

4E5A Elective Geography Prelim 2025
Table of Specifications & Assessment Objectives for Syllabus 2260/02

AO 1: Knowledge with Understanding

Candidates should be able to construct responses based on understanding of theories, generalisations, models and concepts. This will be demonstrated by the ability to:

- a. identify, describe or explain theories, generalisations, models, concepts and methods
- b. classify environments, events, methods, objects, people, processes and places into categories according to their common features
- c. explain how events, objects and processes cause changes to environments, people and places.

AO2: Skills and Analysis

Candidates should be able to apply their understanding to break down information into its component parts or to carry out an investigation. This will be demonstrated by the ability to:

- a. support conclusions using relevant material from information provided
- b. identify, describe or compare characteristics, relationships, patterns and trends shown in graphs, maps, photographs, diagrams, tables and texts
- c. compare similarities and differences between environments, events, methods, objects, people, processes and places
- d. describe or explain how to collect, process, interpret and present quantitative and qualitative data
- e. adapt methods to manage risks, limitations and achieve investigation objectives.

AO3: Judgement and Decision-Making

Candidates should be able to use defined criteria and standards to evaluate methods, outcomes and proposals. This will be demonstrated by the ability to:

- a. arrive at an overall evaluation by considering constraints and opportunities in the environment, people's varying needs, attitudes and beliefs, or the importance of sustainable development
- b. evaluate the reliability and validity of investigation findings

Question	Max Mark	AO1	AO2	AO3
1a	14		4	
1b		4		
1ci				4
1cii				2
Total		4	4	6
2ai	18		3	
2aii			2	
2aiii		2		
2aiv		2		
2b				9
Total		4	5	9
3ai / 4a	18		4	
3aii / 4b		3		
3b / 4c			3	
3c / 4d			4	
3di / 4e		2		
3dii / 4		2		
Total		7	11	0
AO Total		15	20	15

4E Geography Elective Preliminary Examination 2025

1 Marking Approaches

- a Point marking** is used for marking all sub-parts of the structured questions, except for the 9-mark evaluative sub-part assessing AO3.

For point marking, the general rule is that each creditworthy response is awarded one mark. More detailed guidance is provided in the marking guide for each question.

- b Generic level descriptors** are used for marking the 9-mark evaluative sub-part assessing AO3.

Possible approaches are provided for questions marked using generic level descriptors. These provide guidance on how the questions could be approached. The possible approaches provided are ***neither exhaustive nor should they be treated as a model approach to questions.***

Generic Level Descriptors for 9-mark AO3 Questions		
Level	Marks	Descriptors
3	7–9	Develops arguments that support both sides of the discussion clearly, using a range of points with good elaboration. Examples used demonstrate a comprehensive understanding of the issue or phenomenon. Evaluation is derived from a well-reasoned consideration of the arguments.
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.

ANSWER SCHEME

Question	Answer	Marks
1(a)	Using Fig. 1.1, describe the similarities and differences between the ‘Play @ Pasir Ris’ and ‘Architectural Highlights’ trails. Award 1 mark for each description of similarity or difference between the two trails, to a maximum of 4 marks. Award a maximum of 1 additional mark for further development of each description, where applicable. Possible responses include: - Both trails go through mainly the urban and built-up areas of Pasir Ris, instead of the coast or green areas. - Both trails also include extended trails for people to explore other areas along the trail. - The “Play” and “Architectural” trails serve to bring residents across different features of Pasir Ris - For instance, the “Play” trail brings residents across recreational facilities like Adventure Playground, where the “Architectural” trail brings residents across heritage like Sakya Tenphel Ling and Masjid Al-Istighfar. - Both main trails are located differently, on the east and west sides of Sungei Tampines. AO2/LO: Spatial patterns	4
1(b)	The “Coastal Heritage” trail brings visitors and residents across some of the sites of cultural and community significance along the Pasir Ris coast and beachfront. Describe the benefits for residents to interact with community spaces and the natural environment in an urban neighbourhood. Award 1 mark for each description of benefits for residents to interact with the natural environment, to a maximum of 4 marks. Award a maximum of 1 additional mark for further development of each description, where applicable. Possible responses include: - There are concerted efforts to protect the existing species, habitats, and ecosystems in the natural environment. - This allows wildlife and biodiversity to thrive, hence fostering positive human-wildlife coexistence - Residents can reap the ecosystem services by the natural environment, such as positive mental health and opportunities for physical activity. - For example, residents can engage in leisure and recreational activities offered by the beach and mangroves, such as kayaking. - The Coastal Heritage trail also allows resident to learn more about the natural environment in Pasir Ris for educational purposes.	4

Commented [LWB1]: The “Coastal Heritage” trail brings visitors and residents across some of the sites of natural and ecological significance along the Pasir Ris coast and beachfront.

Describe the benefits for residents to interact with the natural environment in an urban neighbourhood.

	AO1/LO: Sustainable urban neighbourhoods	
1(c)(i)	Using Tables 1.2 and 1.3, evaluate the extent to which perceptions of the Pasir Ris Heritage Trail are influenced by age. Award 1 mark for each evaluation of the extent to which perceptions are influenced by age, to a maximum of 4 marks. Award a maximum of 1 additional mark for further development of each evaluation, where applicable. Possible responses include: Agree, perceptions largely influenced by age: - This can be seen in the difference in the top reason why elderly and youths visit the trail. - Majority of the elderly, consisting 50%, visit the trail to reminisce about the past, and most youths, consisting 40%, visit the trail for photography and social media - Elderly also generally have a stronger cultural perception of the trail than youths. - On the cultural perception survey, elderly thought that all aspects of the trail were culturally meaningful, marked by an average score of above 4, whereas youths had a poorer perception on cultural meaningfulness of the trail, with lower average scores ranging from 2.7 to 3.2. Disagree, perceptions not influenced by age: - There are reasons that elderly and youth share similar sentiments to for visiting the trail. - For instance, an equal proportion of elderly and youths both visit the trail to learn more about the heritage and for relaxation. AO3/LO: Data analysis Evaluate the reliability of the students' data collection method. Award 1 mark for each evaluation of reliability of the students' data collection method, to a maximum of 2 marks. Award a maximum of 1 additional mark for further development of each evaluation, where applicable. Possible responses include: - Students ensure an equal number of respondents from both subgroups, which allow for some form of reliable comparison. - Collecting data on only a single Saturday afternoon may limit the type of respondents that visit the Pasir Ris Heritage Trail, and hence the perceptions collected might be skewed. - The sample size is small – only 20 respondents – which may not be representative of the elderly and youth in Pasir Ris - There is a site bias, since students surveyed the elderly and youth at different locations. Different types of spaces may influence the	4
1(c)(ii)		2

	respondents' mood, attitudes, and perceptions, affecting the reliability of the comparison.	
	AO3/LO: Data collection design	

Commented [NBM2]: Other possible answers:
Limitation - Small sample size (only 20 respondents per group which may not be representative of the elderly and youths in pasir ris)

Site bias - The elderly were surveyed near the Pasir Ris Central Hawker Centre, while the youths were surveyed at Downtown East. These are different types of spaces and could influence respondents' mood, attitudes, and perceptions at the time of the survey, affecting the reliability of the comparison

Commented [LWB3R2]: added

Question	Answer	Marks
2(a)(i)	With reference to Figs. 2.1 and 2.2, explain why Costa Rica's ecotourism industry was at the "Consolidation" stage in 2019. Award 1 mark for each explanation of why Costa Rica's ecotourism industry was at "Consolidation" stage, to a maximum of 3 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable. Possible responses include: - Costa Rica in 2019 offers a range of ecotourism experiences, from hard to soft ecotourism options, indicating diversification and a range of attractions and facilities. - This allows the country to attract more mass tourists, which requires a significant number of workers to sustain the industry. - The tourist arrivals have increased consistently over time, reaching a peak of 3.2 million tourists in 2019. - The tourist receipts have also increased consistently, and brings Costa Rica a huge amount of income, at 4,100million USD in 2019. AO2/LO: Development of a tourist destination over time	3
2(a)(ii)	With reference to Fig. 2.2, explain which ecotourism option in Costa Rica would most likely appeal to a Dependable-type tourist. Award 1 mark for each explanation of the ecotourism option a Dependable-type tourist would prefer, to a maximum of 2 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable. Possible responses include: - A Dependable-type tourist would prefer a soft ecotourism option of staying in the Arenal Springs Resort & Spa. - The resort is planned by tour operators, which appeals to Dependable-type tourists since they prefer structure and routine, and travel in groups to feel comfortable and secure. - This avoids the uncertainty and risks associated with rugged ecotourism options such as deep jungle treks or camping. - Since it is a multi-purpose trip, it is likely to be more popular than other harder ecotourism options, with more well-developed facilities, appealing to Dependable-type tourists. AO2/LO: Tourist personality types	2

Commented [NBM4]: Other considerations: Avoids the uncertainty and risks associated with rugged ecotourism options such as deep jungle treks or wildlife camping.

Commented [LWB5R4]: added

2(a)(iii)	Explain one way in which ecotourism can have a positive economic or social impact on Costa Rica. Award 1 mark for an explanation of the positive economic or social impact brought about by ecotourism. Award a maximum of 1 additional mark for further development of the explanation. Possible responses include: • Ecotourism can generate income for locals personally and governments. ◦ Tourists spend money on goods and services offered by locals (e.g. accommodation, food) and this contributes to locals' incomes. ◦ Taxes on tourism spending contribute to government income, and can be used to invest to benefit local communities and increase standard of living. • Protecting natural environments for tourism-related activities & experiences can enhance cultural ecosystem services. ◦ This gives more opportunities for tourists to learn through nature, or participate in relaxing and leisure activities in nature. AO1/LO: Positive impacts of tourism	2
2(a)(iv)	Explain two possible limitations of ecotourism. Award 1 mark for each explanation of limitations of ecotourism, to a maximum of 2 marks. Possible responses include: • If ecotourism becomes overwhelmingly popular, it may become less sustainable as larger number of tourists may destroy the environment it seeks to protect. • As ecotourism becomes more popular, greater demand for manpower may prompt businesses to hire non-locals, especially if locals are not sufficiently skilled or knowledgeable. This results in economic leakages. • Ecotourism cannot fully replace mass tourism since they operate on a smaller scale, limiting their capacity to support the large volumes of tourists and economic demand that mass tourism currently sustains. • Ecotourism can still affect our climate negatively, as travel-related emissions from transportation and infrastructure development—even when minimized—still contribute to carbon footprints and environmental degradation. AO1/LO: Limitations of ecotourism	2
2(b)	'The local community should be the main stakeholder ensuring sustainable tourism at a travel destination.'	9

	To what extent do you consider this statement to be true? Explain your answer. <u>Relevant content</u> Stakeholders influencing sustainable development: Government, international organisations, local communities, businesses, tourists <u>A possible approach:</u> The answer could explain the effectiveness of various stakeholders in influencing sustainable tourism, with reference to examples. An example of local communities ensuring sustainable tourism could be Bali, where locals in various communities organise their community-based tourism experiences for tourists, and are involved in decision-making aspects to ensure they continue to stay empowered economically and socially. This could be followed by the consideration of limitations of the discussed stakeholders. For example, some local communities may lack financial or technical expertise or assistance to carry out their plans. The evaluation could weigh the arguments discussed, arriving at a reasoned conclusion. AO3/LO: Stakeholders in sustainable tourism	
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Question	Answer	Marks
3(a)(i)	With reference to Fig. 3.1, explain the direction of the monsoon wind system in January. Award 1 mark for each explanation of the direction of the monsoon wind system in January, to a maximum of 4 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable. Possible responses include: - In January, when Northern Hemisphere is experiencing winter, air over Asia cools down, sinks, and forms an area of higher pressure - The Southern Hemisphere experiences summer, and air over Australia warms up, rises, and forms an area of lower pressure. - Due to pressure differences, air moves from Asia, an area of higher pressure, to Australia, an area of lower pressure. - In the Northern Hemisphere, the Coriolis effect deflects the wind to the right, to form the Northeast monsoon. - As the monsoon wind crosses the Equator in the Southern Hemisphere, the Coriolis effect deflects the winds to the left, and they form the Northwest monsoon. AO2/LO: Regional wind systems (monsoons)	4
3(a)(ii)	Describe the temperature and rainfall characteristics of a place with tropical monsoon climate.	3

	Award 1 mark for each description of a place with tropical monsoon climate, to a maximum of 3 marks. Award a maximum of 1 additional mark for further development of each description, where applicable. Possible responses include: • A place with a tropical monsoon climate experiences high temperatures throughout the year, ◦ averaging around 25–28°C. • Rainfall is seasonal, with a distinct wet and dry period. • Total annual rainfall in a tropical monsoon climate is high, ◦ typically between 1,500 mm and 2,500 mm. AO1/LO: Tropical monsoon climate	
3(b)	Using Table 3.1, explain how the changes to the shape of Earth's orbit affect Earth's climate. Award 1 mark for an explanation of how the changes to the shape of Earth's orbit affect Earth's climate, to a maximum of 3 marks. Award a maximum of 1 additional mark for further development of the explanation, where applicable. Possible responses include: • When the orbit is more circular, and the range of distance of Earth from the Sun is relatively smaller, the range of temperature experienced is also relatively smaller. ◦ For instance, the distance ranges by 5 million km, and the average temperature range is 2°C. • However, when the orbit is more oval, the range of distance of Earth from the Sun is relatively larger, and the range of temperature experienced is also relatively larger. ◦ For instance, the distance ranges by 15 million km, and the average temperature range is 6°C, 4°C higher. AO2/LO: Natural variability of climate (effect of Earth's orbit)	3
3(c)	Study Fig. 3.2 (Insert), which shows the change in geographical concentration of two species of fish, bluefin tuna and shortfin mako, in northwest Atlantic Ocean over 30 years. With reference to Fig. 3.2, explain the changes in geographical concentration of the bluefin tuna and shortfin mako in northwest Atlantic Ocean. Award 1 mark for each explanation of the changes in geographical concentration of the bluefin tuna and shortfin mako in northwest Atlantic Ocean, to a maximum of 4 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable. Possible responses include:	4

Commented [NBM6]: Based on Table 3.1, I'm wondering if students are able to determine if the distance of Earth from Sun is smaller for the 'more circular type of orbit' because it seems that distance of earth from sun for the 'more oval' is nearer?

Commented [NBM7R6]: Should we tweak the distance slightly? Or leave it as it is.

Commented [LWB8R6]: I added on one more column in Table 3.1 to directly calculate the range of distance, so they don't have to guess or calculate. Hope that makes it more obvious and easier to process

	- As Earth's atmospheric temperature has been increasing due to climate change, most of the excess heat is absorbed by the oceans, causing their temperatures to increase. - Aquatic species like bluefin tuna and shortfin mako migrate to areas with more favourable temperatures, usually polewards. - This means a decrease in geographical concentration of these species in places lower in latitude. - In this case, we observe that bluefin tuna have migrated from 36°N northeastwards to roughly 41°N. - At the same time, shortfin mako have also migrated northwards from 36°N to 40°N. AO2/LO: Impact of climate change on natural systems (changes in geographic distribution of aquatic species)	
3(d)(i)	Climate change leads to direct impacts on human systems through intensifying extreme weather events. Explain how climate change intensifies either flooding or droughts. Award 1 mark for an explanation of how climate change intensifies flooding or droughts. Award a maximum of 1 additional mark for further development of the explanation. Possible responses include: - Climate change might lead to excessive rainfall in some parts of the world, especially in areas already experiencing high rainfall - More extreme rainfall events may overwhelm the drainage systems of these places, intensifying flooding events. - Climate change might lead to a higher frequency of droughts in drier climates, such as deserts, where they experience a lack of rainfall for an extended period. - This is because climate change can increase temperature and the rate of evaporation, worsening already dry conditions. AO1/LO: Direct impact of climate change on human systems	2
3(d)(ii)	Climate change also leads to indirect impacts on human systems by affecting regulating ecosystem services and cultural ecosystem services. Explain how climate change affects either regulating ecosystem services or cultural ecosystem services. Award 1 mark for an explanation of how climate change affects regulating ecosystem services or cultural ecosystem services. Award a maximum of 1 additional mark for further development of the explanation.	2

	Possible responses include: - Warmer temperatures create conducive environments for disease vectors like mosquitoes to survive and breed - This affects disease regulation, as mosquitoes, which are vectors for diseases, can move to higher latitudes which are now warmer, leading to more areas of the world at risk of vector-borne diseases - Natural landscapes will be degraded, which can make it uninhabitable or affects tourism negatively. - Sea level rise will flood low-lying islands, or increase in sea surface temperatures can cause coral bleaching. AO1/LO: Indirect impact of climate change on human systems	
4(a)	With reference to Fig. 4.1, explain why the crust becomes older further away from tectonic landform X. Award 1 mark for each explanation of the crust becoming older further away from X, to a maximum of 4 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable. Possible responses include: - As the oceanic plates diverge, seafloor spreading occurs - Magma from the asthenosphere rises through the mid-oceanic ridge (tectonic landform X) - The lava cools and solidify to create basaltic rocks and new oceanic crust - This process repeats and the rocks/crust being dragged away get older as they are replaced by new crust at the point of divergence AO2/LO: Seafloor spreading	4
4(b)	Describe slab-pull force and its influence on plate movement. Award 1 mark for each description of how slab-pull force contributes to plate movement, to a maximum of 3 marks. Possible responses include: - Convection currents within the asthenosphere sink and drag tectonic plates towards each other, causing convergence - The denser oceanic crust gets pulled down by gravity as it subducts beneath the less dense crust - The denser oceanic crust sinks deeper into the mantle under its own weight, pulling the rest of the plate with it, contributing to further convergence AO1/LO: Slab-pull force	3
4(c)	Using Fig. 4.2, explain the type of volcano that Anak Krakatoa is likely to be from its eruption.	3

	Award 1 mark for an explanation of the type of volcano that Anak Krakatoa is likely to be, to a maximum of 3 marks. Award a maximum of 1 additional mark for further development of the explanation. Possible responses include: - Anak Krakatoa is likely to be a stratovolcano - Due to the explosive nature/ tall ash plume rising from crater as shown in Fig. 4.2 - This suggests that high silica magma is present where the dissolved gases in the magma cannot escape easily and build up pressure - The viscous lava travels a shorter distance before cooling, resulting in steep sides and a narrow summit AO2/LO: Volcanic eruptions	
4(d)	With reference to Fig. 4.3, explain the shape and characteristics of Anak Krakatoa. Award 1 mark for each explanation of the shape and characteristics of Anak Krakatoa, to a maximum of 4 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable. - Anak Krakatoa has steep slopes as shown by the contour lines being close together - Between 200-300m the contour lines are very close, suggesting a narrow summit - The north and east facing slopes of Anak Krakatoa are slightly gentler than the south and west facing sides - There is a rock face on the east slope of Anak Krakatoa - There is a main crater at the summit of Anak Krakatoa and another secondary crater just south west from the main crater - There are 3 lava flows from the main crater but only 1 from the secondary crater - A forest can be found on the east coast of the island AO2/LO: Stratovolcano	4
4(e)	Earthquakes affect the natural and human systems through hazards like soil liquefaction. Explain how soil liquefaction can affect either the natural or human systems. Award 1 mark for each explanation of how soil liquefaction can affect either the natural or human systems. Possible responses include: [N] Trees on liquefied soil sink in and tip over, damaging wildlife habitats and cause loss of biodiversity	2

	• [N] Liquefied soil may enter rivers and suffocate aquatic plants • [N] Sewage pipes may be broken, causing untreated waste materials to pollute rivers and kill aquatic life • [H] Buildings and infrastructure can sink in and tip over, causing difficulty in rescue work • [H] Electrical cables, water and gas pipes can snap, disrupting supply of essential services AO1/LO: Impact of tectonic hazards	
4(f)	The extent of tectonic disaster risk experienced in a place is determined by factors like vulnerable conditions or exposure. Explain how the extent of tectonic disaster risk experienced in a place can be determined by either vulnerable conditions or exposure. Award 1 mark for each explanation of how the extent of tectonic disaster risk can be determined by either vulnerable conditions or exposure. Award a maximum of 1 additional mark for further development of each explanation, where applicable. Possible responses include: • [VC] The poorer the quality of building design and construction, the more vulnerable the buildings are to collapsing, leading to trapped people, more injuries and even deaths ◦ Low quality materials like zinc sheets cannot withstand shaking / lack of earthquake resistant features like reinforced steel walls lead to more infrastructural damage • [VC] When the soil and rock properties of the area is loose or soft, ground shaking may result in soil liquefaction, contributing to risk • [E] The higher the population density, the greater the number of people and buildings exposed to earthquakes • [E] The nearer the city is to the epicentre of the earthquake, the greater the number of people and buildings exposed to the hazard and hence greater risks AO1/LO: Variation in disaster risks caused by earthquakes	2