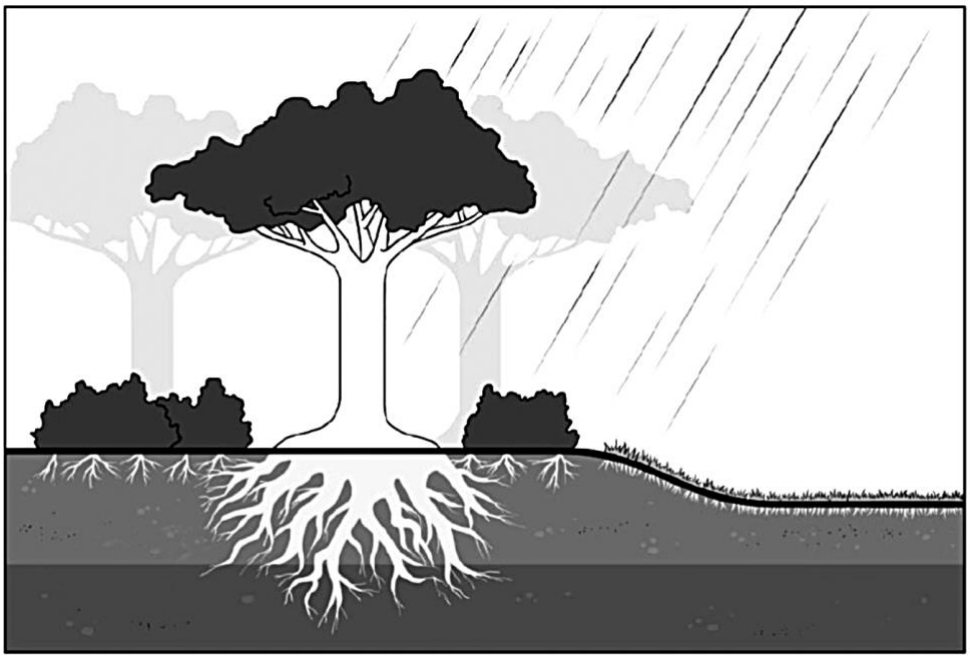

Fig. 7

Using information from Fig.7, explain how natural vegetation can reduce soil erosion.

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..... [3]

(f) Explain the strengths and limitations of establishing protected areas through laws and regulations as a strategy to sustainably manage tropical rainforests.

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..... [4]

END OF PAPER

You may continue your answer to any part of the paper here.
Label the question number clearly beside your answer.

You may continue your answer to any part of the paper here.
Label the question number clearly beside your answer.

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CONVENT OF THE HOLY INFANT JESUS SECONDARY
Secondary 1 Express
End-of-Year Examination 2022

GEOGRAPHY

6 October 2022

INSERT

1 hour 20 minutes

READ THESE INSTRUCTIONS FIRST

This insert contains Fig. 1 for Question 1.

Section A
MAP READING

Topographical map of Nino Town

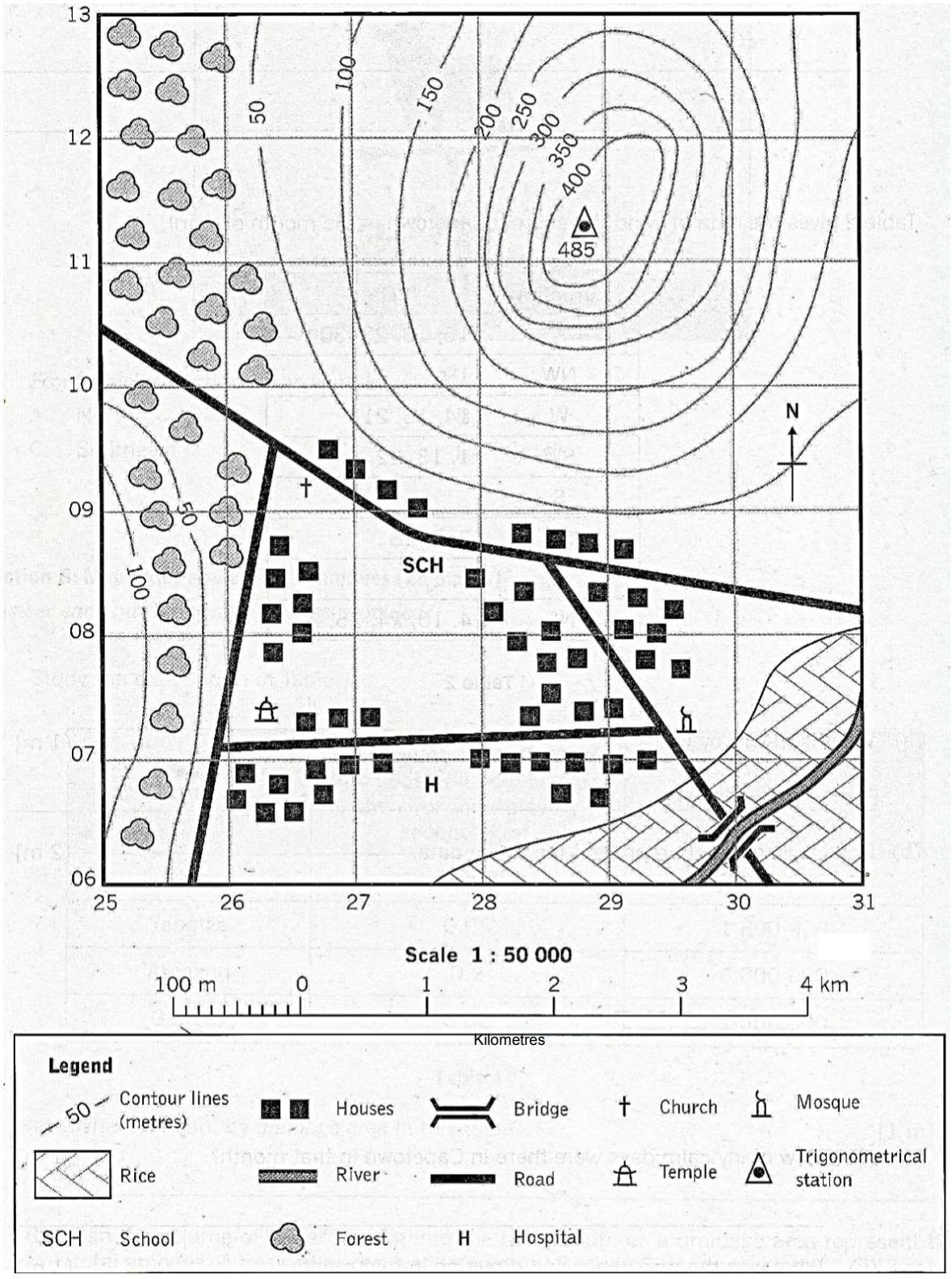

Fig. 1

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CONVENT OF THE HOLY INFANT JESUS SECONDARY
Secondary 1 Express
End-of-Year Examination 2022

CANDIDATE NAME

CLASS 1/ REGISTER NUMBER

GEOGRAPHY

6 October 2022

Additional Materials: Insert

1 hour 20 minutes

ANSWER SCHEME

Section A

1 Study Fig. 1 (Insert), which shows a topographical map of Kampong Setia.

(a) State the 4-figure grid square of the church. [1]

2609

(b) State the compass direction of the school from the mosque. [1]

Northwest

(c) Find the straight-line distance between the trigonometrical station and the temple. (Answer should be in kilometres) [1]

1 cm 0.5 km

9.5 cm 9.5 X 0.5

= 4.75 km

Accepted answer range: 4.70 km – 4.80 km (+/- 0.1cm)

(d) Using evidence from the map, suggest a reason why people would want to live in Nino Town. [1]

Accept any 1 reason with map evidence. *Accept plausible answers.*	● People want to live in Nino Town as the **rice plantation** provides **employment opportunities.** ● The presence of **roads** connects **people to different places.** ● Source of **water supply** for their daily needs from the nearby **river.**

Section B

2 (a) Study Fig. 2, which shows the freshwater consumption per capita in different parts of the world.
Using Fig 2, describe the freshwater consumption per capita of the world. [3]

Award 1 mark for each point up to 3 marks. *Cap @ 2 marks without data with units or rate of change.* *Cap @ 1 mark if students describe all regions.*	● **North America** has the **highest** freshwater consumption per capita at **1630 m^3.** ● **Africa** has the **lowest** freshwater consumption per capita at **256 m^3.** ● **The Asia Pacific and Europe** have **around the same** freshwater consumption per capita of **around 600 m^3.**

(b) Describe how water is used in industries in Singapore [2]

Award 1 mark for each point up to 2 marks.	● Water is used to **cool equipment in factories** and **power plants.** ● Water is used as a **cleaning agent** in **water fabrication.**

(c) Study Fig. 3, which shows a polluted coast.
Using Fig. 3, describe the human activities that can cause water pollution. [3]

Award 1 mark for each point up to 3 marks. *Cap @ 2 marks if answers only show what is in Fig. 3 but do not link how the pollutants are leading into the sea.* *Cap @ 1 marks if no reference is made to Fig. 3*	● In the left background, **a man emptied this trash** (consisting of food waste) onto the beach which can be **washed into the sea during high tide.** ● In the background, **sewerage from pipes** is **released directly into the sea.** ● In the background, **a discarded car is dumped at the beach** which can **pollute the water when submerged.** ● In the middle ground, **a barrel left on the beach** is **leaking toxic chemicals into the sea**. ● In the foreground, **plastic bags containing trash left behind on the beach** can be **washed into the sea during high tide.**

(d) Study Fig. 4, which shows the impact of agriculture on a nearby river.
Using Fig 4, explain how farms may pose a threat to the river's aquatic life. [3]

Award 1 mark for each point up to 3 marks. *Reserve 1 mark for the overall trend.* *Cap @ 2 marks without data with*	● **Excess fertilisers** from farms that get **washed into rivers by rain** provide **additional nutrients for algae to grow rapidly.** ● When **algae die**, they are **decomposed by bacteria**, which **take in oxygen** during the process. ● As a result, **less oxygen remains in the water**, causing **fish and other aquatic animals to die.**

units or rate of change.	

(e) Describe the causes of river floods. [3]

Award 1 mark for each point up to 3 marks.	● From **sustained heavy rainfall** or **heavy rainfall over a period of time.** ● From **meltwater** when **snow and ice** start to **melt in spring.** ● The **large amounts** of rainwater and meltwater **enter streams and tributaries**, which **then flow into rivers**, **overflowing their banks** and flooding the surrounding areas.

(f) Explain the strengths and limitations of reducing water consumption to sustainably manage Singapore's water supply. [4]

Award 1 mark for each strength and limitation. *Reserve 1 mark for strength and limitation each.*	**Strengths**
	● **It is a long-term measure** in ensuring the sustainable supply of water and making **lasting positive changes in people's habits and use** of water. ● It has helped to reduce water consumption from **165 litres per day in 2000** to the **current 141 litres**. The target is to lower it to 130 litres per day by 2030.
	Limitations
	● It **takes time to change people's behaviour and habits** to conserve water. Hence, the results may **not be so visible in the short term**. ● There is **no guarantee that people will put into practice** what they have learnt through the programmes on water conservation. Water could still be **misused and wasted**.

Structured Question with no more than six parts	**AO1+2**	**AO1+3**
Q2(a)		3
Q2(b)	2	
Q2(c)		3
Q2(d)		3
Q2(e)	3	
Q2(f)	4	
Total	9	9

3 (a) Study Fig. 5, which shows Indonesia's Primary Forest Loss from 2004 to 2020.
Using Fig 5, describe the changes in Indonesia's Primary Forest Loss from 2004 to 2020. [3]

Award 1 mark per point up to 3 marks *Answers must include general trend + anomaly + data evidence* *Cap @ 2 marks for answers without the use of proper data.*	• Generally, Indonesia's Primary Forest Loss **increased** from **0.3 million hectares in 2004** to **0.45 million hectares in 2020**. [1] • However, there was a **gradual decrease** from **0.3 million hectares in 2004** to **0.25 million hectares in 2006.** [1] • There was a **steep increase** from **0.5 million hectares in 2010** to **0.75 million hectares in 2012.** [1]

(b) Study Fig. 6, which shows the adaption of tropical rainforest leaves.
Using Fig. 6, explain how leaves adapt to tropical climatic conditions. [3]

Award 1 mark per point up to 3 marks. *Cap @ 1 mark without linking to the tropical climatic conditions.*	• Some rainforest trees have leaves with **small, narrow drip tips** to **allow rainwater** that falls onto them **to flow off easily**. [1] • The leaves are also **waxy with a glossy surface** to **reduce the loss of water vapour** to the atmosphere through **transpiration.** [1] • The leaves are **broad with a large surface area** to **absorb as much sunlight as possible** to make food during **photosynthesis**. [1]

(c) Explain why mangrove forests are usually found in sheltered environments. [2]

Award 1 mark per point.	• Mangrove forests require calm water conditions so that their **seedlings can take root** and **grow without getting washed away by strong waves**. [1] • Calm water conditions also **encourage the accumulation of fine sediments containing nutrients**, which mangrove plants **require to sustain their growth**. [1]

(d) Explain how deforestation may result in an enhanced greenhouse effect. [3]

Award 1 mark per point.	• With deforestation, there are **fewer trees to absorb carbon dioxide from the atmosphere** during photosynthesis. • When trees are burned down during deforestation **more carbon is released into the atmosphere,** leading to an excessive amount of carbon dioxide in the atmosphere. • The **additional carbon dioxide** in the atmosphere will **trap more heat**, leading to an **enhanced greenhouse effect.**

(e) Study Fig. 7, shows the role of natural vegetation in reducing soil erosion.
Using information from Fig.7, explain how natural vegetation can reduce soil erosion. [3]

Award 1 mark per point up to 3 marks.	• **The leaves, branches and stems** of rainforest plants **slow down falling raindrops before they reach the ground.** • More rainwater can **infiltrate/percolate/seep** into the soil, thus **reducing surface runoff** and **preventing loosened soil particles from being washed away**. • **Raindrops hit the soil with less force**, **preventing soil particles from being detached.** • The **roots of rainforest plants** also **bind the soil together**, **making it harder to erode**. The overall soil erosion by flowing water is minimised.

(f) Explain the strengths and limitations of establishing protected areas through laws and regulations as a strategy to sustainably manage tropical rainforests. [4]

Award 1 mark for each strength and limitation. *Reserve 1 mark for strength and limitation each.*	**Strengths** • A **defined area** is protected, and **human activities** that can damage the forests **are limited**. • **Governments** are involved in **managing and protecting** tropical forests; thus, they can **sustain the flora and fauna** and its habitat in a long run. **Limitations** • The **lack of strong enforcement** of these laws results in the loss of forests due to **illegal loggers**. Forest rangers may **give in to corruption** to allow illegal logging to take place. • The **lack of financial and labour resources** in LDCs further limits the effectiveness of this measure - the use of **surveillance technology** is **too expensive** and policing the vast forest area is also **labour-intensive**.

Structured Question with no more than six parts	**AO1+2**	**AO1+3**
Q3a		3
Q3b		3
Q3c	2	
Q3d	3	
Q3e		3
Q3f	4	
Total	9	9