EUNOIA JUNIOR COLLEGE
JC2 Preliminary Examination 2024
General Certificate of Education Advanced Level
Higher 1

H1 GEOGRAPHY

Paper 1
Suggested Marking Guide

8834/01

02 September 2025

3 Hours

READ THESE INSTRUCTIONS FIRST

Please note that this Suggested Marking Guides contains possible responses only and other responses could be considered as well.

Section A

Cluster 2: Fieldwork

1 A group of 4 students is investigating whether the urban neighbourhood of Kampong Admiralty is a supportive environment for elderly residents to live in.

They crafted the following hypothesis:

"*Kampong Admiralty is a liveable neighbourhood that meets the social and psychological needs of the elderly.*"

To test the hypothesis, the students conducted the survey questionnaire that was translated into English, Malay, Chinese and Tamil. As it was during the June school break, the students could only afford time on a single Friday during the June holidays, from 1-2pm to conduct their investigation. The students conducted their fieldwork at the Community Plaza in Kampung Admiralty , approaching any passers-by who looked like they could be 65 years and above. The group ended up with a total of 15 responses.

Resource 1 shows an infographic of infrastructure and amenities in Kampung Admiralty Integrated Development. Resource 2 shows the questionnaire survey used by the students to gather responses from the elderly. Resource 3A shows responses to Questions 4 and 7 of the survey questionnaire, while Resource 3B shows selected responses to Question 9 of the survey questionnaire.

a) Explain why the students' hypothesis is suitable for investigation. [4]

Award 1 mark for each explanation of why the hypothesis is suitable for investigation.
Award 1 additional mark for further development of explanation, where applicable.

Possible responses include:

[At a suitable scale]

- The hypothesis focuses on Kampong Admiralty, a specific neighborhood that is **spatially manageable and of a suitable scale f**or fieldwork by a small group of 4 students. [1 mark]
- This localised scale allows students to conduct on-site investigation efficiently within time and resource constraints, in line with syllabus expectations for fieldwork in an urban setting. [1 additional mark]

[Researchable or measurable]

- The hypothesis is **measurable given the method chosen**—questionnaire surveys—which is appropriate for capturing elderly residents' perceptions of whether their social and psychological needs are met. [1 mark]
    - The simplicity and accessibility of the method made the hypothesis practical to investigate using tools readily available to students, ensuring that it was researchable in a real-world fieldwork setting. [1 additional mark]

[Clearly defined]

- The hypothesis is **clearly defined, phrased and focused**, making it easier to operationalise in the field - **specifies the population of interest** (elderly residents) / the **geographical location** (Kampong Admiralty) / the **dimensions of liveability** being assessed (social and psychological

needs). [1 mark]
- This clarity helps guide the planning of appropriate data collection methods and enables meaningful analysis and evaluation of findings. [1 additional mark]

b) Explain how the students can address possible issues related to research ethics when conducting their fieldwork. [4]

Award 1 mark for explanation on how to minimise impacts.
Award additional 1 mark for further development of explanation, where applicable.

Possible responses include:

- **Obtain informed consent** by clearly explaining the purpose of the survey, ensuring participants voluntarily agree to take part, allowing them to opt out at any point if needed [1 mark]
  - This respects the autonomy of elderly individuals and ensures ethical data collection. [1 additional mark]

- Assure the elderly respondents of the **confidentiality of their responses**. [1 mark]
  - This would help them feel safe, especially when discussing sensitive topics related to their personal lives and well-being. [1 additional mark] This assurance increases the likelihood of honest and accurate responses, leading to more reliable data, as concerns about privacy can discourage the elderly from participating or being open in their answers.

- Use clear language that would be **accessible to all elderly i**n all questionnaires and interactions [1 mark]
  - Including translated materials in languages commonly spoken by the elderly (e.g. Chinese, Malay, Tamil). This reduces confusion and ensures inclusiveness. [1 additional mark]

- Be **sensitive to physical and cognitive limitations** by keeping the questionnaire short, avoiding technical jargon, and allowing participants ample time to respond. [1 mark]
  - This reduces respondent fatigue or discomfort, allowing respondents to complete the survey questionnaire [1 additional mark]

- Conduct surveys in a **safe and comfortable environment**, such as shaded seating areas at the Community Plaza, and avoid pressuring individuals who are unwilling to engage. [1 mark]
  - This helps to promote the physical and emotional well-being of respondents during fieldwork, giving them a safe space to respond to the survey questionnaire. [1 additional mark]

- To be **mindful of the surroundings, keep clear of pathways, and keep noise levels down** during fieldwork to show respect for both local communities and the environment. [1 mark]
  - This helps ensure the safety and comfort of other residents using the public spaces, minimizes disruption to daily activities, preserves the integrity of the environment, and upholds the ethical standards expected of responsible research. [1 additional mark]

c) With reference to Resource 2, suggest how the design of the questionnaire can be improved. [6]

Award 1 mark for each limitation identified and explained.
Award 1 mark1 for further development of explanation, where applicable.

Possible responses include:

Limitations

- [Questionnaire design] **Limited scope of liveability dimensions** – While the questionnaire touches on social and psychological aspects, it does not adequately explore economic needs, such as affordability of food, medical care, or housing which may also influence perceptions of liveability among elderly residents. [1 mark]
    - Include additional questions that address economic wellbeing, for example, “Do you find the cost of food and services in Kampung Admiralty affordable?” or “Is the housing cost within your means?” This ensures a more holistic assessment across the economic, social, and psychological dimensions of liveability. [Additional 1 mark]

- [Questionnaire design] **Insufficient depth in responses** – Most questions are closed-ended, which may limit nuanced insights into individual experiences. Although Question 9 is open-ended, it is only one question and may not fully capture complex perspectives or underlying reasons. [1 mark]
    - Incorporate more open-ended follow-up questions after key closed-ended items, such as “Please explain why you rated your satisfaction with healthcare services as high/low.” This would allow respondents to elaborate on their ratings, adding depth and qualitative detail to the findings. [Additional 1 mark]

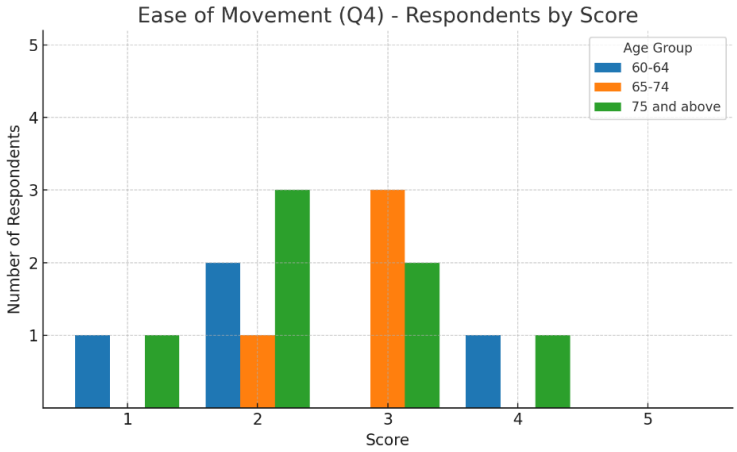
- [Questionnaire design] **Subjective or vague wording** - Questions such as Q4 ("Do you feel Kampung Admiralty is easy for you to move around safely on your own?") and Q8 ("Do you feel Kampung Admiralty supports your sense of belonging and mental well-being?") use subjective terms like "easy", "sense of belonging", and "mental well-being". These concepts may be interpreted differently by different individuals depending on their mobility, mental health awareness, or social expectations, resulting in responses that are not based on a common understanding. [1 mark]
    - Use more specific, measurable, and behaviour-based wording. For example, replace “easy to move around safely” with “Are walkways wide, level, and free of obstacles?” or break “mental well-being” into more concrete items such as “I have opportunities to socialise with other residents” or “I have access to quiet spaces for relaxation.” This improves clarity and consistency in responses. [1 mark]

d) Sketch a graph to represent the data for Survey Question 4 shown in Resource 3 and give reasons why you have chosen that type of graph. [6]

Award up to 4 marks for well-labelled (title, axis, legend) sketch for each data set.
Award 1 mark for reasons for choice of representation of data.
Award additional 1 mark for further explanation of reasons, where applicable.

Possible responses include:

- A clustered (grouped) bar chart, allowing clear comparison [1 mark]
  - clearer side-by-side comparisons of categories and subcategories, making it easier to spot differences and trends
  - High readability in distinct bars
  - good for identifying maximum and minimum values within multi groups



e) Based on the students' investigation, the students concluded that Kampung Admiralty was a liveable neighbourhood for all elderly. [10]

With reference to all the Resources, evaluate the validity of this conclusion.

Possible Approaches:

Candidates could refer to the Resources and consider how the data and methods used may have influenced the validity of the conclusion that Kampung Admiralty is liveable for all elderly. For example, Resource 1 shows a wide range of elder-friendly facilities, while Resources 3A and 3B indicate that some elderly found mobility and social opportunities satisfactory. Together, these suggest that Kampung Admiralty supports aspects of elderly well-being such as accessibility, interaction and convenience.

Candidates could also consider the limitations of the data. For instance, Resource 3A shows that over half of the respondents still experienced mobility challenges, while Resource 4 highlights affordability concerns, suggesting uneven benefits across elderly groups. In addition, Resource 2 shows the survey focused mainly on physical and social dimensions, overlooking other aspects such as affordability and safety. The small sample size of 15 respondents in Resource 3A further reduces representativeness.

Candidates could also suggest that additional data, such as elderly residents' views on affordability, safety at night, and accessibility for those with greater physical or language barriers, would be useful to provide a fuller assessment of liveability.

Levels marked using Generic Level Descriptors for H1 fieldwork evaluative questions.

Section B

Cluster 1: Sustainable Future and Climate Change

Answer **both** questions

2 Resource 4 shows the urban population growth by region from 1950 to 2050. Resource 5 shows the access to basic services and green spaces in selected cities in 2022.

(a) Explain how the current level of technology can limit the ability of countries to meet present and future needs. [4]

Award 1 mark for explanation of how current level of technology can limit the ability of countries to meet present and future needs.
Award additional 1 mark for further development of explanation, where applicable.
Award maximum of 2 marks if response address only present or only future needs.

Possible responses include:

- The current level of technology can limit the ability of countries to meet present and future needs because existing technologies are still resource-inefficient [1 mark]. For example, older irrigation or mining techniques waste water or minerals, reducing availability and limiting the supply available for future generations [1 additional mark].

- Despite current levels of technology allowing for the harnessing of renewable energy like solar energy, they currently lack adequate storage capacity [1 mark]. Without efficient solar panels or large-scale storage, countries remain dependent on finite fossil fuels in the longer term and may have insufficient energy sources to meet their needs [1 additional mark].

- While modern waste treatment exists, they may not be advanced enough to cope with the increasing amounts of waste that is being generated by cities in both countries of higher and lower levels of development [1 mark]. This can render contamination of soil/water sources by improper disposal of waste, which can reduce resource quality and availability over time. [1 additional mark]

(b) Cite data from Resource 4 to describe the trends in population growth across world regions. [4]

Award 1 mark for description of population trends in world regions, up to 4 marks.

Possible responses include:

[General]

- From 1950 to 2050, the world's urban population is expected to generally increase almost tenfold from 0.7 billion in 1950 to 6.4 billion in 2050 [1 mark].

[Specific]

- Amongst the regions, Asia has the largest absolute increase in urban population throughout the period, growing from around 0.2 billion in 1950 to 3.4 billion by 2050. [1 mark].
- Africa is projected to experience the greatest relative growth, especially post-2000, rising by 28 times from 0.05 billion in 1950 to 1.4 billion by 2050. [1

mark]. While the region had the least urban population in 1950, it is expected to become the region with the second largest urban population in 2050, making up almost one quarter of the world's urban population [1 additional mark].

- Latin America experiences moderate growth, from 0.1 billion in 1950 to 0.7 billion by 2050. [1 mark]
- In contrast to the developing regions, developed regions such as Northern America and Europe experienced very minimal growth, with the former experiencing the smallest growth in absolute terms, from under 0.2 billion to about 0.4 billion by 2050 [1 mark]. Meanwhile, although Europe had the largest urban population in 1950, their slow/minimal growth over the decades made them to become the region with the second smallest urban population [1 additional mark].

(c) Explain how urban growth shown in Resource 4 may influence progress towards sustainable urban development. [5]

Award 1 mark for suggestion on how urban growth trends challenge progress towards SUD.
Award additional 1 mark for further development of suggestion, where applicable.

Possible responses include:

[Increased pressure on infrastructure and services]

- Rapid growth, especially in Asia and Africa, may outpace the capacity of cities to provide adequate housing, water supply, sanitation, and transport [1 mark]. This is manifested in the rise of slum settlements in many Asian and African cities, whereby the poor standard of living amongst the urban poor can widen inequality within the current generation (intra-generational inequity) [1 additional mark].

[Strain on resources and energy demand]

- Growing urban populations increase demand for energy, food, and water, which can result in the over-extraction and overconsumption of resources faster than they can be naturally replenished [1 mark]. The unsustainable use of resources will leave future generations with fewer resources, compromising their ability to meet basic needs [1 additional mark]

[Environmental degradation – demand placed on surrounding areas]

- The demand for more urban areas necessitates deforestation of surrounding forested areas, which can result in the destruction of habitats and biodiversity loss [1 mark]. Moreover, the loss of these green spaces may arguably remove recreational and cultural benefits, impacting mental and physical well-being of current and future generations.

(d) With reference to Resource 5, compare access to basic services and green spaces between cities of different income levels. [4]

Award 1 mark for comparison of access to basic green services and green space between cities of different income levels.
Award 1 additional mark for further development of comparison (e.g. use of data, cite cities), where applicable.

Possible responses include:

[Similarities]

- All cities, regardless of income level, have greater access to basic services as compared to green spaces. [1 mark]

[Differences]

- In terms of access to basic services, the higher-income cities generally have greater access as than the lower-income cities [1 mark]. As seen in Resource 5, high-income cities such as Copenhagen and Singapore have 100% of population with access to basic services, while the low-income cities (Jakarta, Lagos) have lower access — 74% in Jakarta and 63% in Lagos. [1 additional mark].

- Likewise for access to green spaces, the higher-income cities also generally have more access as compared to the lower-income cities [1 mark]. As seen in Resource 5, while high-income cities such as Singapore have 47% of urban areas covered by green spaces, Cape Town (an upper-middle income city) only has 18% of its urban area covered by green space and low-income cities like Lagos only having 5% [1 additional mark].

(e) Explain the complementarity and tension between sustainable urban development and liveability. [5]

Award 1 mark for each explanation of the complementarity/tension between sustainable urban development and liveability.
Award a maximum of 1 mark for further development of each explanation, where applicable.
Award a maximum of 3 marks if response only addresses either the complementarity or tensions.

Possible responses include:

[Complementarity]

- Urban liveability focuses on promoting intragenerational equity by improving the immediate quality of life for all social groups. This can then contribute towards the longer-term goals of sustainable urban development [1 mark].

  For example, in Melbourne, provision of cycling paths and public transport services have not only helped to improve walkability. It also consequently contributed to sustainable urban development as it reduced reliance on private transport, reducing carbon emissions which helps to mitigate contemporary climate change. [1 additional mark].

- Liveability issues such as access to healthcare are immediate and tangible, making them **more relevant and actionable** for governments, NGOs, businesses, and citizens [1 mark]. Unlike how abstract sustainable urban development can be, focusing on improving liveability can thus help cities to rally support amongst residents and drive sustainable urban development [1 additional mark].

[Tension]

- Urban liveability might sometimes over-prioritise the needs of the present generation, at the expense sustainable urban development which emphasises the importance of future generations' ability to meet their own needs. [1 mark].

  This is often seen in the forms of increased consumption of resources such as fossil fuels to generate electricity which can lead to intensified environmental degradation [1 additional mark].

3 Resource 6 shows the changes in sea ice concentration in the Arctic and Antarctic from March 2020 to September 2020. Resource 7 shows the changes in temperatures relative to global average in 2021. Resource 8 shows the Melbourne Skyfarm, a 2000-square metre urban rooftop farm in Melbourne, Australia.

(a) Explain how the study of ocean cores indicates evidence of past climate variability. [4]

Award 1 mark for the description of each insight.
Award a maximum of 1 additional mark for further development of this description, where applicable.

Possible responses include:

- One way could be the analysis of isotopic composition of the calcite in the shells and bones of sea organisms deposited on the seabed [1 mark]. This can give **evidence of the cyclical warming and cooling** in the Earth's climate in the past where a higher composition of ^{18}O isotopes in the ocean core will be indicative of colder ocean temperatures [1 mark].

- One way could be the study of diatoms found within the sediments which can show how past climate has changed [1 mark]. The changes in salinity in the area due to changes in temperature/rainfall would change the species composition of the diatoms over time and the study of these changes could identify **changes in the local climate.**

- One way could be the study of glacial debris deposited on the ocean floor when icebergs calved from continental glaciers carrying these material melts over the seabed [1 mark]. The changes in the types of rocks found in glacial debris was key in discovering **changes to the Northern Hemisphere ice sheets in past climates** [1 mark].

(b) Using Resource 6, compare the changes in the Arctic and Antarctic Sea ice concentration from March 2020 to September 2020. [4]

Award 1 mark for every comparison in the changes in sea ice at the Arctic and Antarctic.
Award maximum 1 additional mark for further development of every comparison

Possible responses include:

[Areal extent]

- While the Arctic sea ice experienced a **shrinkage** in sea ice extent from March 2020 to September 2020, the Antarctic sea ice experienced a **general increase** in sea ice concentration [1 mark]. From Resource 6, both relative changes in the Arctic and Antarctic sea ice extent was by more than 50% [1 additional mark].

[Change in percentage of sea ice concentration]

- The Arctic sea ice also experienced a **drastic decrease in percentage of sea ice concentration** from 100% to 40-60% while the Antarctic sea ice concentration **increased in percentage** from 20% to 80-90% [1 mark].

[Changes relative to the 1981-2010 average]

- While the Antarctic sea ice extent **fell below the 1981-2010 average sea ice extent/concentration**, the Antarctic sea ice concentration **remained similar to the 1981-2010 average** [1 mark].

(c) Describe the temperature change relative to global average shown in Resource 7. [5]

Award 1 mark for every description of the temperature change relative to global average.
Award maximum 1 additional mark for further development of every description.

Possible responses include:

- Generally, **the land areas are experiencing temperature changes at rates faster than global average** while the temperature changes **over oceans** are **occurring slower than average** [1 mark].

  As seen in Resource 7, continental land areas are experiencing temperature changes 0.25-1.25 deg C faster than global average whereas the ocean areas are experiencing temperature changes of 0.25-1.25 deg C slower than global average [1 additional mark].

- Specifically, the **Arctic region is experiencing the fastest temperature changes** as compared to the rest of the globe, with temperatures change at least 1 deg C faster than the global average [1 mark].
- Despite land areas generally experiencing faster temperature changes, there are regions such as **India** that **experiencing changes 0.5 deg C slower than the global average** [1 mark]
- Moreover, there are parts of the **Southern Ocean** that are **experiencing changes at 0.5 to 1.0 deg C faster than the global average**, which is comparable to the rate of warming over continental lands [1 mark].

(d) Explain **two** reasons for uncertainty over the present and future impacts of contemporary climate change. [4]

Award 1 mark for every explanation of why there are uncertainties over the future impacts of climate change.
Award maximum 1 mark for further development of each explanation.
Award maximum of 2 marks for only one reason.

Possible responses include:

- The future impacts of climate change are uncertain because of a **lack of full understanding of physical processes** and how various systems interact to affect climate change [1 mark]. For instance, there is currently still a lack of understanding of how oceanic processes such as ocean currents and sea surface temperature patterns influence atmospheric circulation and weather systems [1 additional mark]
- There is also **incomplete in-situ data on vast expanses of oceans, deserts and polar regions** [1 mark]. These areas are often inaccessible to scientists and with a lack of data in these areas, it is therefore challenging to understand the variations in the impacts of climate change and project future impacts [1 additional mark].
- **Intrinsic measurement errors in current climate data** may also result in inaccurate and unreliable data to project for future changes to the Earth's climate and its impacts [1 mark]. These can often arise as a result of current technologies lacking in terms of its sensor calibration [1 additional mark]

- There is also much **uncertainty over future greenhouse gas emissions** [1 mark], as one is uncertain of how consumption patterns and population will change over time [1 additional mark].

(e) Explain how the strategies shown in Resource 8 can help cities respond to climate change. [5]

Award 1 mark for explanation of how strategies in Resource 8 can help cities respond to climate change.
Award 1 additional mark for further development of explanation, where applicable.

Possible responses include:

- The use of solar panels to harness solar power for electricity can help mitigate climate change as solar power is a **clean energy** whereby the conversion of sunlight to electrical energy **does not emit greenhouse gases** into the atmosphere, unlike the burning of fossil fuels [1 mark]. The ability to harness this form of clean energy will also thus **reduce reliance on fossil fuels** in the long run especially because **solar energy is renewable** / an abundant resource for use [1 additional mark]
- The establishment of the urban skyfarm help to promote steady supply of fresh produce that can help **increase the city's resilience towards the effects of climate change,** as extreme weather conditions may reduce agricultural imports from other places [1 mark]. Moreover, the donation of these produce to food charities help ensure that the vulnerable communities (e.g. lower-income families) can continue to have access to fresh foods / a good nutrition [1 additional mark]
- The introduction of greenery to the rooftop space can help locals adapt to climate change by **promoting cooling** [1 mark]. The vegetation introduced to the roofs help reduce the amount of solar radiation absorbed by the roof and lower surface temperatures and cool the surrounding air through evapotranspiration [1 additional mark].

Section C

Answer **two** questions

4 ‘Strategies to improve the lives of slum dwellers are rarely successful.’

Evaluate this statement. [13]

Possible approaches:

Candidates could approach the question by making a judgement on whether strategies to improve the lives of slum dwellers have been largely unsuccessful in improving the lives of slum dwellers, considering a range of evaluative criteria such as type and nature of strategies implemented, stakeholder involvement, sustainability, challenges and barriers, and observed success in addressing slum dwellers needs, across cities.

Candidates could evaluate why some strategies have been successful in certain contexts but not in others—considering social, political, economic, and cultural factors—and whether “rarely successful” is an overly generalised or justified claim. Through a comparative evaluation of case studies, candidates could consider the tendency for top-down approaches to overlook local needs and contexts and the impact of community-led or participatory approaches in achieving more sustainable improvement compared to state-driven strategies.

Levels marked using generic level descriptors for 13m H1 essays.

5 Evaluate the success of strategies to address the issues faced by women living in cities. [13]

Possible approaches:

Candidates could approach the question by making a judgement of whether strategies to make cities liveable for women are successful through a consideration of various criteria such as costs, benefits, stakeholders involved, ability to target a wide range of issues and ability to address the root cause for gender inequality in urban designs. Responses could also seek to evaluate the spatial scale of impact and the ability to attain intended outcomes of the strategies in the long term.

Candidates could also approach the question by interrogating how the success of strategies are more successful in some places than others. Through adopting various case studies, candidates could analyse the contextual factors such as the societal norms and political will of the authorities, which may have contributed to strategies being ‘rarely successful’ in some places than others.

Levels marked using generic level descriptors for 13m H1 essays.

6 Evaluate the role of firms in responding to climate change. [13]

Possible Approaches:

Candidates could approach this question by making a judgement on whether the firm is the main actor vis-a-vis other actors such as states and non-governmental organisations (NGOs) through a consideration of criteria such as ability to enact change, speed and impact of strategies implemented and ability to engage various community groups. Candidates could consider both mitigation and/or adaptation strategies. Candidates could also consider the economic and political challenges involved in implementing these strategies.

Candidates could also approach this question by making a judgement on whether the firm is the main actor in some contexts than others through a consideration of two or more case studies where the firm and at least one other actor are involved. Candidates could analyse the contextual factors such as the resources available to address the challenges, potential trade-offs and uncertainties over the impacts the strategies are meant to address, which may have contributed to the variance in the involvement of different actors in responding to climate change.

Levels marked using generic level descriptors for 13m H1 essays.