

Name: _____ ()

Class: _____



MONTFORT SECONDARY SCHOOL
PRELIMINARY EXAMINATION

SECONDARY 4 EXPRESS/ 5 NORMAL (ACADEMIC)

HUMANITIES

2260/02

Paper 2 Geography

25 August 2025

(Monday)

1 hour 45 minutes

INSERT

READ THESE INSTRUCTIONS FIRST

This Insert contains additional resources referred to in the questions.

Setter: Mr Mansoor

Fig. 1.1 for Question 1

[Turn over

Social-Ecological transformation in Asian cities

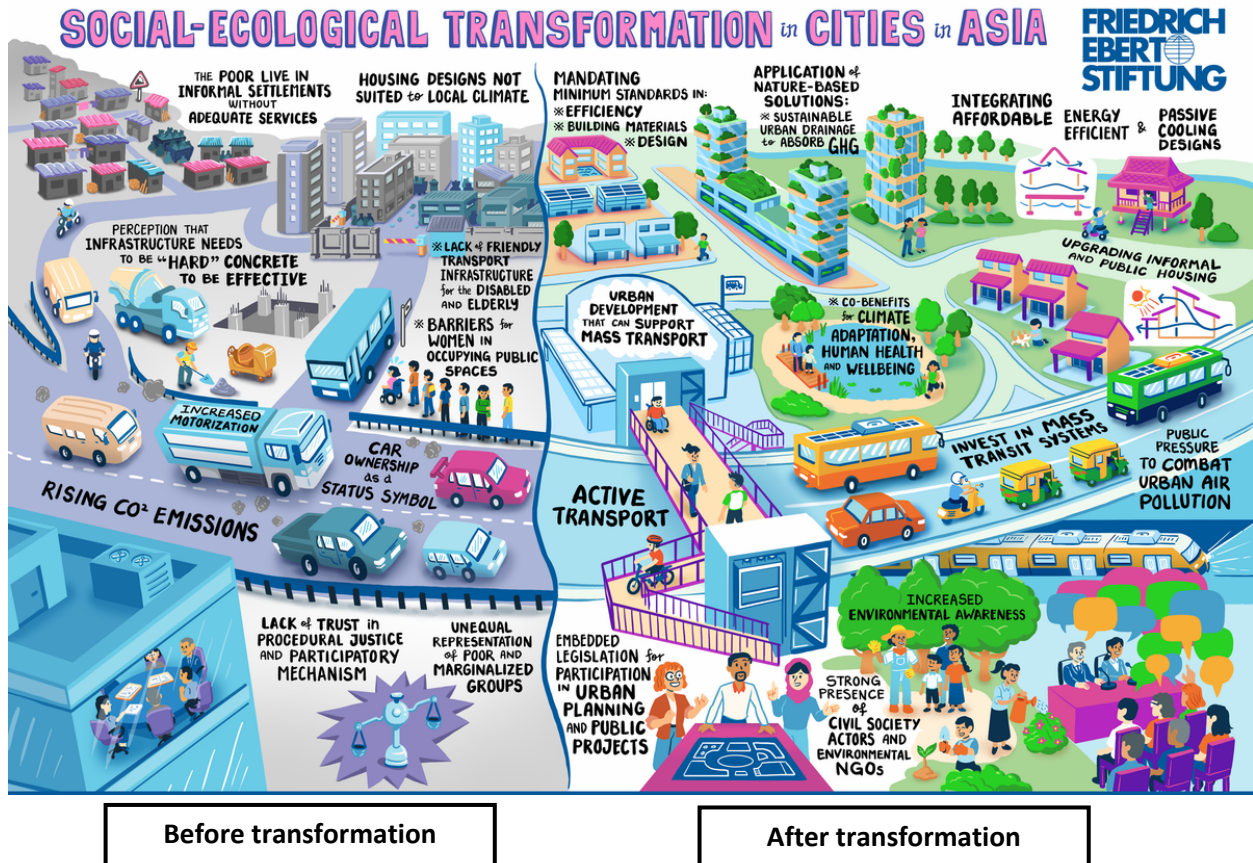


Fig. 1.3 for Question 1
Fire in District A, Nnewi (2022)



Table 1.1 for Question 1
Urban Fire Causes

Cause of Fire	Number of Incidents (2017) (hundreds)	Number of Incidents (2023) (hundreds)
Faulty Electrical Wiring	45	20
Improper Electrical Use	30	12
Unattended Cooking	25	23
Improper Waste Disposal	20	8
Smoking-related Fires	15	15
Faulty Appliances	5	8

[Turn over

Fig. 2.2 for Question 2

Tourist-Local interactions in a Tibetan Village



"Your hand blocks your face in protest. But no-one cares."



Fig. 2.3 for Question 2

Water Rides at Beijing Aquatic Center

Fig. 3.1 for Question 3

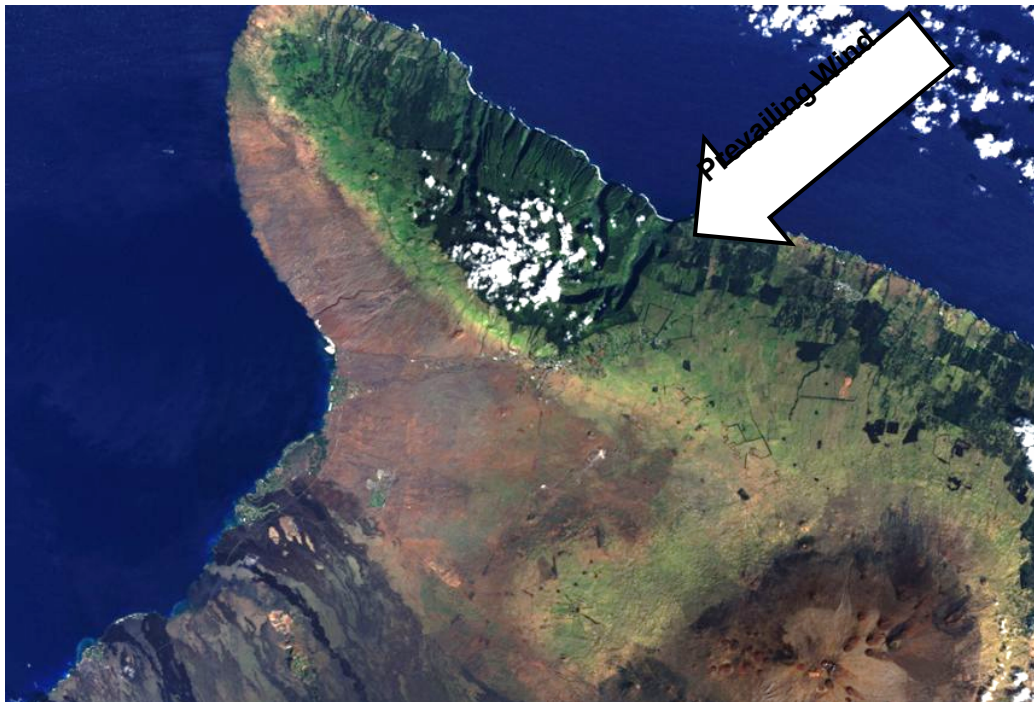
Satellite image of Kohala Mountain Range

Fig. 3.2 for Question 3

Annual Precipitation in Hawai'i's Big Island

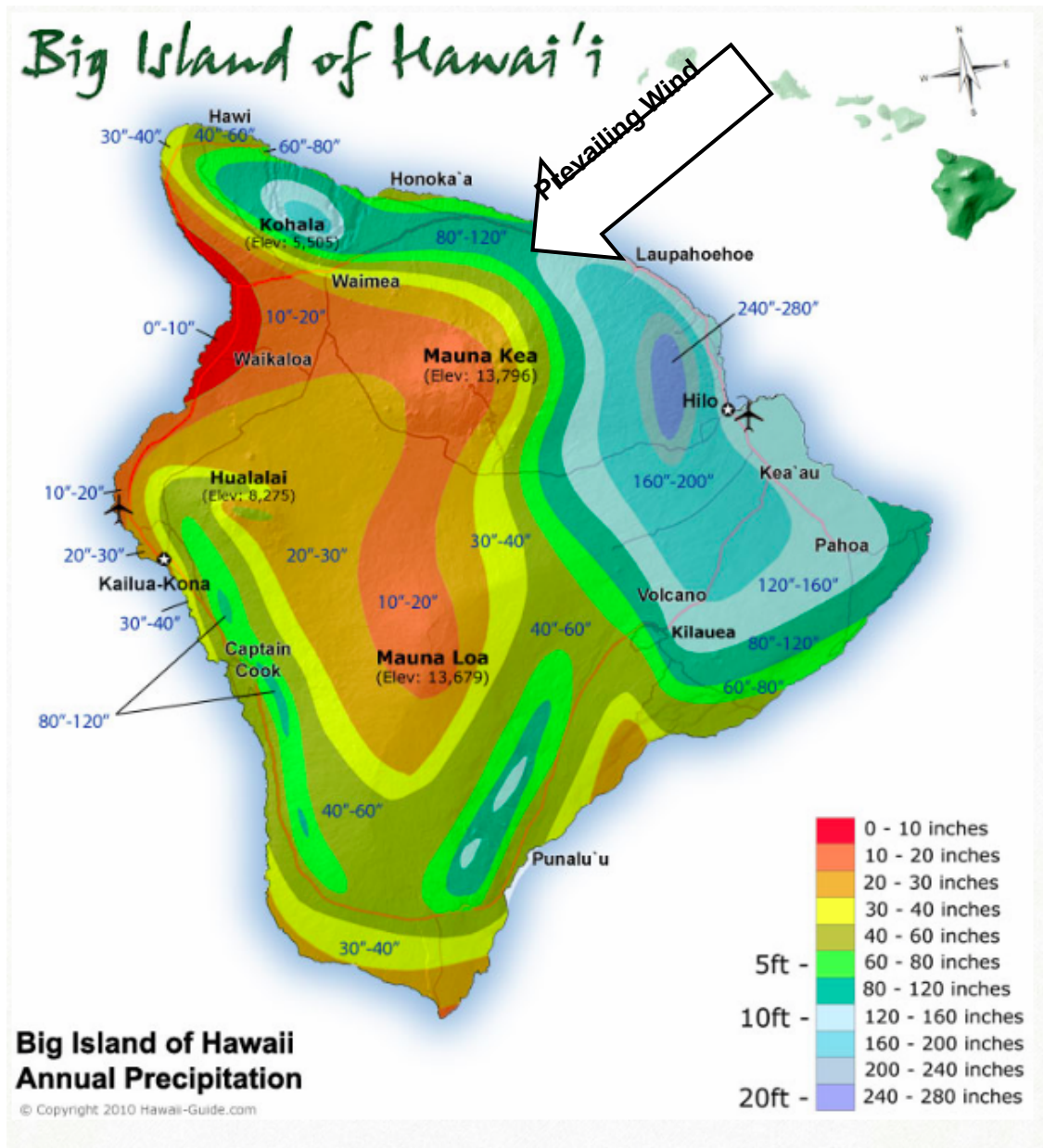
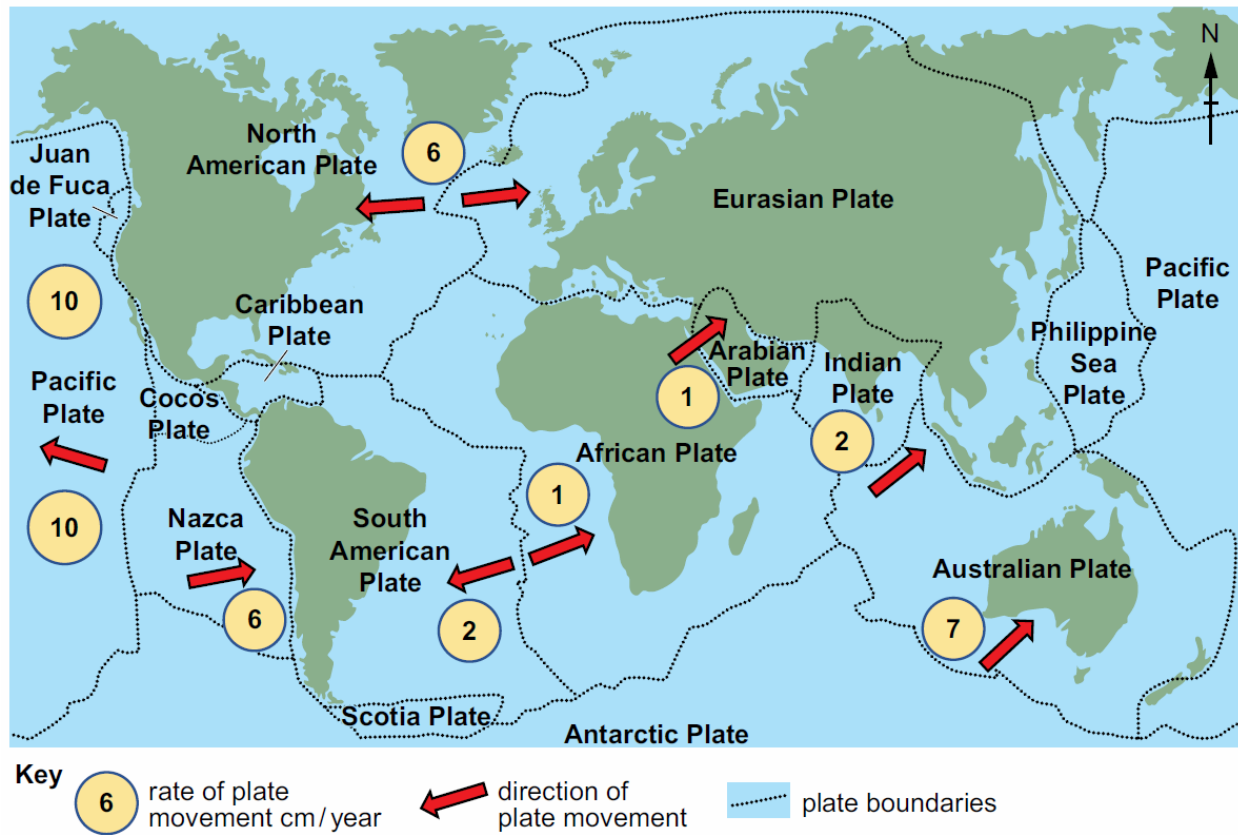


Fig. 4.1 for Question 4

Tectonic plate boundaries and the rate and direction of plate movement



Copyright Acknowledgements:

Question 1	Fig. 1.2	https://www.nst.com.my/news/nation/2025/05/1214596/mother-elephant-sedated-after-refusing-leave-calf-killed-crash-watch
Question 1	Fig. 1.3	https://www.facebook.com/chimecoman212/posts/okpunoegbu-umudim-nnewi-fire-disasterearlier-today-i-visited-the-scene-of-the-ho/263681249164583/
Question 2	Fig. 2.2	chrome-extension://efaidnbmninnipcbpcjgclclefindmkaj/https://freetibet.org/wp-content/uploads/2022/02/culture_clash_-_tourism_in_tibet.pdf
Question 2	Fig. 2.3	https://www.nationalgeographic.com/adventure/article/120726-2012-olympics-games-london-sports-venues-world-sports
Question 3	Fig. 3.1 and 3.2	https://education.nationalgeographic.org/resource/rain-shadow/ http://www.onionhousehawaii.com/weather-patterns-on-the-big-island.html
Question 4 (b)	Fig. 4.2	EM-DAT, CRED / UCLouvain, Brussels, Belgium – www.emdat.be

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Name: _____ ()

Class: _____



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PRELIMINARY EXAMINATION**

SECONDARY 4 EXPRESS/ 5 NORMAL (ACADEMIC)

HUMANITIES

2260/02

Paper 2 Geography

25 August 2025

(Monday)

1 hour 45 minutes

Candidates answer on the Question Paper

Additional materials: Insert

READ THESE INSTRUCTIONS FIRST

Write your name, class and register number in the spaces provided on the cover page, and on all the work that you hand in.

Write in dark blue or black pen.

You may use an 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 **either** Question 3 **or** Question 4.

This 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.

FOR EXAMINERS' USE ONLY	
TOTAL	50

Parent's signature: _____

Setter: Mr Mansoor

Section A

[Turn over

Answer Question 1 **and** Question 2.

1 Cluster 1: Geography in Everyday Life

- (a)** Describe **one** disaster risk management strategy implemented in an urban neighbourhood that builds community resilience.

.....
[1]

- (b)** Explain how a park in an urban neighbourhood helps regulate environmental conditions through its ecosystem services.

.....

[3]

- (c)** Study Fig. 1.1 (Insert), which shows an infographic illustrating a proposed social-ecological transformation in Asian cities.

Using from Fig. 1.1, explain how the two urban areas differ in their approaches to achieving social and environmental sustainability.

.....

[2]

- (d) Study Fig. 1.2, which shows a photo of park officials needing to sedate a mother elephant that refused to leave her calf killed in a car crash, along a highway in Malaysia.

Human-Wildlife Conflict

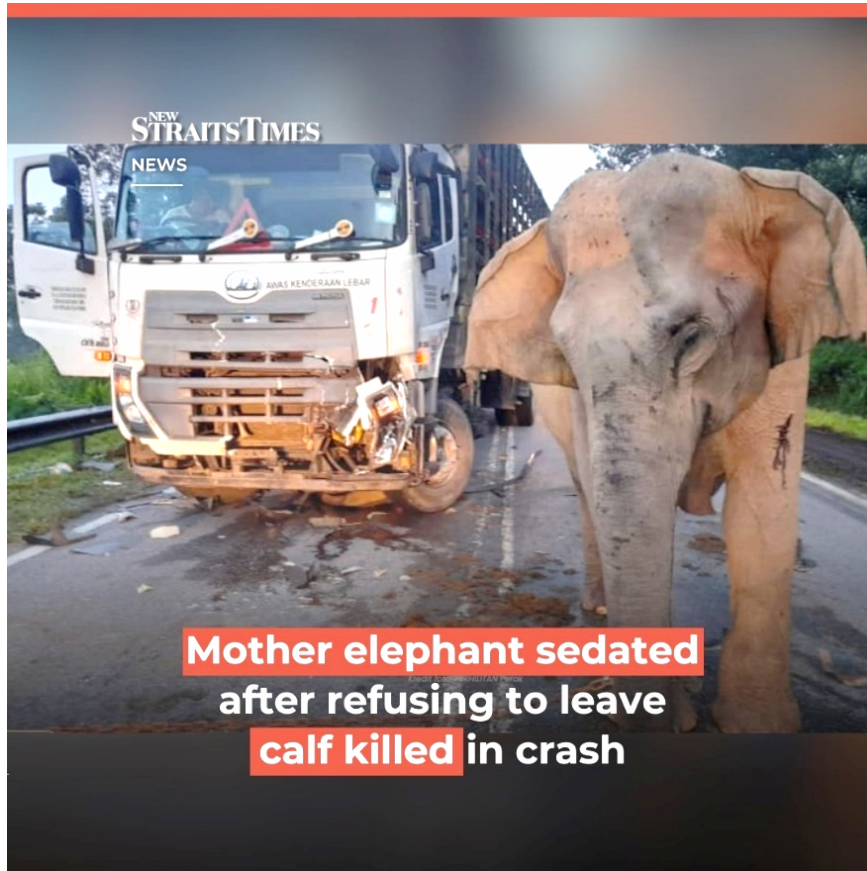


Fig. 1.2

With reference to Fig. 1.2, describe how coexistence in a shared urban space can lead to negative impacts for people and wildlife.

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.....[2]

- (e) A group of students wanted to investigate whether new fire safety measures have reduced

[Turn over

the causes of urban fires in District A of Nnewi, Nigeria. Fig. 1.3 (Insert) shows a photo of the neighbourhood on fire in 2022, illustrating the severity of fire incidents before the new safety measures were introduced.

They collected data on the number of fire incidents caused by different factors in this district, obtained from official fire department records. They compared data from 2017 with data from 2023, after the implementation of new fire safety regulations. Their findings are presented in Table 1.1 (Insert).

- (i) With reference to Table 1.1, evaluate the effectiveness of the fire safety measures to reduce urban fire incidents in District A.

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- (ii) The students collected data on fire hazards in District A by asking locals to draw mental maps.

Evaluate the reliability of having mental maps drawn by local resident to collect primary data on fire hazards in District A.

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.....[3]

[Total: 14]

2 Cluster 2: Tourism

- (a) Study Fig. 2.1, which shows information on the number of international tourists arriving in Corfu, a Greek island, between 2004 and 2013.

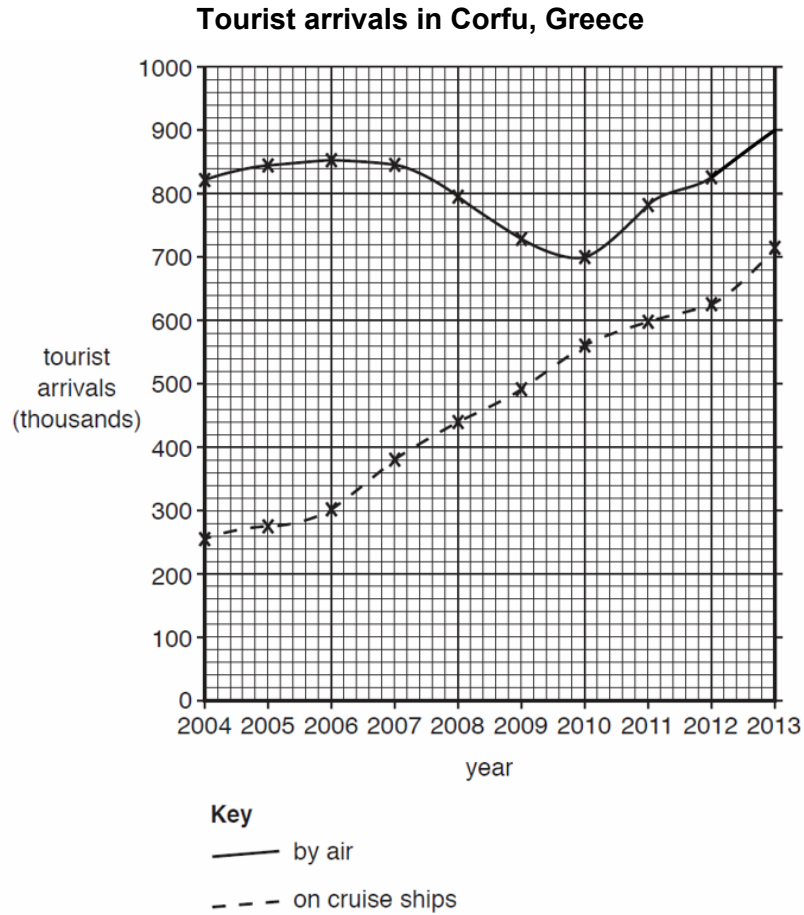


Fig. 2.1

- (i) Based on Fig. 2.1, compare the trends in tourist arrivals to Corfu by air and by cruise ship between 2004 and 2013.

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- (ii) Suggest possible reasons for the fluctuations in international tourist arrivals in Corfu.

[Turn over

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- (b) Study Fig. 2.2 (Insert), which shows tourists photographing local residents in a Tibetan village, highlighting interactions between visitors and the local community.

With reference to Fig. 2.2, explain how tourist-local interactions can lead to various social impacts on Tibetan communities.

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.....[3]

- (c) Describe the travel preferences of dependable-type tourists based on their personality characteristics.

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.....[2]

- (d) Study Fig. 2.3 (Insert), which shows the renovated Beijing National Aquatic Center, now

repurposed to host various water rides as part of its post-Olympic transformation.

Based on Fig. 2.3, identify the stage of tourism development of the Beijing National Aquatic Center in China.

.....[1]

- (e) Study Fig. 2.4, which shows guidelines outlining the dos and don'ts for snorkelling in Thailand to promote marine conservation and protect coral reef ecosystems.

Responsible Snorkelling Guide in Thailand



Fig. 2.4

Using Fig. 2.4, explain how the regulation of tourism activities supports marine conservation efforts in Thailand. **[Turn over]**

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- (f) Using a specific example, explain how planning authorities can support the long-term sustainability of tourism destinations.

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.....[3]

[Total: 18]

Section B

Answer **either** Question 3 **or** Question 4.

3 Cluster 3: Climate

- (a) Study Fig. 3.1 (Insert) and Fig. 3.2 (Insert), showing a satellite image of vegetation covers around the Kohala mountain range and the annual precipitation of Hawai'i's Big Island.

- (i) Using Fig. 3.1 and Fig. 3.2, identify the likely type of rainfall around Kohala Mountain Range.

.....[1]

- (ii) Using Fig. 3.1 and Fig. 3.2, explain why the distribution of vegetation cover differs at various locations on the Kohala Mountain Range.

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[4]

- (b) Study Fig. 3.3, which shows the historical timeline outlining the various climate change negotiations.

[Turn over

Timeline of Climate Change Negotiations



Fig. 3.3

- (i) Using Fig. 3.3, identify the approach taken to slow the rate of climate change.

.....[1]

- (ii) With reference to Fig. 3.3, explain both the effectiveness and limitations of the approach taken to address climate change.

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.....[3]

- (c) 'Terrestrial ecosystems face greater and more immediate threats from climate change than aquatic ecosystems.'

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

This image shows a full page of white paper with horizontal dotted lines, typical of primary school writing paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

[9]

[Total: 18]

4 Cluster 4: Tectonic

- (a)** Study Fig. 4.1 (Insert), a map showing tectonic plate boundaries and the rate and direction of plate movement.

Using Fig. 4.1, describe the rate of plate movement in different parts of the world.

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.....[3]

(b) Study Fig. 4.2, showing selected earthquakes that have occurred since 2000.

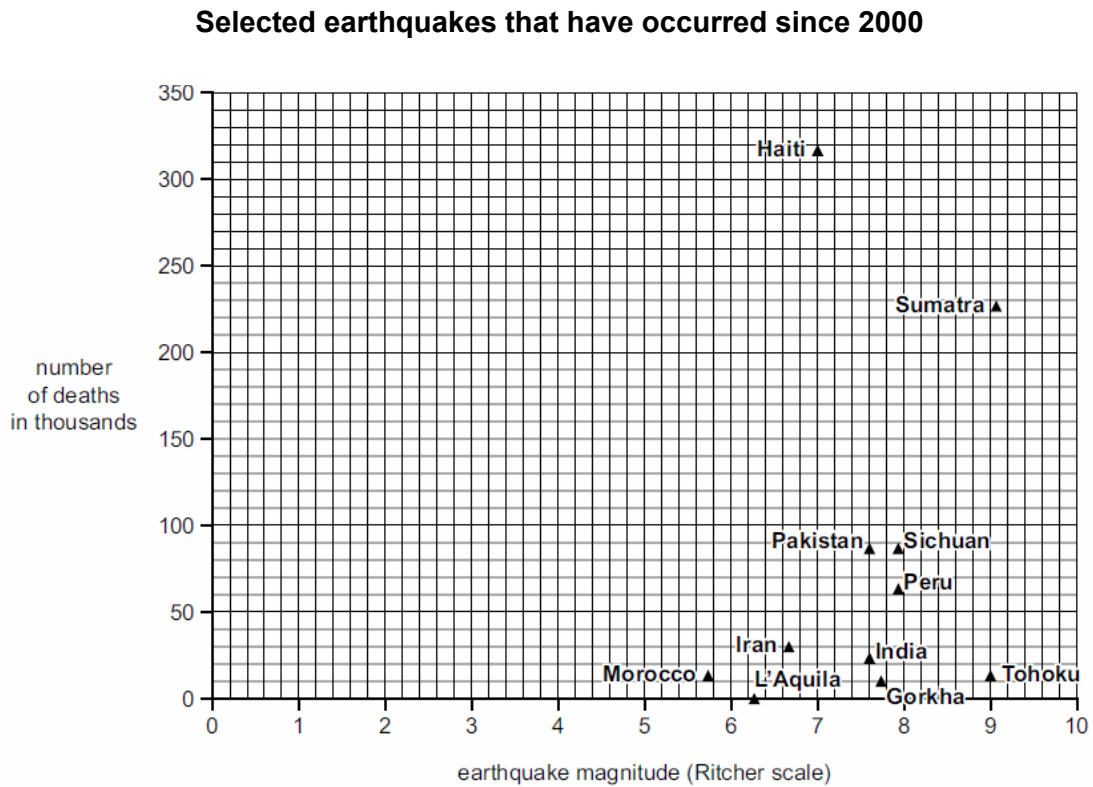


Fig. 4.2

(i) Using Fig. 4.2, describe the relationship between the earthquake magnitude and the number of deaths.

[Turn over

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[2]

- (ii) With reference to Fig. 4.2, outline **two** reasons why the number of deaths for earthquakes with similar magnitudes could vary.

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[4]

- (c) 'Some strategies for building community resilience to the threat of earthquakes are more effective than others.'

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

.....

.....

Copyright Acknowledgements:

Question 1	Fig. 1.2	https://www.nst.com.my/news/nation/2025/05/1214596/mother-elephant-sedated-after-refusing-leave-calf-killed-crash-watch
Question 2	Fig. 2.1	CIE Paper O level 221/2018
Question 2	Fig. 2.4	https://amazingthailand.com.au/category/diving/
Question 3	Fig. 3.3	https://phys.org/news/2015-11-commonwealth-strong-solutions-climate.html
Question 4 (b)	Fig. 4.2	EM-DAT, CRED / UCLouvain, Brussels, Belgium – www.emdat.be

Additional pages

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

2025 Preliminary Examination

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**MONTFORT SECONDARY SCHOOL
PRELIMINARY EXAMINATION**

SECONDARY 4 EXPRESS/ 5 NORMAL (ACADEMIC)

HUMANITIES

Paper 2 Geography

2260/02

25 August 2025 (Monday)

1 hour 45 minutes

ANSWER SCHEME

This document consists of **18** printed pages.

Setter: Mr. Mansoor

Section A

Answer Question 1 **and** Question 2.

1		AO1	AO2
a	Describe one disaster risk management strategy implemented in an urban neighbourhood that builds community resilience. Award 1m for valid description, to a maximum of 1 mark. Possible responses include: - Local neighbourhood groups regularly conduct evacuation drills with the support of emergency services to help residents become familiar with escape routes and emergency procedures, strengthening their preparedness and response capability. - Authorities can run ongoing education programmes on fire safety, flood response, and first aid to raising awareness and teaching basic survival skills, empowering residents to act effectively during emergencies. - Authorities can implement a public warning system that sends real-time warnings during emergencies such as fires, floods, or heatwaves to ensure that residents receive timely and accurate information for evacuation to safe areas. - Programmes such as active ageing, sports initiatives can be organised to bring residents together through regular physical and social activities to foster strong social bonds, trust, and mutual support among community members. <i>Award marks for any plausible description relevant to the question.</i> AO1 (1m)	1	
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
b	Explain how a park in an urban neighbourhood helps regulate environmental conditions through its ecosystem services. Award 1m for each explanation, to a maximum of 3 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable. Possible responses include: - Trees and vegetation help regulate the local climate by providing shade and releasing moisture through transpiration. This helps cool the surrounding areas and mitigates the urban heat island effect. - Vegetated areas regulate water flows as vegetation and permeable soil	3	

	absorb and retain rainwater, reducing surface runoff and lowering the risk of urban flooding. • Trees and plants improve local air quality by removing pollutants such as carbon dioxide, sulfur dioxide, and nitrogen oxides. They also filter particulate matter, which enhances respiratory health and overall well-being of residents. • Vegetation contributes to soil stability as tree roots anchor the soil, reducing erosion and protecting urban areas from landslides. <i>Award marks for any plausible explanation relevant to the question.</i> AO1 (3m)		
Strengths:			
Weaknesses: Question specifically asked for 'Regulating ecosystem services', weaker responses tend to be broad and without focus on question requirement. Also, there were discussions on benefits of nature for wildlife, which shows the lack of understanding for the concept of 'Ecosystem services'.			
Suggestions for Improvements:			
c	Using evidence from Fig. 1.1, explain how the two urban areas differ (Comparison) in their approaches to achieving social and environmental sustainability. Award 1m for each explanation, to a maximum of 2 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable. Possible responses include: Social sustainability • Urban areas on the left consist of poorer communities living in informal settlements without adequate services, while urban areas on the right have upgraded informal housing to public housing, ensuring affordability and access to basic services such as clean water, thereby enhancing social equity and improving quality of life. • Urban areas on the left lack inclusive infrastructure for the mobility needs of the elderly and disabled, whereas urban areas on the right have invested in mass transport systems that enhance connectivity, accessibility, and affordability, promoting social inclusion and equal access to opportunities. • Urban areas on the left show minimal local participation in urban development, while urban areas on the right actively involve residents in planning and public projects, fostering community empowerment and stronger social cohesion.		2

	Environmental sustainability • Urban areas on the left encourage private car ownership, whereas urban areas on the right invest in efficient public transport to reduce greenhouse gas emissions, contributing to environmental sustainability and cleaner urban air. • Urban areas on the left are dominated by hard concrete surfaces with little vegetation, while urban areas on the right create parks and green spaces that provide shade and regulate temperature, resulting in cooler microclimates and improved urban environmental health. • Housing in urban areas on the left is poorly adapted to the local climate, whereas housing in urban areas on the right incorporates energy-efficient and climate-responsive designs that reduce energy consumption and lower carbon footprints, supporting environmental sustainability. <i>Award marks for any plausible explanation relevant to the question.</i> AO2 (2m)		
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
d	With reference to Fig. 1.2, explain how coexistence in a shared urban space can lead to negative impacts for both people and wildlife. Award 1m for each explanation, to a maximum of 2 marks. Reserve 1m for negative impact on people/wildlife Award a maximum of 1 additional mark for further development of each explanation, where applicable. Possible responses include: Impact on wildlife • Roads and urban development reduce the natural habitat and living space for wildlife such as elephants, forcing them to cross roads and urban areas more frequently, which increases their vulnerability. • Increased vehicle traffic leads to a higher risk of road collisions, causing injuries or deaths to animals, disrupting local biodiversity and threatening endangered species. • When elephants are sedated to manage their movement, it can cause stress, health complications, and disrupt natural behaviours, negatively affecting their well-being.		2

	Impact on people • Collisions with large animals like elephants pose serious risks to human safety, causing injuries, fatalities, and significant vehicle damage. • Wildlife presence in urban spaces can cause road congestion and delays, as well as lead to property destruction, which affect local communities' well-being and livelihoods. • Human-wildlife conflicts, such as elephants attacking people when their habitats are disturbed or when they feel threatened, endanger human safety and negatively impact community well-being. <i>Award marks for any plausible explanation relevant to the question.</i> AO2 (2m)		
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
ei	With reference to Table 1.1, evaluate the effectiveness of the fire safety measures to reduce urban fire incidents in District A. Award 1m for each evaluation of its effectiveness, to a maximum of 3 marks. Award a maximum of 1 additional mark for further development of each evaluation, where applicable. Reserve 1m for effectiveness/ineffectiveness based on data Max 1m if data is not utilised to support evaluation. Possible responses include: Effectiveness • The fire safety measure has been effective, as the number of urban fire incidents caused by faulty electrical wiring decreased significantly from 4,500 in 2017 to 2,000 in 2023. • The fire safety measure has been effective, as the number of urban fire incidents caused by improper electrical use dropped drastically from 3,000 in 2017 to 1,200 in 2023. • The fire safety measure has been effective, as the number of urban fire incidents caused by improper waste disposal declined sharply from 2,000 in 2017 to 800 in 2023. Ineffectiveness		AO3 3

	- The fire safety measure has not been fully effective, as the number of urban fire incidents caused by faulty appliances increased slightly from 500 in 2017 to 800 in 2023. - The fire safety measure has not been fully effective, as the number of urban fire incidents caused by smoking remained unchanged at 1,500 in both 2017 and 2023. - The fire safety measure has not been fully effective, as the number of urban fire incidents caused by unattended cooking decreased only slightly from 2,500 in 2017 to 2,300 in 2023. <i>Award marks for any plausible evaluation relevant to the question.</i> AO3 (3m)		
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
eii	The students collected data on fire hazards in District A by asking locals to draw mental maps. Evaluate the reliability of the mental map drawn by a local resident to collect primary data on fire hazards in District A. Award 1m for each evaluation of its reliability, to a maximum of 3 marks. Award a maximum of 1 additional mark for further development of each evaluation, where applicable. Reserve 1m for reliable/unreliable findings. Possible responses include: Reliable - The local resident has firsthand experience and awareness of the area, which allows them to identify common fire hazard spots based on daily observations. - Drawing the map allows the local to actively reflect on risk areas, which can enhance local insights and reveal patterns not easily noticed by outsiders. - Mental maps are based on individual recounts, allowing residents to draw, illustrate, and explain with greater ease, especially compared to questionnaire surveys, where literacy levels may affect understanding and compromise the reliability of the data collected. - Mental maps can reflect recent changes in the area, as locals are more aware of the current spatial layout, unlike official maps that may be outdated or not regularly updated, which can affect the reliability of identified locations.		AO3 3

	Unreliable • Mental maps are subjective and based on memory, which can result in incomplete or inaccurate representations of the area. • The map may lack spatial accuracy and detail, making it difficult to pinpoint the exact location of hazards. • Personal bias may influence the map as residents might exaggerate certain areas that they are more concerned about or overlook unfamiliar or less-travelled parts of the neighbourhood. <i>Award marks for any plausible evaluation relevant to the question.</i> AO3 (3m)		
Strengths:			
Weaknesses:			
Suggestions for Improvements:			

2		AO1	AO2
ai	Based on Fig. 2.1, compare the trends in tourist arrivals to Corfu by air and by cruise ship between 2004 and 2013.		3

	Award 1m for each comparison, to a maximum of 3 marks. Award a maximum of 1 additional mark for further development of each comparison, where applicable. Possible responses include: • Overall, tourist travel by air to Corfu remained higher than by cruise ships, with arrivals consistently above 700,000 from 2004 to 2013, while cruise ship arrivals stayed below 700,000 during the same period. • Tourist arrivals by air to Corfu remained relatively stagnant at around 850,000 between 2005 and 2007, while cruise ship arrivals saw a moderate increase from 280,000 to 380,000. • From 2007 to 2010, air travel to Corfu declined sharply from 840,000 to 700,000 tourists, whereas cruise ship arrivals rose significantly from 380,000 to 560,000. • Between 2010 and 2013, both modes of travel showed moderate growth, with air arrivals increasing from 700,000 to 900,000 and cruise ship arrivals rising from 560,000 to 700,000. <i>Award marks for any plausible comparison relevant to the data.</i> AO2 (3m)		
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
aii	Suggest the possible reasons for the fluctuations in international tourist arrivals in Corfu. Award 1m for each suggestion of reason, to a maximum of 3 marks. Award a maximum of 1 additional mark for further development of each suggestion of reason, where applicable. Possible responses include: Reasons for stagnation and decline • The global economic recession during this period made air travel more expensive and less affordable, causing tourists to opt for alternative travel modes such as cruise ships. • Unfavourable political situations, including protests and unrest in Corfu and wider Greece, deterred some tourists from flying to the region. • Increased competition from cruise ship tourism attracted tourists who	3	

	preferred more affordable or leisurely travel options, contributing to the decline in air travel arrivals. Reasons for increase • Rising disposable incomes among tourists allowed more people to afford international travel, boosting arrivals by both air and cruise. • Business innovations, such as attractive travel packages and promotions, encouraged more tourists to visit Corfu. • Advancements in technology and the rise of budget airlines made air travel cheaper and more accessible, increasing the number of tourists flying to the area. <i>Award marks for any plausible reason suggested that is relevant to the question.</i> AO1 (3m)		
Strengths:			
Weaknesses: Many had confused this question in relation to 2ai and Fig 2.1 even though question had not asked for reference to it.			
Suggestions for Improvements:			
b	With reference to Fig. 2.2, explain how tourist-local interactions can lead to various social impacts in Tibetan communities. Award 1m for each explanation, to a maximum of 3 marks. Award a maximum of 1 additional mark for further development of explanation, where applicable. Possible responses include: Positive social impact • It will encourage cultural preservation, as more tourists become interested in visiting Tibet because of its rich cultural heritage. This motivates locals and authorities to maintain traditional practices and historic sites, thereby strengthening cultural identity. • There will be increased participation in local festivals due to the higher number of tourists involved in these events, providing opportunities to learn about Tibetan customs firsthand and enhancing cultural exchange. • Photos shared on social media by tourists will raise global awareness of Tibetan culture, encouraging respectful tourism and broader recognition and respect for local traditions worldwide. • The economic benefits from tourism will encourage cultural protection by motivating planning authorities to invest in preserving local culture, such as funding cultural centres and heritage sites, thereby promoting sustainable		3

	cultural tourism. Negative social impact • Culture can be commodified when the influx of tourists and photographers causes Tibetan festivals and traditions to be staged or exaggerated to attract visitors, leading to loss of authenticity and turning meaningful practices into performances. • Cultural clashes can arise when tourists take photos without permission and intrude on locals' privacy, causing tensions, straining relationships, and reducing opportunities for positive cultural exchange. • Tourists may be insensitive towards local sentiments, as some may unknowingly disrespect Tibetan customs and beliefs, causing offense and negatively affecting local cultural relations. • Cultural learning can be superficial when visitors, including photographers, engage with Tibetan culture out of personal curiosity rather than genuine understanding, resulting in shallow engagement without meaningful intercultural dialogue. • Tourist presence can disrupt traditional life by disturbing the daily routines and social dynamics of Tibetan villagers, contributing to the erosion of traditional lifestyles and cultural practices. <i>Award marks for any plausible explanation relevant to the question.</i> AO2 (3m)		
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
c	Describe the travel preferences of dependable-type tourists based on their personality characteristics. Award 1m for each description, to a maximum of 2 marks. Award a maximum of 1 additional mark for further development of description, where applicable. Possible responses include: • Dependable-type tourists prefer structure and routines when travelling, valuing well-planned and predictable experiences. • They tend to travel in groups, finding comfort and security in shared activities and organised tours.	2	

	• They prefer visiting popular and familiar destinations that offer well-developed tourism facilities and amenities, ensuring convenience and ease during their trip. • They are more likely to revisit the same destinations, appreciating the familiarity and reliability these places provide. • They favour mass tourism because of its predictability, routine, and the nature of activities that offer minimal surprises or risks. <i>Award marks for any plausible description relevant to the question.</i> AO1 (2m)		
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
d	Based on Fig. 2.3, identify the stage of tourism development of the Beijing National Aquatic Center in China. Award 1m for correct identification of tourism developmental stage, to a maximum of 1 mark. Possible responses include: • Rejuvenation stage AO2 (1m)		1
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
e	Using Fig. 2.4, explain how the regulation of tourism activities supports marine conservation efforts in Thailand. Award 1m for each explanation, to a maximum of 3 marks. Award a maximum of 1 additional mark for further development of explanation, where applicable. Possible responses include: • Certified supervision on every trip ensures that trained professionals can monitor tourists' behaviour, provide guidance on marine-friendly practices, and intervene immediately when rules are broken. This helps reduce direct damage to the coral reefs and marine life.		3

	• Allowing only certified divers to bring underwater cameras helps prevent reckless or harmful behaviour while trying to take photos. Certified divers are more likely to have the skills to manage equipment without damaging coral or disturbing marine habitats. • Enforcing a 3-metre distance from coral prevents physical contact, which can easily harm fragile coral structures. This rule helps ensure the coral remains undisturbed and continues to grow healthily. • Banning the feeding of fish during snorkelling trips maintains the natural behaviour and diet of marine species. This reduces dependency on humans and prevents ecological imbalances in the marine environment. • Strictly prohibiting touching or moving coral and marine life protects sensitive organisms from stress or injury. It also maintains the integrity of the ecosystem, ensuring long-term survival and reproduction of species. • No littering regulations reduce pollution and prevent marine animals from ingesting or getting entangled in waste, thus supporting a healthier and cleaner marine environment. • Threat of losing a diving license acts as a strong deterrent against irresponsible behaviour. It motivates divers and guides to follow regulations strictly, promoting a culture of responsibility and care towards marine conservation. <i>Award marks for any plausible explanation relevant to the question.</i> AO2 (3m)		
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
f	Using a specific example, explain how planning authorities can support the long-term sustainability of tourism destinations. Award 1m for each explanation, to a maximum of 3 marks. Reserve 1m for elaborated place-specific example. Award a maximum of 1 additional mark for further development of explanation, where applicable. Possible responses include: • Planning authorities can support long-term sustainability by establishing clear policies and development plans that safeguard the natural environment from overuse or degradation. These plans may include designated tourism zones and limits on visitor capacity to reduce environmental stress.	3	

- They can also create long-term strategies to preserve cultural heritage and local customs, such as integrating traditional practices into tourism experiences. This encourages respect for local culture while ensuring that tourism does not dilute or commercialise local identities.
- Planning authorities can enforce regulations that require tourism businesses and operators to be licensed and trained, ensuring they follow responsible tourism practices. This reduces harmful activities like illegal wildlife encounters or overuse of natural sites.
- They can also implement monitoring and penalty systems to ensure tourists follow rules, such as respecting protected areas, avoiding littering, or dressing appropriately in cultural sites. Such enforcement promotes accountability and minimises negative social and environmental impacts.
- For examples, in Bhutan, tourists can only enter the country by organising their trips with licensed tour operators.

Award marks for any plausible explanation relevant to the question.

AO1 (3m)

Strengths:

Weaknesses:

Suggestions for
Improvements:

Section B

Answer **either** Question 3 **or** Question 4.

3		AO 1	AO 2
ai	Based on Fig. 3.1 and Fig. 3.2, identify the likely type of rainfall around Kohala Mountain Range. Award 1m for correct identification of type of rainfall, to a maximum of 1 mark. Possible responses include: • Relief rain AO2 (1m)		1
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
ai i	Using Fig. 3.1 and Fig. 3.2, explain why the distribution of vegetation cover differs at various locations on the Kohala Mountain Range. Award 1m for each explanation, to a maximum of 4 marks. Reserve 1m for data. Award a maximum of 1 additional mark for further development of explanation, where applicable. Possible responses include: • The eastern side of the Kohala Mountain range has denser vegetation cover due to the higher amount of rainfall it receives, averaging 60–80 inches of annual precipitation. • This is because it lies on the windward side, facing the prevailing winds. These winds force warm, moist air from nearby water bodies up the mountain slopes, causing the air to cool and condense, resulting in heavier rainfall on this side of the slope. • In contrast, the western side of the Kohala Mountain range has sparse to no vegetation due to very low annual rainfall, ranging from 0 to 10 inches. • This is because it lies on the leeward side of the slope, where the air descends, becoming warmer and drier, bringing little to no rainfall to support vegetation growth. <i>Award marks for any plausible explanation relevant to the question.</i> AO2 (4m)		4

Strengths:			
Weaknesses:			
Suggestions for Improvements:			
bi	Based on Fig. 2, identify the approach taken to slow the rate of climate change. Award 1m for correct identification of mitigation approach, to a maximum of 1 mark. Possible responses include: • International agreements and cooperation AO2 (1m)		1
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
bi i	With reference to Fig. 3.3, explain both the effectiveness and limitations of the approach taken to address climate change. Award 1m for each explanation, to a maximum of 4 marks. Reserve 1m for effectiveness/limitation. Award a maximum of 1 additional mark for further development of explanation, where applicable. Possible responses include: Effectiveness • The approach is effective as it places greater responsibility on developed and industrialised countries, which are the major contributors of greenhouse gas emissions. By leading the way in emissions reduction, it can significantly cut global emissions and slow the pace of climate change. • It is also effective in providing funding for developing countries to access and adopt low-carbon technologies. This enables them to implement sustainable systems that reduce emissions without compromising economic development. • Another strength of the approach is the establishment of a monitoring and reporting system. Countries are now required to track and report their emissions and climate policies, which promotes transparency and accountability in their progress. Limitations	3	

- However, the approach has limitations as it relies heavily on the voluntary commitment of individual countries. Different countries have varying priorities and capacities, leading to inconsistent levels of action and follow-through.
- Moreover, the agreements may not be legally binding. This means there are no strict legal consequences for countries that fail to meet their targets, reducing the pressure to comply and undermining the effectiveness of the policy.
- Countries may continue to prioritise short-term economic growth over long-term climate commitments, leading to withdrawal or non-compliance, reducing effectiveness of the policy.

Award marks for any plausible explanation relevant to the question.

AO1 (3m)

Strengths:

Weaknesses:

Suggestions for
Improvements:

c 'Terrestrial ecosystems face greater and more immediate threats from climate change than aquatic ecosystems.'

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

Level	Marks	Generic Level Descriptors for 9-Mark AO3 Question
3	7 - 9	Develops arguments that supports 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.
2	4 - 6	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.
1	1 - 3	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.
0	0	No creditworthy response

**AO
3
9**

Introduction

I agree/disagree that I agree/disagree that Terrestrial ecosystems face greater and more immediate threats from climate change than aquatic ecosystems. Earth's atmospheric temperature has been increasing due to the emission of large amounts of greenhouse gases. Most of the excess heat trapped by these gases has been absorbed by the world's oceans, causing their temperatures to increase. This has a devastating impact on both terrestrial and aquatic ecosystems.

Given factor – Terrestrial ecosystem

Content: As the atmosphere warms, terrestrial species are increasingly forced to adapt to changing climatic conditions. Many species migrate in search of habitats with their preferred temperature ranges, typically shifting to higher latitudes or altitudes where conditions are cooler. This leads to changes in the geographic distribution of species, as well as shifts in the mix and population densities of prey, predators, and competitors within ecosystems.

Argument: Terrestrial species may decline if they are unable to find suitable habitats to migrate to. For example, mountain-dwelling species that thrive in colder environments may have no higher elevations to retreat to if warming reaches the peaks. These species also face intensified competition from lower-altitude species that move upslope. As a result, extinction rates are expected to be higher in mountainous areas. Additionally, plant species, which are less mobile, may be unable to shift quickly enough to cope with rising temperatures, leading to significant declines. However, some species may thrive by moving into newly suitable areas, forming novel ecological communities as they respond differently to climate change.

Place Example: For instance, in Australia, wallabies have been observed migrating to higher elevations. These wallabies feed on mountain herbfields, which threatens to reduce these habitats to grassy lawns. This in turn negatively impacts other species like the broad-toothed rat, which also depends on these herbfields and now faces increased competition, putting it at greater risk of extinction.

Evaluation: The impact of climate change on terrestrial ecosystems is especially severe because these ecosystems, ranging from forests and grasslands to deserts and wetlands, depend on stable climatic conditions for their biodiversity and ecological functioning. Moreover, land surfaces absorb more heat compared to water bodies, which accelerates temperature increases in terrestrial areas. This intensifies the stress on species and habitats, making the effects of climate change more immediate and widespread on land than in aquatic environments.

Alternate factor – Aquatic ecosystem

Content/Argument: Climate change is causing global ocean temperatures to rise and is slowing down ocean circulation. This circulation plays a crucial role in regulating the marine environment by transporting heat from the tropics to the poles and facilitating the vertical exchange of nutrients and oxygen between surface and deep waters. When ocean circulation slows, the sinking of cold water at the poles weakens, reducing the mixing of nutrient-rich deep waters with surface layers.

Argument: As surface waters receive fewer nutrients, the growth of phytoplankton, the base of the marine food web—declines. A reduction in phytoplankton populations leads to a cascading effect throughout the food chain, affecting fish, marine mammals, and other aquatic species that rely on them for food. Additionally, the warming of the oceans creates rapid shifts in marine conditions. Some species may not be able to adapt quickly enough, increasing the risk of extinction. The loss of even a few key species can destabilise entire ecosystems due to their interdependence.

Place Example: In the North Atlantic, phytoplankton levels have declined by around 10% since the 1800s due to warming and changing circulation patterns. Furthermore, tropical fish species such as the parrotfish and rabbitfish have been observed migrating to cooler waters near Japan and Australia, disrupting existing ecosystems and altering species interactions in those regions.

Evaluation: Although aquatic ecosystems are highly sensitive to climate change, their impacts may be delayed compared to other ecosystems. This is because water bodies warm more slowly than land due to their higher heat capacity. As a result, changes in aquatic environments often occur more gradually. This slower rate of change may offer a longer window for intervention.

Conclusion (Weighing): In conclusion, terrestrial ecosystems are currently facing higher consequences for climate change due to the differential heating of the different surfaces of the Earth. Land heats up faster than ocean which results in a drastic increase in air temperature as compared to water surface temperature. With a higher increase temperature on land, the changes and shifts in composition, density and geographical locations of terrestrial species occurs more rapidly and at a larger scale as compared to aquatic species. However, over time, aquatic species will face similar changes and shifts, when global temperature continues to rise.