

St. Joseph's Institution
Year 4 Preliminary Examination 2026
Geography 2279/01
Marking Scheme

Qn	Answer	Marks
1a	Identify the sampling method that was used. Stratified random sampling	1
1bi	With reference to Table 1.1, evaluate the usefulness of using perception surveys in this investigation. Award 1 mark for stating an advantage AND disadvantage of using perception surveys. Award a maximum of 1 additional mark for further development of each advantage, where applicable. Possible responses include: Useful - The use of <u>predefined responses guided students</u> in collecting data directly from residents about their perceptions of how the eldercare facility has affected the liveability of the neighbourhood [1 mark], hence it is <u>relevant to the aim of the investigation</u> [1 additional mark]. - The use of <u>rating scale</u> allows participants to respond to their opinions with a wide range of responses. - These predefined responses can be <u>easily analysed and interpreted</u> [1 mark], allowing for <u>easy comparison</u> or <u>identifying of patterns</u> or <u>trends</u> [1 additional mark]. Not useful - The <u>statements</u> used in the survey <u>measure perceptions</u> rather than actual changes in liveability [1 mark]. Residents' <u>opinions may not accurately reflect objective conditions</u> such as actual noise levels or traffic volume [1 additional mark]. - Responses may be <u>subjective or biased</u> [1 mark] as it may be <u>influenced by other factors</u> such as <u>age</u>, whether the respondent or their family members <u>use the eldercare facility</u> or <u>how long they have lived in the neighbourhood</u> [1 additional mark]. <u>Neutral</u> column results in ambiguous data as it fails to capture the true or actual knowledge or opinion - Some respondents may <u>misinterpret the questions</u> or provide <u>incomplete or inaccurate responses</u> instead of their true opinions [1 mark], hence making the findings unreliable [1 additional mark].	4

1bii

Using the information from Table 1.1, calculate the mean score for residents living within 150m of the eldercare facility.

2

Aspect	Very Negative (-2)	Negative (-1)	Neutral (0)	Positive (+1)	Very Positive (+2)	Mean Score
Services and support	2	3	3	5	2	0.13
Noise levels	6	4	2	2	1	-0.8
Traffic and parking	5	7	2	1	0	-1.07
Access to healthcare and community services	1	2	3	6	3	0.53
Suitability of location in residential areas	3	4	3	3	2	-0.20

AO2

1biii

Use the information from Table 1.1 to complete the bar graph in Fig. 1.2 for the residents living within 150m of the eldercare facility.

4

Award 1 mark for accurate construction of the graph, to a maximum of 4 marks.

**Residents living within 150m of the eldercare facility
(mean score by aspect)**

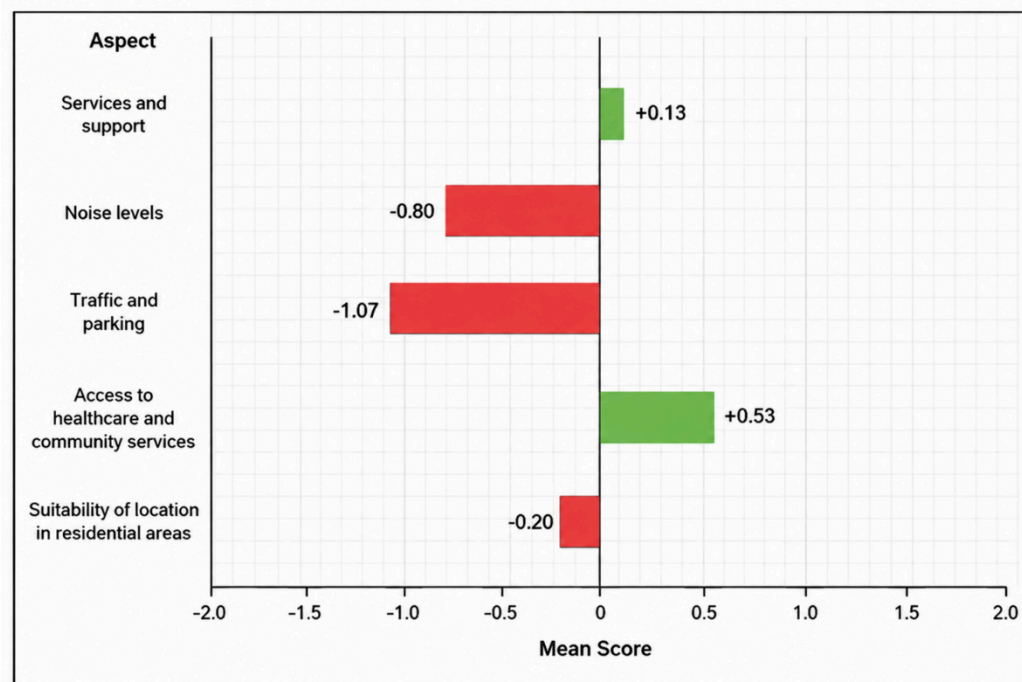


Fig. 1.2

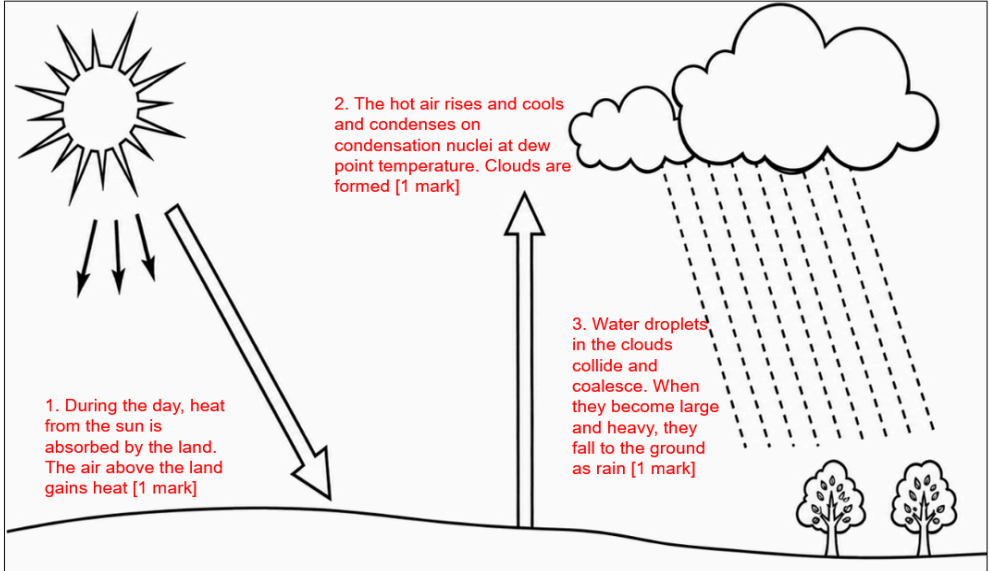
1ci	Using Figs. 1.3 and 1.4, evaluate how well the data supports the students' hypothesis: 'Residents living closer to the eldercare facility perceive the neighbourhood to be less liveable than residents living farther away'. Award 1 mark for each evaluation on well the data supports the students' research question, to a maximum of 5 marks. Award a maximum of 1 additional mark for further development of each evaluation, where applicable. Evidence must be used from Fig. 1.3 <u>and</u> Fig. 1.4 Possible responses: <u>Conclusion</u> - The data largely supports the hypothesis [1 mark] <u>Support</u> - From Fig. 1.3, the line of best fit shows a positive relationship between distance from the eldercare facility and perceived liveability [1 mark]. As the distance from the eldercare facility decreases from about 300 m to 100 m, the overall liveability score generally increases from around 0.8 to -0.1 [1 additional mark]. - From Fig. 1.4, the mental maps support the hypothesis. Residents living closer to the eldercare facility identify more negative impacts on their neighbourhood such as traffic congestion, noise and parking shortages [1 mark], whereas residents living farther away identify fewer negative impacts and more positive features such as convenience, accessibility, amenities and a pleasant living environment [1 additional mark]. <u>Does not fully support</u> - From Fig. 1.3, an anomaly is observed at approximately 195–200 m from the eldercare facility. Although residents living around this distance generally have a positive liveability score of about +0.3, one respondent recorded a negative liveability score of approximately -0.1 [1 mark]. This data point lies well below the line of best fit and does not follow the overall positive trend [1 additional mark]. - From Fig. 1.4, the mental map of a resident living 150-300m from the eldercare facility also brings out his personal connection to the eldercare facility because his grandmother attends it. This may have contributed to a more favourable perception of both the facility and the neighbourhood.	5
1cii	Suggest two ways the students could improve the reliability of their findings.	4

	Award 1 mark for each explanation on how the students could improve their data collection to improve reliability, to a maximum of 4 marks. Award a maximum of 1 additional mark for further development of each explanation, where applicable. Possible responses include: • The survey should be conducted on both weekdays and weekends (or at different times of the day) to obtain responses from a wider range of residents [1 mark], making the findings more representative and therefore more reliable [1 additional mark]. • Increase the sample size by surveying more than 15 residents in each distance band OR asking more than 2 residents to construct their mental maps [1 mark] to reduce the influence of individual opinions and provide a more representative set of findings [1 additional mark]. • Instead of one location, conduct the survey across a wider area, including residents in all directions such as from more residential blocks around the eldercare facility [1 mark]. This reduces bias caused by localised conditions (e.g. traffic congestion or nearby amenities) and makes the findings more representative and reliable [1 additional mark]. AO2	
Qn	Answer	Marks
2a	Suggest how disruptions to transit routes can impact on the overall tourism system. Award 1 mark for each impact on <u>both</u> the tourist generating and destination regions, to a maximum of 2 marks. Possible responses include: Impact on destination • If transport routes are blocked or unsafe, the destination region experiences a sharp decline in visitor arrivals. This leads to lost revenue for hotels, restaurants, and local businesses, potentially causing job losses [1 mark]. Impact on generating region • Travellers may experience cancellations or be stranded abroad, decreasing the overall propensity to travel during that period [1 mark]. • Disruptions on transit routes due to outbreak of wars, natural disasters can significantly affect tour operators as they may experience cancellations and reduced bookings leading to loss of revenue and reduced profits [1 mark].	2

2bi	Using Fig. 2.1, compare the monthly tourism patterns of EU residents aged 15 to 64 years and those aged 65 years and over. Award 1 mark for each similarity <u>and</u> difference, to a maximum of 3 marks. Award 1 additional mark for supporting with evidence. Possible responses include: <u>Similarity</u> - Both age groups follow a similar seasonal pattern where tourism is lowest in January and in November, peaking in July (65+ years) and August (15–64 years) [1 mark]. - Tourism nights spent was a low of 3% to 4% in November for both age groups while it was much higher at 15% for 65+ years in July and 19% in August for 15-64 years [1 additional mark]. <u>Differences</u> - However, the 15–64 years has a much sharper rise between May and July or sharper decrease between July and September compared to the 65+ years [1 mark]. - For the 15–64 years, tourism nights rose by 12.5% while the 65+ years' increase was lower at 7% [1 additional mark]. - From April to June and September to November, the 65+ years records higher percentages than the 15–64 years [1 mark]. - For e.g., in September, the 65+ years is 4% higher than the 15-64 years [1 additional mark]	3
2bii	Explain how seasonal variations in tourism can negatively affect the economy and environment of tourist destinations. Award 1 mark for each positive and negative impacts on the economy and environment during peak and off-peak seasons, to a maximum of 4 marks. Award 1 additional mark for further exemplification. Possible responses include: Economic impacts - Destinations may suffer from unstable incomes during off-peak periods. When tourist numbers fall, hotels and attractions may receive very few customers, causing profits to decline [1 mark]. Small businesses may struggle to cover operating costs, leading to <u>economic uncertainty</u> for the local community [1 additional mark]. - Seasonal employment can also create <u>insecure or temporary jobs</u>. Many workers are employed only during peak months and may lose their jobs during the low season [1 mark]. As a result, workers may face	4

	unstable incomes and financial difficulties throughout the year. This limits long-term economic security for residents who depend on tourism-related jobs [1 additional mark]. Environmental impacts - During peak seasons, high tourist numbers may lead to <u>overcrowding traffic congestion and waste generation</u> [1 mark]. This places pressure on waste management systems [1 additional mark]. - Higher tourist numbers <u>increase the demand for water and energy</u>. Hotels, swimming pools, air-conditioning systems and tourist facilities consume large amounts of electricity and water [1 mark]. In destinations with limited resources, this may lead to water shortages and greater pressure on energy supplies, affecting local residents as well [1 additional mark]. - Natural attractions may suffer <u>environmental degradation</u> due to overuse. Frequent trampling by tourists can damage vegetation and soil, while activities such as diving and boating may harm coral reefs and marine ecosystems [1 mark]. Over time, the quality of the environment and attractiveness of the destination may decline [1 additional mark].	
2c	With reference to Fig. 2.2, explain how private tours help promote tourism in less well-known destinations. Award 1 mark for each explanation, to a maximum of 2 marks. Award 1 additional mark for further exemplification. Possible responses include: - Private tours can make lesser-known places more attractive by offering a more flexible and customisable itineraries [1 mark]. Tourists are often willing to visit second-tier cities or quieter attractions when they can choose their own itinerary and travel at their own pace [1 additional mark] - They also make lesser-known destinations more appealing by offering a personal driver-guide, who can provide local knowledge and help tourists explore confidently [1 mark]. This encourages visits to unique places beyond the usual hotspots or popular sights [1 additional mark].	2
2d	With reference to Fig. 2.3, suggest how tourism production and consumption can be managed to ensure sustainable tourism development. Award 1 mark for each explanation on tourism production <u>and</u> consumption, to a maximum of 4 marks. Award 1 additional mark for further elaboration.	4

	Possible responses include: Tourism production - Limit the number of tourists, set designated viewing areas and proper waste management [1 mark]. This reduces crowding, erosion and disturbance to wildlife life. This will ensure that the demands do not exceed the supply of resources [1 additional mark]. - Work with different stakeholders and adopt long term approaches [1 mark]. For e.g. the authorities can work with businesses and locals to increase the use of locally sourced produce and adopt renewable energy solutions [1 additional mark]. Tourism consumption - Tourists make responsible choices by choosing to stay in hotels that embrace sustainability and prioritise local communities as shown on the hotel's webpage in Fig. 2.3 [1 mark]. - Tourists can also use booking systems that can spread demand across the day or choosing to purchase tourism products that have low carbon footprints [1 mark]. - All these ensure that the carrying capacity of the destination region is not exceeded and minimises environmental damage [1 additional mark].	
Qn	Answer	Marks
3a	Using Fig. 3.1, explain the differences in the temperatures for Darwin and Adelaide. Award 1 mark for comparing the annual mean temperatures for Darwin and Adelaide. Award 1 mark for each explanation, to a maximum of 2 marks. Possible responses include: - Darwin's annual mean temperature of 27 °C is <u>higher</u> than Adelaide's which is <u>lower</u> at 16.5°C [1 mark]. - This is because Darwin is located at a lower latitude of 12°S compared to Adelaide which is located at a higher latitude of 34°S. - Due to the Earth's spherical shape, the sun's rays strike more directly at places nearer to the Equator such as Darwin. The solar radiation is more concentrated nearer the equator and is spread over a smaller area, resulting in higher temperature for Darwin [1 mark]	3

	On the other hand, places with a higher latitude (further away from the equator) such as Adelaide, the <u>solar angle is smaller</u> thus solar radiation is less direct and the sun's rays are spread over a larger area and is less concentrated. This is due to the greater curvature of the earth at this point. Hence, a lower temperature [1 mark].	
3b	Annotate Fig. 3.2 to explain how convectional rain is formed. Award 1 mark for each explanation on the process of formation, to a maximum of 3 marks.  The diagram illustrates the process of convectional rain formation in three steps: 1. During the day, heat from the sun is absorbed by the land. The air above the land gains heat [1 mark]: A sun icon on the left emits rays that hit a curved line representing the ground. 2. The hot air rises and cools and condenses on condensation nuclei at dew point temperature. Clouds are formed [1 mark]: A large upward-pointing arrow shows air rising from the ground towards a cloud. 3. Water droplets in the clouds collide and coalesce. When they become large and heavy, they fall to the ground as rain [1 mark]: A cloud on the right has dashed lines representing rain falling onto two trees on the ground.	3
3c	'The use of clean energy sources is the most effective strategy in managing the impacts of climate change for vulnerable communities.' With reference to Figs. 3.3 and 3.4, to what extent do you agree with this statement? Explain your answer. Relevant content - Mitigation strategies that <u>reduce greenhouse gas emissions</u> - Use of clean energy sources - Use of low-carbon technologies - Changes in consumption patterns - International agreements and cooperation - Mitigation strategies that <u>enhance carbon sinks</u> - Protection of oceans and forests by managing land-use change - protection of forests through forest regeneration - Adaptation strategies involving <u>structural and technological approaches</u>	9

- Water and flood management
- Use of technology to produce food
- Adaptation strategies involving social and institutional approaches
 - Raising awareness and education
 - National and regional policies

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.