GradeMax



Mark Scheme (Results)

November 2024

Pearson Edexcel International GCSE
In Geography (4GE1)
Paper 02 Human Geography

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Marking guidance for levels-based mark schemes

How to award marks
The indicative content provides examples of how students will meet each skill assessed in the question. The levels descriptors and indicative content reflect the relative weighting of each skill within each mark band.

Finding the right level
The first stage is to decide which level the answer should be placed in. To do this, use a 'best-fit' approach, deciding which level most closely describes the quality of the answer. Answers can display characteristics from more than one level, and where this happens, markers must use the guidance below and their professional judgement to decide which level is most appropriate.

Placing a mark within a level
After a level has been decided on, the next stage is to decide on the mark within the level. The instructions below tell you how to reward responses within a level. However, where a level has specific guidance about how to place an answer within a level, always follow that guidance. Statements relating to the treatment of students who do not fully meet the requirements of the question are also shown in the indicative content section of each levels-based mark scheme. These statements should be considered alongside the levels descriptors.

Markers should be prepared to use the full range of marks available in a level and not restrict marks to the middle. Markers should start at the middle of the level (or the upper-middle mark if there is an even number of marks) and then move the mark up or down to find the best mark. To do this, they should take into account how far the answer meets the requirements of the level:

- if it meets the requirements fully, markers should be prepared to award full marks within the level. The top mark in the level is used for answers that are as good as can realistically be expected within that level
- if it only barely meets the requirements of the level, markers should consider awarding marks at the bottom of the level. The bottom mark in the level is used for answers that are the weakest that can be expected within that level
- the middle marks of the level are used for answers that have a reasonable match to the descriptor. This might represent a balance between some characteristics of the level that are fully met and others that are only barely met.

Question number	Answer	Mark
1(a)(i)	**AO1 (1 mark)** D wind (1) It cannot be A, B or C as these are not renewable energy sources.	**(1)**

Question number	Answer	Mark
1(a)(ii)	**AO1 (1 mark)** Award 1 mark for a suitable advantage: • reduced carbon emissions (1) • infinite supply of energy (1) • can support energy security (1) Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
1(b)	**AO1 (1 mark)** B groundwater pollution The answer cannot be A, C or D as these are not disadvantages of using shale gas as an energy source.	**(1)**

Question number	Answer	Mark
1(c)	**AO2 (1 mark) / AO3 (1 mark)** Award 1 mark for basic evidence from the from the figure (AO3) and a further 1 mark for extension through explanation (AO2), up to a maximum of 2 marks. • The factory could filter the emissions (1) to try and not create air pollution for the residential area (1). • Reduce carbon emissions (1) by switching to renewable energy (1). • To reduce air pollution (1) could use more efficient technology (1) Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
1(d)	**AO1 (1 mark)** Award 1 mark for a suitable factor. • Increased technology (1) • Industrialisation (1) • Urbanisation (1) • Increased living standards (1) • Increased population (1) Accept any other reasonable response.	**(1)**

Question number	Answer	Mark
1(e)	**AO2 (2+2)** Award 1 mark for a human factor and 1 mark for a physical factor and a further expansion mark, up to a maximum of 2 marks each. Maximum 2 marks for either factor. Human: • Labour supply (1) needed to farm the land/harvest crops (1). • Proximity to schools/universities (1) needed for training on different agricultural processes (1). • Transport connections/accessibility (1) to ensure fast routes to market for products (1). Physical: • Areas with flat land (1) are more suitable for growing crops (1). • Areas close to water supply (1) to support irrigation. • Availability of raw materials (1) such as coal deposits for mining (1). • Climate (1) as crops need different temperatures/levels of rainfall to grow (1). • Fertility of the soil (1) required to support growth of crops (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
1(f)	**AO1 (1 mark) / (AO3) 2 marks** Award 1 mark for a point related to the distribution shown, and a further 2 marks for extension through use of the resource, up to a maximum of 3 marks. • Higher percentage in Central and Southern Africa (1) due to informal employment having a more prominent role in this region more generally (1) to provide household income (1). • There are high levels of informal employment for countries with low GDP (1) which could mean women have been unable to access sufficient education (1) so unable to access jobs in the informal sector (1). • There is no clear correlation between GDP and female informal employment (1) this could be due to informal employment being an important part of most economies globally (1) . • High percentage of informal work in Central and Southern Africa (1) as women are an important part of the workforce (1) as they need to provide for their families. Accept any other appropriate response.	**(3)**

Question number	Answer	Mark
1(g)	**AO2 (2+2 marks)** Award 1 mark for each initial idea, and a further expansion mark, up to a maximum of 2 marks each. • Malthus was pessimistic about population and resources (1) he thought that increased food supply could only increase arithmetically (1). • Malthus suggested population growth is exponential (1) can lead to exponential growth if unchecked (1). • Malthus believed that population would exceed resources (1) until some sort of major event/point of crisis which would bring the population down (1). Can reach a point of crisis (1) due to population growing faster than resources (1). • Population growth faster than the increase in food supply (1) leading to not enough food to feed the population (1). Accept any other appropriate response.	**(4)**

Question number	Indicative content
1 (h)	**AO3 (4 marks)/AO4 (4 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: **AO3** • Typically the employment structure of an economy will change as it developed, according to the Clark-Fisher model. • The Clark-Fisher model suggests that: o Pre-industrial economies will have high primary sector activity. o Industrial economies will have rising secondary and tertiary sector activities. o Post-industrial economies will have a high proportion of tertiary sector, and rising quaternary sector industries. • It is suggested that as a country develops the countries move from one stage to another, although the speed at which they do so and particular mix will be specific to each county. • There are also factors around the types of raw materials, agricultural land available that can affect the level of primary industry. There are issues around energy/labour supply that can affect the development of secondary industry. Availability of education and training can also affect the development of the tertiary/quaternary sector industries. • Some countries may not necessarily develop in the pattern suggested by the Clark-Fisher model. For example, if a developing/emerging country economy has a government that heavily invests in the tourism industry rather than manufacturing then there would be a significant rise in tertiary sector rather than secondary. **AO4** • Figure 1c shows how the selected countries have different employment structures. • Figure 1c shows that developing countries such as Burundi can have a high primary sector, and low tertiary sector. • Figure 1c shows how developed countries like Canada can have low proportion of primary sector, relatively low secondary sector and high proportion of tertiary/quaternary sector employment. • Figure 1c shows that the range in sector employment does vary between developing/emerging economies with Liberia and Nigeria having significantly different structures to Burundi.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–3**	• Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements that are supported by limited evidence. (AO3) • Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)
Level 2	**4–6**	• Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) • Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)
Level 3	**7–8**	• Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently leading to judgements that are supported by evidence throughout. (AO3) • Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)

Question number	Answer	Mark
2(a)(i)	**AO1 (1 mark)** A high inputs (1) The answer cannot be B, C or D as these are not characteristic of intensive farming.	**(1)**

Question number	Answer	Mark
2(a)(ii)	**AO1 (1 mark)** Award 1 mark for suitable benefit. • Higher yields/more predictable yields (1) • More resistant to pests/disease (1) • More resilient to changes in climate (1). • Can be modified to have higher nutritional content (1) Accept any other appropriate responses.	**(1)**

Question number	Answer	Mark
2(b)	**AO1 (1 mark)** C opening a farm shop (1) The answer cannot be A, B or D as they are not farm diversification activities.	**(1)**

Question number	Answer	Mark
2(c)	**AO2 (1 mark) / AO3 (1 mark)** Award 1 mark for initial characteristics (AO2) and a further 1 mark for extension for description linked to the resource (AO3), up to a maximum of 2 marks. • Vast areas of open land (1) which can be used for different types of farming (1). • Sparse population (1) with only a few buildings presents (1). • Relatively remote (1) with limited buildings/transport routes (1). • Dominated by agricultural activity (1) which has altered the landscape through creation of fields (1). Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
2(d)	**AO1 (1 mark)** Award 1 mark for a suitable strategy. • Install new/more efficient irrigation systems (1). • Store rainwater (1). • Reduce water usage at the household/farm level (1). • Reuse wastewater (1). Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
2(e)	**AO2 (2+2 marks)** Award 1 mark for identification each initial idea of how tourism can have a negative impact on rural areas, and a further expansion mark, up to a maximum of 2 marks each. • Traffic congestion (1) as many tourists will travel by private vehicles/come in large numbers on coaches (1). • Damage to habitats (1) as tourists may walk through areas used by animals as homes (1). • Visual pollution (1) as tourists may leave litter (1). • Can push property prices for local residents to be higher (1) as properties are used for tourist accommodation (1). • Damage natural beauty (1) as new buildings services are built to accommodate their needs (1). Do not credit pollution without type of pollution provided or what is being polluted (e.g. lake/river) Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
2(f)	**AO1 (1 mark) / (AO3) 2 marks** Award 1 mark for an initial idea and a further 2 marks for extension through explanation or description with reference to the resource, up to a maximum of 3 marks. • The level of rainfall will affect the type of plants that can grow (1) as some biomes like tropical rainforest need high levels of rainfall as part of their ecosystem (1) ranging from around 230mm to over 400mm (1). • Most plant species will have an optimum growing temperature (1) those that require low temperatures for example such as tundra (1) which typically can be found just above 0°C down to nearly -10°C (1). • Warm temperatures/high rainfall can support tropical rainforest (1) above 20°C/2500mm (1) leading to high biodiversity (1). • Tropical rainforests have high rainfall (1) supporting a variety of wildlife (1). This compares to deserts which can be too dry for a lot of wildlife (1). Accept any other appropriate response.	**(3)**

Question number	Answer	Mark
2(g)	**AO2 (4 marks)** Award 1 mark for an initial point about a way natural ecosystems provide goods, and an additional 1 mark for development through further explanation or exemplification, up to a maximum of 2 marks for each. • Natural ecosystems can provide raw materials like timber (1) which can be used in manufacturing/construction (1). • Natural ecosystems can provide food (1) such as fish from oceans (1). • Ecosystems such as rainforests are known to have a wide range of plants that have healing qualities (1) which can be used to produce medicines/help develop new medicines (1). • Ecosystems provide fresh water (1) that can be used for drinking/irrigation/industry (1). Accept any other appropriate response.	**(4)**

Question number	Indicative content
2 (h)	**AO3 (4 marks)/AO4 (4 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: **AO3** • The negative multiplier effect is a process of downward decline in an area. In a rural environment this can be prompted by a decline in employment, which leads to greater rural-urban migration, which leads to less investment in rural areas due to lower populations which exacerbates the decline of the area. • In many developed countries rural populations can tend to have a higher proportion of older age groups as younger people tend to move away to urban areas for education and work opportunities. Older age groups tend to sometimes move back to more rural areas when they can afford larger properties or want a more rural environment (with less air pollution etc). • The population structure is largely affected by the need for jobs which explains why there tends to be lower proportions of 18-40 age groups. • The negative multiplier effect can lead to this being more pronounced as more people are likely to move away, and others may not move into the area if it has experienced significant decline or lacks sufficient services/amenities associated with a high quality of life. **AO4** • Figure 2c shows the how the population structure for the rural area in the UK is dominated by largely older age groups. • Figure 2c shows how there tends to be a slightly larger proportion of older females than males, particularly age 85 and above. • Figure 2c shows how there are generally very low levels of young people living in the area, although there is a slightly larger proportion of age 10-14 males. • Figure 2 shows there is relatively low levels of aged 9 and under living in the area.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–3**	• Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements that are supported by limited evidence. (AO3) • Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)
Level 2	**4–6**	• Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) • Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)
Level 3	**7–8**	• Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently leading to judgements that are supported by evidence throughout. (AO3) • Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)

Question number	Answer	Mark
3(a) (i)	**AO1 (1 mark)** A - counter-urbanisation (1) The answer cannot be B, C or D as these do not slow down the rate of counter-urbanisation.	**(1)**

Question number	Answer	Mark
3(a)(ii)	**AO1 (1 mark)** Award 1 mark for a suitable cause: • Rural-urban migration (1) • Job opportunities (1) • Natural increase (1) • Perceived improved quality of life (1) • Potential for better access to health/education services (1) • Better access to clean water/sanitation/electricity supplies (1) Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
3(b)	**AO1 (1 mark)** C Southeast Asia (1) The answer cannot be A, B or D as these regions of the world did not have the highest rate of urbanisation during the 2020s.	**(1)**

Question number	Answer	Mark
3(c)	**AO2 (1 mark) / AO3 (1 mark)** Award 1 mark for suitable reason (AO2) and a further 1 mark for extension using evidence from the resource (AO3), up to a maximum of 2 marks. • Congestion (1) as high usage levels of private transports can cause delays in moving around the city (1). • High volumes of traffic (1) can contribute to air pollution/decreased air quality (1). • Creates air pollution (1) due to high volumes of traffic (1). Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
3(d)	**AO1 (1 mark)** Award 1 mark for a suitable food related challenge: • Food deserts (1) • Poor access to nutritious food (1) • High cost of food (1) • Excess of fast-food restaurants (1) • Cost of living crisis (1) • Malnutrition (1) Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
3(e)	**AO2 (2+2 marks)** Award 1 mark for each advantage, with a further mark for expansion mark, up to a maximum of 2 marks each. • Usually on the edge of cities with large amounts of land available (1) so there is the potential to expand in the future (1). • Sites can usually be more attractive/be surrounded by scenic beauty (1) which may help attract/retain skilled workers (1). • Potentially lower land values/cheaper in than in the city centre (1) because there is no need to clear away old buildings/infrastructure (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
3(f)	**AO1 (1 mark) / (AO3) 2 marks** Award 1 mark for an identification of a change shown and a further 2 marks for extension through explanation or description, up to a maximum of 3 marks. • There will be a significant increase in the recycling of waste (1) which means that less needs to go to landfill (1) which means reduced environmental impact (1). • Increase in recycling (1) from about 24% to 55% (1) which can lead to less litter around the city (1). • There will be a greater focus on prevention of waste (1) which will mean greater efforts to reduce/reuse/recycle (1) which can reduce individual carbon footprints (1). • A significant reduction in the amount of waste going to landfill (1) which lead to less greenhouse gas emissions (1) or risk of land contamination (1). • Increase in recycling (1) leads to less air pollution (1) as less waste reaches landfill/is burnt (1). Accept any other appropriate response.	**(3)**

Question number	Answer	Mark

3(g)	**AO2 (4 marks)**
	
	Award 1 mark for initial explanation and an additional 1 mark for development through further explanation or exemplification. Maximum of 2 marks when no named developed.
	• Planners:
	  ○ Can ensure new developments have sufficient green spaces (1) to ensure those in high rise housing have access to green spaces for leisure/wellbeing (1).
	  ○ Can include plans for sufficient services such as health and education (1) so residents do not have to travel long distances and incur high costs for doing so (1).
	  ○ Can identify community issues (1) to target projects such as increased affordable housing (1).
	
	• Property developers:
	  ○ Can include options for affordable housing (1) to ensure that people are not excluded from areas (1).
	  ○ Can include renewable energy options in properties (1) to reduce household energy costs (1).
	
	Accept any other appropriate response.
		(4)

<table>
<tr><th>Question number</th><th colspan="2">Indicative content</th></tr>
<tr><td>3 (h)</td><td colspan="2">AO3 (4 marks)/AO4 (4 marks)

Marking instructions
Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.

Indicative content guidance
The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:

AO3
• Land use changes across a city in part due to land values and therefore who can access the land as well as the purpose of the area of the city.
• Typically land values are very high in the CBD and in areas where there is a need for commercial organisations. Such high land values tend to mean there are fewer residential properties.
• Typically closer to the city centre will be a greater proportion of flats to accommodate higher volumes of people, and also because property prices are higher they tend to be smaller.
• Proximity to the CBD is often a key factor in determining land use. Often the areas furthest from the CBD have a greater proportion of residential land use.

AO4
• Figure 3c shows land use changes significantly as you move away from the central business district.
• Figure 3c shows how the commercial land value is high in the centre of the city but also in some high points in residential areas, but generally declines in value as you move away from the CBD.
• Figure 3c shows multifamily residential properties have high land use values closer to the CBD and lower away from the CBD.</td></tr>
<tr><th>Level</th><th>Mark</th><th>Descriptor</th></tr>
<tr><td></td><td>0</td><td>No rewardable material.</td></tr>
<tr><td>Level 1</td><td>1–3</td><td>• Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements that are supported by limited evidence. (AO3)
• Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)</td></tr>
</table>

Level 2	**4–6**	• Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) • Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)
Level 3	**7–8**	• Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently leading to judgements that are supported by evidence throughout. (AO3) • Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)

Question number	Answer	Mark
4(a)(i)	**AO3 (1 mark)** Award one mark for a suitable type of graph: This will be dependent on the type of enquiry but typically graphs could include: • Bar graph/stacked bar graph (1) • Line graph (1) • Pie chart (1) • Histogram • Scattergraph (1) • Bubble chart (1) • Box plot (1) Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
4(a)(ii)	**AO3 (2 marks)** Award 1 mark for initial reason, and a further mark for explanation, up to a maximum of 2 marks. This will be dependent on the previous response but answers could include: • Easy to visualise the data (1) and make comparisons between locations/data sets (1). • Can be used to identify patterns (1) and show any significant anomalies in the data (1). • Suitable for the data being plotted (1) needed to show change over time/continuous data (1). Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
4(b)	**AO3 (2 marks)** Award 1 mark for a suitable qualitative technique, and a further mark for development or explanation. This will vary depending on enquiry question, but could include: • Photographs (1) to capture accurate visual record of the surrounding to annotate later (1). • Interviews (1) to capture views of local stakeholders (1) • Surveys/questionnaires (with open questions) (1) to understand the reasons behind participant choices (1). Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
4(c)	**AO3 (4 marks)** Award 1 mark for each type of secondary data identified with a further mark for development or explanation up to a maximum of 2 marks each. Max 2 marks for each way provided. The type of secondary data will vary on the nature and context of the fieldwork, but it must be plausibly linked to the focus: economic activity and energy. • Used local newspaper articles (1) to research information about the history of the local area (1). • Used a government report (about recycling) (1) to provide a national context for changes taking place to inform my interview questions (1). • Used data on property prices (1) to look for correlations with the data I had from the Environmental Quality Survey (1). • Photographs (1) to understand features of the area over time (1). • Map (1) to be able to examine land features (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
4(d)	**AO3 (3 marks)** Award 1 mark for identification of an improvement, and further 2 marks for explanation. The type of data analysis will vary on the nature and context of the fieldwork, but it must be plausibly linked to the focus: economic activity and energy. • I could have compared the data I had from different sites (1) in order to consider broader patterns (1) to understand where significant differences were (1). • I could have created a word cloud with data from the report (1) to systematically highlight key themes from the report (1) rather than just highlight interesting sentences (1). • I could have used a pie charts/bar charts (1) to show the breakdown of categories (1) to allow easier comparison of data/to identify trends (1). • Use a greater variety of data presentation methods/use line graphs rather than pie chart (1) to be able to more easily identify trends (1) to be able to support conclusions (1). Accept any other appropriate response.	**(3)**

<table>
<tr><th>Question number</th><th colspan="2">Indicative content</th></tr>
<tr><td>4(e)</td><td colspan="2">AO3 (4 marks)/AO4 (4 marks)
Marking instructions
Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.

Indicative content guidance
The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:

AO3
• Evaluation is likely to be linked to the conclusions made and how these linked to the aims for the enquiry.
• Evaluation will most likely be linked to the methods, and limited data presentation provided that led to these conclusions and how the nature of fieldwork design led to the creation of the conclusions.
• Recognition of the extent to which aim was met and how the methods chosen to allow these conclusions to be reached.
• A supported judgement should be reached about how useful the conclusions were, using relevant examples from the resources.
AO4
• In Figure 4a there is a summary of data collection methods used (including photographs and questionnaire collected along a transect, and secondary data).
• In Figure 4a shows the students are using both primary and secondary data.
• In Figure 4b there is a bubble graph which shows evidence of buildings with solar panels along the transect.
• In Figure 4c there are conclusions about the use of solar panels and renewable energy more generally.</td></tr>
<tr><th>Level</th><th>Mark</th><th>Descriptor</th></tr>
<tr><td></td><td>0</td><td>No acceptable response.</td></tr>
<tr><td>Level 1</td><td>1–3</td><td>• Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3)
• Few aspects of the enquiry process are supported by the use of geographical skills to obtain information, which has limited relevance and accuracy. Communicates generic fieldwork findings and uses limited relevant geographical terminology. (AO4)</td></tr>
<tr><td>Level 2</td><td>4–6</td><td>• Applies understanding to deconstruct information and provide some logical connections between concepts. An</td></tr>
</table>

		imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) • Some aspects of the enquiry process are supported by the use of geographical skills. Communicates fieldwork findings with some clarity, using relevant geographical terminology occasionally. (AO4)
Level 3	7–8	• Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3) • All aspects of the enquiry process are supported by the use of geographical skills. Communicates enquiry-specific fieldwork findings with clarity and uses relevant geographical terminology consistently. (AO4)

Question number	Answer	Mark
5(a)(i)	**AO3 (1 mark)** Award one mark for a suitable type of graph: This will be dependent on the type of enquiry but typically graphs could include: • Bar graph/stacked bar graph (1) • Line graph (1) • Pie chart (1) • Histogram • Scattergraph (1) • Bubble chart (1) • Box plot (1) Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
5(a)(ii)	**AO3 (2 marks)** Award 1 mark for initial reason, and a further mark for explanation, up to a maximum of 2 marks. This will be dependent on the previous response but answers could include: • Easy to visualise the data (1) and make comparisons between locations/data sets (1). • Can be used to identify patterns (1) and show any significant anomalies in the data (1). • Suitable for the data being plotted (1) needed to show change over time/continuous data (1). Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
5(b)	**AO3 (2 marks)** Award 1 mark for a suitable way qualitative technique, and a further mark for development or explanation. This will vary depending on enquiry question, but could include: • Photographs (1) to capture accurate visual record of the surrounding to annotate later (1). • Interviews (1) to capture views of local stakeholders (1) Surveys/questionnaires (with open questions) (1) to understand the reasons behind participant choices (1). Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
5(c)	**AO3 (4 marks)** Award 1 mark for each way identified with a further mark for development or explanation up to a maximum of 2 marks each. Max 2 marks for each way provided. The type of secondary data will vary on the nature and context of the fieldwork, but it must be plausibly linked to the focus: rural environments. • Used local newspaper articles (1) to research information about the history of the local area (1). • Used a government report about tourism (1) to provide a national context for changes taking place to inform my interview questions (1). • Used data on property prices (1) to look for correlations with the data I had from the Environmental Quality Survey (1). • Map (1) to be able to examine land features (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
5(d)	**AO3 (3 marks)** Award 1 mark for identification of an improvement, and further 2 marks for explanation. The type of data analysis will vary on the nature and context of the fieldwork, but it must be plausibly linked to the focus: rural environments. • I could have compared the data I had from different sites (1) in order to consider broader patterns (1) to understand where significant differences were (1). • I could have created a word cloud with data from the report (1) to systematically highlight key themes from the report (1) rather than just highlight interesting sentences (1). • Use a greater variety of data presentation methods/use line graphs rather than pie chart (1) to be able to more easily identify trends (1) to be able to support conclusions (1). Accept any other appropriate response.	**(3)**

<table>
<tr><th>Question number</th><th colspan="2">Indicative content</th></tr>
<tr><td>5(e)</td><td colspan="2">AO3 (4 marks)/AO4 (4 marks)
Marking instructions
Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.

Indicative content guidance
The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:

AO3
• Evaluation is likely to be linked to the conclusions made and how these linked to the aims for the enquiry.
• Evaluation will most likely be linked to the methods, and limited data presentation provided that led to these conclusions and how the nature of fieldwork design led to the creation of the conclusions.
• Recognition of the extent to which aim was met and how the methods chosen to allow these conclusions to be reached.
• A supported judgement should be reached about how useful the conclusions were, using relevant examples from the resources.
AO4
• In Figure 5a there is a summary of data collection methods used (including photographs and questionnaire collected along a transect, and secondary data).
• In Figure 5a shows the students are using both primary and secondary data.
• In Figure 5b there is a bubble graph which shows evidence of tourism.
• In Figure 5c there are conclusions about tourism.</td></tr>
<tr><th>Level</th><th>Mark</th><th>Descriptor</th></tr>
<tr><td></td><td>0</td><td>No acceptable response.</td></tr>
<tr><td>Level 1</td><td>1–3</td><td>• Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3)
• Few aspects of the enquiry process are supported by the use of geographical skills to obtain information, which has limited relevance and accuracy. Communicates generic fieldwork findings and uses limited relevant geographical terminology. (AO4)</td></tr>
<tr><td>Level 2</td><td>4–6</td><td>• Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to</td></tr>
</table>

		judgements that are supported by evidence occasionally. (AO3) • Some aspects of the enquiry process are supported by the use of geographical skills. Communicates fieldwork findings with some clarity, using relevant geographical terminology occasionally. (AO4)
Level 3	7–8	• Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3) • All aspects of the enquiry process are supported by the use of geographical skills. Communicates enquiry-specific fieldwork findings with clarity and uses relevant geographical terminology consistently. (AO4)

Question number	Answer	Mark
6(a)(i)	**AO3 (1 mark)** Award one mark for a suitable type of graph: This will be dependent on the type of enquiry but typically graphs could include: • Bar graph/stacked bar graph (1) • Line graph (1) • Pie chart (1) • Histogram • Scattergraph (1) • Bubble chart (1) • Box plot (1) Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
6(a)(ii)	**AO3 (2 marks)** Award 1 mark for initial reason, and a further mark for explanation, up to a maximum of 2 marks. This will be dependent on the previous response but answers could include: • Easy to visualise the data (1) and make comparisons between locations/data sets (1). • Can be used to identify patterns (1) and show any significant anomalies in the data (1). • Suitable for the data being plotted (1) needed to show change over time/continuous data (1). Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
6(b)	**AO3 (2 marks)** Award 1 mark for a suitable way qualitative technique, and a further mark for development or explanation. This will vary depending on enquiry question, but could include: • Photographs (1) to capture accurate visual record of the surrounding to annotate later (1). • Interviews (1) to capture views of local stakeholders (1) • Surveys/questionnaires (with open questions) (1) to understand the reasons behind participant choices (1). Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
6(c)	**AO3 (4 marks)** Award 1 mark for each way identified with a further mark for development or explanation up to a maximum of 2 marks each. Max 2 marks for each way provided. The type of secondary data will vary on the nature and context of the fieldwork, but it must be plausibly linked to the focus: urban environments. • Used local newspaper articles (1) to research information about the history of the local area (1). • Used a government report about regeneration (1) to provide a national context for changes taking place to inform my interview questions (1). • Used data on property prices (1) to look for correlations with the data I had from the Environmental Quality Survey (1) • Map (1) to be able to examine land features (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
6(d)	**AO3 (3 marks)** Award 1 mark for identification of an improvement, and further 2 marks for explanation. The type of data analysis will vary on the nature and context of the fieldwork, but it must be plausibly linked to the focus: urban environments. • I could have compared the data I had from different sites (1) in order to consider broader patterns (1) to understand where significant differences were (1). • I could have created a word cloud with data from the report (1) to systematically highlight key themes from the report (1) rather than just highlight interesting sentences (1). • Use a greater variety of data presentation methods/use line graphs rather than pie chart (1) to be able to more easily identify trends (1) to be able to support conclusions (1). Accept any other appropriate response.	**(3)**

<table>
<tr><th>Question number</th><th colspan="2">Indicative content</th></tr>
<tr><td>6(e)</td><td colspan="2">AO3 (4 marks)/AO4 (4 marks)
Marking instructions
Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.

Indicative content guidance
The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:

AO3
• Evaluation is likely to be linked to the conclusions made and how these linked to the aims for the enquiry.
• Evaluation will most likely be linked to the methods, and limited data presentation provided that led to these conclusions and how the nature of fieldwork design led to the creation of the conclusions.
• Recognition of the extent to which aim was met and how the methods chosen to allow these conclusions to be reached.
• A supported judgement should be reached about how useful the conclusions were, using relevant examples from the resources.
AO4
• In Figure 6a there is a summary of data collection methods used (including photographs and questionnaire collected along a transect, and secondary data).
• In Figure 6a shows the students are using both primary and secondary data.
• In Figure 6b there is a bubble graph which shows evidence of new developments along the transect.
• In Figure 6c there are conclusions about new developments in the city.</td></tr>
<tr><th>Level</th><th>Mark</th><th>Descriptor</th></tr>
<tr><td></td><td>0</td><td>No acceptable response.</td></tr>
<tr><td>Level 1</td><td>1–3</td><td>• Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3)
• Few aspects of the enquiry process are supported by the use of geographical skills to obtain information, which has limited relevance and accuracy. Communicates generic fieldwork findings and uses limited relevant geographical terminology. (AO4)</td></tr>
<tr><td>Level 2</td><td>4–6</td><td>• Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant</td></tr>
</table>

		understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) • Some aspects of the enquiry process are supported by the use of geographical skills. Communicates fieldwork findings with some clarity, using relevant geographical terminology occasionally. (AO4)
Level 3	7–8	• Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3) • All aspects of the enquiry process are supported by the use of geographical skills. Communicates enquiry-specific fieldwork findings with clarity and uses relevant geographical terminology consistently. (AO4)

Question number	Answer	Mark
7(a)(i)	**AO1 (1 mark)** Award 1 mark for a suitable cause definition. • An environment vulnerable to change by human or physical activities (1). • An environment that is easily disturbed / difficult to restore as they are sensitive to changes (1). Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
7(a)(ii)	**AO1 (1 mark)** C water salinity (1) The answer cannot be A, B or D as these are not factors that can affect the distribution of coral reefs.	**(1)**

Question number	Answer	Mark
7(a)(iii)	**AO1 (1 mark)** A algae (1) The answer cannot be B, C or D as these are not features of coral reefs.	**(1)**

Question number	Answer	Mark
7(b)(i)	**AO3 (2 marks)** Award 1 mark for each of the following answer. • Palermo (1) • Almería (1)	**(2)**

Question number	Answer	Mark
7(b)(ii)	**AO2/AO3 (4 marks)** Award 1 mark for identification of a pattern shown on the resource, and a further mark for a reason for this pattern, up to a maximum of 2 marks per idea. • There are a lot of areas that are very sensitive to desertification in the south of Europe (1) this is likely to be due to higher temperatures experienced in this region (1). • There are large sections of central southern Europe that have low sensitivity to desertification (1) because they have greater water supplies and river networks (1). • High risk in the south (1) due to lack of rainfall (1). • Varied risk across Europe (1) due to conditions associated with climate change (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
7(c)	**AO2 (4 marks)** Award 1 mark for identification of an approach to reduce water shortage a further mark for an explanation or development, up to a maximum of 2 marks. • Dams (1) can store water in a reservoir to be released at intervals to reduce shortages (1). • Rainwater harvesting / storage (1) which can capture rainwater to be used at a later date for irrigation (1). • Desalination (1) which removes salt from sea water and therefore increasing freshwater supplies (1). • Improving maintenance of water pipes (1) to ensure reduced leakages (1). • Drip irrigation (1) directs water to plants/roots (to avoid wasting water) (1). • Water recycling (1) to reduce consumption (of fresh water supplies (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
7(d)(i)	**AO4 2 marks** Award 1 mark for correct answer, and 1 mark for method. • (66.1 + 48.9 + 46.5 + 29.4)/ 4 OR 190.9 / 4 (1) • 47.725 / 47.73 / 47.7 / 48 (1)	**(2)**

Question number	Answer	Mark
7(d)(ii)	**AO2 (1 mark) /AO3 (1 mark)** Award 1 mark for initial point, and further mark for further description which could include the use of data, up to a maximum of 2 marks. • The deforestation rate is much higher in Brazil than in Indonesia (1) over double the amount of hectares / 36.7 higher (1). • Countries with the highest deforestation rates are not necessarily those with the highest reforestation rates (1) for example the United States which has a much lower deforestation rate than Brazil but is reforesting a much larger area (1). Accept any other appropriate response.	**(2)**

Question number	Indicative content

7(e)	**AO3 (3 marks)/AO4 (3 marks)**
	Marking instructions
	Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.
	
	Indicative content guidance
	The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:
	
	AO3
	• Climate change is complex and is caused by a mixture of natural and human induced factors.
	• Evidence and modelling suggests that human activities have increased the rate of climate change that would have been experienced.
	• There are a range of natural causes of climate change:
	  ○ Changes in the earth's orbit or Milankovitch cycles which can affect the amount of solar energy reaching the earth.
	  ○ Solar activity including solar flares/sunspots are thought to lead to increased solar energy which could increase temperatures.
	  ○ Volcanic eruptions can release dust in the atmosphere which can lead to reduced temperature if it blocks solar energy.
	• There are a range of human induced causes of climate change:
	• Some of these causes are interlinked and interrelated, for example the increase greenhouse gas emissions from industry linked to the enhanced greenhouse effect.

	AO4 • Figure 7c shows six potential causes of climate change: some human and some natural. • Figure 7c show three human causes of climate change including: removal of trees and vegetation; enhance greenhouse effect and emissions of greenhouse gases. • Figure 7c shows three natural causes of climate change including changes in the earth's orbit, volcanic activity and changes in solar output.	
Level	**Mark**	**Descriptor**
	0	No rewardable material.
Level 1	1–3	• Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements that are supported by limited evidence. (AO3) • Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)
Level 2	4–6	• Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) • Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)

Question number	**Indicative content**
7 (f)	**AO2 (4 marks), AO3 (4 marks), AO4 (4 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: **AO2** • The impacts of climate change are varied and wide ranging, in addition to changing temperature patterns there are changes sea levels, prolonged heatwaves, desertification, acification of the sea, more extreme weather events, species extinction and crop failures. • While countries from across the globe contribute to climate change some are seen to be greater contributors The top 10 countries for CO2 emissions include China, USA, India, Russia, Japan, Germany,

<table>
<tr><th>Question number</th><th colspan="2">Indicative content</th></tr>
<tr><td></td><td colspan="2">Iran, South Korea, Saudi Arabia and Indonesia. This is a mix of emerging and developed economies.
• There are various actions being taken to combat climate change at a range of scales.
○ International efforts have been made to combat climate change through international agreements such as the Paris Agreement, or commitments made to emission reductions at meetings such as COP26/28.
○ There are various mitigation strategies used to combat the impacts of climate change including finding ways to reducine emissions and enhancing carbon sinks (such as forests).

AO3
• The impacts of climate change are uneven, and have been argued to disporoptionaltly affect countries that have not historically been those that have contributed to the increased carbon emissions.
• It is expected that developed countries lead and contribute to funds to deal with loss and damage from climate change.
• The United Nations Environment Program (UNEP) has shown that adaption is often not enough to be resilient to climate change, and therefore financial support should be made available to deal with loss and damage and that this needs to be supported by a wide range of countries.
• There is significant debate about the role of developed countries in supporting economies that are more affected by climate change due to their involvement in the causes.

AO4

• Figure 7b shows that countries from across the world have significant deforestation rates ranging with the highest being Brazil (66.1 Mha per year).
• Figure 7b shows how the countries with the highest rate of deforestation are not necessarily those with the highest rates of reforestation. USA has a relatively high deforestation rate but a reforestation rate higher than some other countries shown.
• Figure 7c show three human causes of climate change including: removal of trees and vegetation; enhance greenhouse effect and emissions of greenhouse gases.
• Figure 7c shows three natural causes of climate change including changes in the earth’s orbit, volcanic activity and changes in solar output.</td></tr>
<tr><th>Level</th><th>Mark</th><th>Descriptor</th></tr>
<tr><td></td><td>0</td><td>No acceptable response.</td></tr>
<tr><td>Level 1</td><td>1–4</td><td>• Demonstrates isolated elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2)
• Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3)</td></tr>
</table>

Question number	Indicative content	
		• Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (A04)
Level 2	5–8	• Demonstrates elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) • Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) • Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)
Level 3	9–12	• Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Applies understanding to deconstruct information and provides logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3) • Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)

Question number	Answer	Mark
8(a)(i)	**AO1 (1 mark)** D operates in many countries (1) The answer cannot be A, B or C as these are not features of transnational corporations (TNCs).	**(1)**

Question number	Answer	Mark
8(a)(ii)	**AO1 (1 mark)** A can attract further investment (1) The answer cannot be B, C or D as they are all disadvantages of hosting transnational corporations (TNCs).	**(1)**

Question number	Answer	Mark
8(b)(i)	**AO1 (1 mark)** Award one mark for a suitable positive impact: • Greater pool of skilled labour (1). • Larger workforce (1) • Diversify local cultures (1). • Potential for greater productivity (1) Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
8(b)(ii)	**AO3 (2 marks)** Award 1 mark for each of the following: . • Guandong (1) • Shanghai (1)	**(2)**

Question number	Answer	Mark
8(b)(iii)	**AO2/AO3 (4 marks)** Award 1 mark for initial reason, and a further mark for development with reference to the resource, up to a maximum of 2 marks per idea. • High levels of internal migration to the coast/Shanghai and Guandong (1) which is where there may be more ports (1). • Less migration to provinces that are not near international borders or coastlines (1) as this is not likely to be where many of the megacities are located (1). • There may be a higher concentration of jobs on coastal cities (1) which would lead to the increased to the higher number of migrants along nearly all coastal provinces (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
8(c)	**AO1/AO2 (4 marks)** Award 1 mark (AO1) for identification of suitable way and a further mark (AO2) for an explanation of the impact, up to a maximum of 2 marks. • Positive relationships can lead to the establishment of trade blocs (1) which can increase trade of goods due to preferable tariffs (1). • Breakdown in relationships can interrupt trade (1) for example conflict can lead to embargoes (1). • Countries with similar experiences can often work together in international groups such as BRICS (1) which can work towards increased trade between member countries (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
8(d)(i)	**AO4 (2 marks)** Award 1 mark a suitable correct answer and 1 mark for correct method. 397 + 4+ 1+ 56 / 4 OR 458/4 (1) 114.5 / 115 (1)	**(2)**

Question number	Answer	Mark
8(d)(ii)	**AO3 (2 marks)** Award 1 mark for a suitable trend identified, and a further mark for description which could include the use of data. • An expected rise of carbon emissions (1) with a rise of over 200 Mt of CO2 (1). • Rise expected in domestic and international travel across all methods (1) except cars which is expected to decline by around 9 Mt of CO2 (1). Accept any other appropriate response.	**(2)**

Question number	Indicative content
8(e)	**AO3 (3 marks)/AO4 (3 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: **AO3** • There are a range of economic and social factors that have led to increased tourism. • Economic factors include increased disposable incomes and the ability to access international travel due to greater availability of international flights and the growth of budget airlines. • Globalisation, and increased access to the internet/technology has led to greater awareness of more distant locations and this is reinforced the idea of travelling to more distant locations.

	• An increase in tourism in a particular area can also lead to a positive multiplier effect related to jobs, facilities and investment which can in turn lead to further increases in tourism. **AO4** • Figure 8c shows how there a range of factors at different scales that have contributed to increased tourism. • Figure 8c shows how increased disposable income, increased paid leave from work increased media coverage of international destinations, expansion of budget airlines, increased desire to experience different cultures and government investment have lead to increased tourism. • Figure 8c shows how most of the factors are economic in nature, except the nature of media coverage and desire to experience different cultures.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	• Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements that are supported by limited evidence. (AO3) • Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)
Level 2	4–6	• Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) • Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)

Question number	Indicative content
8 (f)	**AO2 (4 marks), AO3 (4 marks), AO4 (4 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: **AO2** • Tourism has contributed around US$5.8 trillion in 2022 (up by 1 trillion since (2020), and the sectors share of the global economy has risen from 5.3% to 6.1%. • The tourism industry provides nearly 320 million jobs globally, but is expected to support an additional 126 million jobs in the next 10 years. • Tourism has many negative aspects including soil erosion, increased pollution and habitat loss. **AO3** • While there are many economic benefits associated with increased tourism there are a range of disadvantages: o Environmental impacts include increased carbon emissions associated with greater travel, increased air/land pollution associated with tourist activities. Tourists, particularly where mass tourism is involved it can lead to habitat damage leading to an impact on food chains and biodiversity. o Social impacts can include erosion of local cultures due to increased presence of tourists and trying to cater for their consumer trends. **AO4** • Figure 8b shows how there are expected increases in international and domestic tourism between 2016 and 2030. • Figure 8b shows how there is expected increase in all transportation modes except cars. There is an expected decrease in emissions from cars for international travel, but an increase in domestic car emissions from 559 to 626 Mt CO2. • Figure 8c shows how there a range of factors at different scales that have contributed to increased tourism. • Figure 8c shows how increased disposable income, increased paid leave from work increased media coverage of international destinations, expansion of budget airlines, increased desire to experience different cultures and government investment have lead to increased tourism.

Question number	Indicative content	
	• Figure 8c shows how most of the factors are economic in nature, except the nature of media coverage and desire to experience different cultures.	
Level	**Mark**	**Descriptor**
	0	No acceptable response.
Level 1	1–4	• Demonstrates isolated elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) • Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3) • Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (A04)
Level 2	5–8	• Demonstrates elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) • Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) • Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)
Level 3	9–12	• Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Applies understanding to deconstruct information and provides logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3) • Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)

Question number	Answer	Mark
9(a)(i)	**AO1 (1 mark)** D literacy rate (1) The answer cannot be A, B or C as these are not social indicators or development.	**(1)**

Question number	Answer	Mark
9(a)(ii)	**AO1 (1 mark)** C debt relief (1). The answer cannot be A, B or D as these are not top down development.	**(1)**

Question number	Answer	Mark
9(a)(iii)	**AO1 (1 mark)** Award 1 mark for a suitable disadvantage. • Does not necessarily take into account local perspectives (1). • Often very expensive / which lead to national debts (1). • Do not usually involve the views of local people (1). Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
9(b)(i)	**AO3 (2 marks)** Award 1 mark for each of the following: • Cuanza Sul, Angola (1) • Cabo Delgado, Mozambique (1)	**(2)**

Question number	Answer	Mark
9(b)(ii)	**AO2/AO3 (4 marks)** Award 1 mark for identification of a pattern, with a further mark for development with reference to the resource, up to a maximum of 2 marks. • Variation within countries (1) which could be due to development focusing on where the urban areas are located (1). • Human development Index is higher towards the south (0.66-0.82) (1) which could be due to more development of settlements on the coastline (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
9(c)	**AO1/AO2 (4 marks)** Award 1 mark for identification of suitable way, with a further mark for development or explanation, up to a maximum of 2 marks. • Trade agreements between countries can improve development by increasing the GDP (1) which can be used to invest in key services such as education and healthcare (1). • World Bank and IMF support countries with loans (1) so that they can fund projects to improve development and reduce poverty (1). • Organisations like the United Nations Conference on Trade and Development (UNCTAD) support countries to become more engaged in the global trade system (1) which enables them to generate more profits to support development (1). • The World Food Programme supports countries with food assistance (1) to help increase food security (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
9(d)(i)	**AO4 (2 marks)** Award 1 mark correct method. Award 1 mark for correct answer. • (25.0 + 12.7 + 3.7 + 1.7) / 4 = 43.1 / 4 (1) • 10.775 / 10.78 / 10.8 / 11 (1)	**(2)**

Question number	Answer	Mark
9(d)(ii)	**AO4 (2 marks)** Award 1 mark for the identification of suitable pattern and a further mark for description, which could include the use of data, up to a maximum or 2 marks. • There is correlation between infant mortality rate and maternal mortality rate (1) as seen in India which has the highest in both categories 25 & 103 (1). • There is a significant decline in infant mortality between the countries shown (1) with a range of 23.3 (1). Accept any other appropriate response.	**(2)**

Question number	Indicative content
9(e)	**AO3 (3 marks)/AO4 (3 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: **AO3** • Regardless of which indicators used to explore development their remains significant differences in between the world's richest and poorest countries. • There are a range of interrelating factors that can affect the development of countries and their ability to reduce the development gap. • Some physical factors can affect a countries development including particular climates/topography which do not lend themselves to urbanisation and the typical processes related with development. Climate change can also be considered to be exacerbating the development gap is they are significantly affected, as this diverts

	funds for mitigation and adaptation that might otherwise be used to support quality of life improvements or poverty reduction. • A range of interrelated economic and social factors that affect a countries ability to develop, the country's ability to trade and develop its economy and provide access to technology, to uneven patterns of investment or uneven access to food and water. More generally there are historical factors such as the legacies of colonialism which have affected the particular ways in which economies have developed. **AO4** • Figure 9c shows how there are a range of different factors that can affect the development gap. • Figure 9c shows how the development gap can be affected by physical geography, legacies of colonialism, access to technology, ability to trade with others, uneven access to reliable food and water. • Figure 9c shows how the majority of factors affecting development are caused by humans (economic/political/social), although some physical factors can play a role.	
Level	**Mark**	**Descriptor**
	0	No rewardable material.
Level 1	1–3	• Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements that are supported by limited evidence. (AO3) • Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)
Level 2	4–6	• Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) • Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)

Question number	Indicative content
9 (f)	**AO2 (4 marks), AO3 (4 marks), AO4 (4 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: **AO2** • Human welfare of a country can be affected by a range of factors economic, social, technological, and cultural. • Food security is the idea that people have physical, social and economic access to sufficient, safe and nutritious food for an active and healthy life. It is estimated by the UN that around 2.3 billion people are moderately or severely food insecure. • Water security refers to the availability of water, in adequate quality and quantity. It is estimated by the UN that around 2 billion people do no have access to clean drinking water. **AO3** • Human welfare issues are complex and while improvements in economic terms at the national scale may suggest development, this pattern may be uneven may not provide the basic needs for all of its population. • Economic improvements, via investment in education and healthcare may allow people to secure more highly skilled jobs to create more financial security which means they may be able to reduce vulnerability to food and water security. **AO4** • Figure 9b shows how there is a positive correlation between infant mortality rate and maternal mortality rate. • Figure 9b shows how developing and emerging countries tend to have much high higher infant mortality rates/maternal mortality rates that developed countries. • Figure 9b shows how there is a huge range in the levels of infant mortality rate and maternal mortality rate between countries. • Figure 9c shows how there are a range of different types of factors that can affect the development gap. • Figure 9c shows how the development gap can be affected by physical geography, legacies of colonialism, access to technology,

Question number	Indicative content	
	ability to trade with others, uneven access to reliable food and water. • Figure 9c shows how the majority of factors affecting development are caused by humans (economic/political/social), although some physical factors can play a role.	
Level	**Mark**	**Descriptor**
	0	No acceptable response.
Level 1	1–4	• Demonstrates isolated elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) • Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3) • Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (A04)
Level 2	5–8	• Demonstrates elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) • Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) • Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)
Level 3	9–12	• Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Applies understanding to deconstruct information and provides logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3) • Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)

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