Paper 2: Human geography mark scheme

Question number	Answer	Mark
1(a)(i)	**AO1 (1 mark)** A Hydroelectric power	**(1)**

Question number	Answer	Mark
1(a)(ii)	**AO1 (1 mark)** • A renewable energy source can be used repeatedly/replaced naturally/is infinite/never runs out (1). Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
1(b)	**AO1 (1 mark)** C Quaternary	**(1)**

Question number	Answer	Mark
1(c)	**AO2 (1 mark)/AO3 (1 mark)** Award 1 mark for a basic locational factor evident from the photograph (AO3) and a further 1 mark for extension through explanation (AO2), up to a maximum of 2 marks. • Flat land (1), which is easy to build the factory on (1). • Near to housing (estates) (1) for workers/customers (1). • Near (main) road (1) for access/providing good transport links (1). • Large area (of open space) (1) for further expansion (1). Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
1(d)(i)	**AO1 (1 mark)** Award 1 mark for any of the following. • Forestry (1) • Farming (1) • Fishing (1) • Mining (1) • Quarrying (1) Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
1(d)(ii)	**AO2 (2 + 2 marks)** Award 1 mark for a point about why there has been a decline in the primary sector and a further 1 mark for a development of this point, up to maximum of 2 marks per explanation. • A depletion of raw materials (1) due to increased demand as countries become more industrialised (1). • Increased mechanisation so fewer workers are needed (1) due to advances in agricultural/harvesting technology (1). • It is cheaper to import raw materials (1) because they are less accessible in the home country (1). • Ideas linked to social change, e.g. perception that coal mining is dangerous/dirty/low-paid (1), with further detail or explanation (1). • The rise in numbers employed in the tertiary sector (1) due to perceptions of higher pay/safer working environments (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
1(e)	**AO2 (2 marks)/AO3 (1 mark)** Award 1 mark (AO3) for a basic reason for an increase in the tertiary and quaternary sectors and a further 2 marks (AO2) for extension through explanation or description, up to a maximum of 3 marks. • The rise in levels of disposable incomes (1) due to people receiving higher wages/paid holidays (1), which has increased the demand for leisure services (1). • Advances in technology have created a whole new range of products (1), which has stimulated the growth of new jobs in this industry (1), such as software designers/ICT technicians (1). • The growth in the tertiary/quaternary sector is partially the result of a fall in the primary and secondary sectors (1) as people are developing different skills/receiving a better education (1) and they are attracted by better paid jobs in the tertiary sector (1). • People are spending more money on services (1) because they have more leisure time/disposable income (1) as they are generally marrying later nowadays (1). Accept any other appropriate response.	**(3)**

Question number	Answer	Mark
1(f)	**AO2 (4 marks)** Award 1 mark for initial explanation of a sustainable management response and an additional 1 mark for development through further explanation or exemplification. Maximum of 2 marks when no named developed country is used in context. Different countries and examples could be chosen, based on either increasing production, switching to using 'greener' approaches, or reducing demand, e.g. with policies and incentives. • In the UK, the government has been working with EDF to encourage more nuclear power stations, e.g. Hinkley Point (Somerset) (1). This risky project will, however, reduce the country's total carbon emissions, therefore creating greener electricity (1). • Canada and the USA have become much more energy self-sufficient through the use of government policies to encourage HEP (1). This is a cleaner technology that doesn't rely on harmful fossil fuel combustion (1). • In Spain, the government has recently encouraged all new buildings to have better insulation for hot summer temperatures (1), therefore reducing electricity demand for electric A/C in the summer (1). Accept any other appropriate response.	**(4)**

Question number	Indicative content
1(g)	**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 the following. **AO3** • Different fuel types have become more important as attitudes and policies have changed since 1965, both locally and regionally, as well as internationally. • In the future, coal, gas and oil will still dominate (all fossil fuels) but renewables and hydro will become more significant. Changes in affordability and the price of technology may be responsible for this. • Nuclear energy in 2035 will have the least use, as power stations are so expensive and alternatives will be cheaper. There will also be variations in the reliance on other sources. • The changes in demand will match the development and globalisation of countries, with increasingly wealthy economies/societies needing more power and fuel for transport. • Gas shows the biggest relative increase to its starting point as it is a cleaner source of energy and can be easily transported in bulk, e.g. Liquefied natural gas (LNG). • Concerns about health and risk from nuclear accidents may mean nuclear power has a reduced significance in the future. **AO4** • Figure 1c shows an increase in renewables in the period 2000–2035, meaning that governments will have to encourage more development of alternative technologies. • Figure 1c shows that coal consumption continues to be dominant and actually increases rapidly to around 5 billion toe by 2035. This will lead to more pressure from some agencies and groups to reduce greenhouse gases, especially in rapidly developing economies, such as India and China, where coal is a cheap source of fuel. • In Figure 1c, it can be seen that hydro and nuclear energy use has remained constant from the 1980s, but that gas has risen considerably due to the ease of global transport and fears over CO_2 emissions from fossil fuels. • Oil remains constant and dominant throughout the 1965–2035 period, peaking at around 4 to 5 billion toe. Oil is important as an energy source for Small Island Developing States (SIDS) and for use in transport. • Overall, there is a substantial total increase in energy demand from all sources.

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)	**AO1 (1 mark)** C Population movement from urban to rural areas	**(1)**

Question number	Answer	Mark
2(b)	**AO1 (1 mark)** Award 1 mark for any of the following. • The growing of high-yield crops (in large fields) (1). • The use of fertilisers and/or pesticides to remove weeds/pests or to maximise yields (1). • Keeping livestock indoors to maximise food production (1). Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
2(c)	**(AO1) 1 mark** B Climate regulation	**(1)**

Question number	Answer	Mark
2(d)	**AO2 (1 mark)/AO3 (1 mark)** Award 1 mark (AO2) for suggesting one reason and a further 1 mark (AO3) for an appropriate extension, up to a maximum of 2 marks. • Flat land (1), which means that it is easy to operate machinery/use machinery to harvest crops (1). • Fertile soil (1), which means that the farmer will be able to grow crops (1). • Suitable climate/levels of rainfall/temperature (1), which means that there will be a sufficiently long growing season for crops (1). Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
2(e)	**AO1 (1 mark)** Award 1 mark for any of the following. • Changing the type of crop grown, e.g. a move towards GM crops or organic farming (1). • Changing the method of farming, e.g. move away from nomadic to sedentary (1). • Extreme activities, e.g. zip wire, paintballing (1). • Farm shop/cafe/tea room (1). • Family/petting farm (1). • Camping/caravanning (1). • Livery/cattery/kennels (1). Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
2(f)	**AO2 (2 + 2 marks)** Award 1 mark for a basic negative impact of tourism and a further 1 mark for a development of this point, up to maximum of 2 marks per explanation. • Demand for new hotels in sensitive ecosystems (1) often results in habitat degradation (1). • Footpath erosion (1) due to large volumes of walkers trampling on vegetation (1). • Littering has increased (1), creating visual pollution (1). • Traffic congestion (1) as some country roads are not made to withstand large volumes of traffic (1). • Conflict between tourists and local residents (1) as the tourist might be parking on pavements/creating noise pollution (1). • Increased levels of air pollution (1) due to the increased volume of vehicles coming into the area (1). • Price increases in local shops (1) as shopkeepers take advantage of tourists willing to pay more for goods (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
2(g)	**AO2 (2 marks)/AO3 (1 mark)** Award 1 mark (AO3) for a basic reason for the reduction in food shortages facing subsistence farmers and a further 2 marks (AO2) for extension through explanation or description, up to a maximum of 3 marks. • Subsistence farmers may have been assisted by government projects to improve crops/farming techniques (1), e.g. they may have been given grants to buy artificial fertilisers/pesticides (1), which would increase the productivity of their land (1). • The size of families of subsistence farmers may have decreased in size (1) as a result of people being better educated and having higher aspirations (1). This means that there are now less mouths to feed and so food supplies go further (1). • Rural to urban migration has increased (1) as a result of push or pull factors (1). This may have increased the overall proportion of people facing food shortages in urban areas (1). Accept any other appropriate response.	**(3)**

Question number	Answer	Mark
2(h)	**AO2 (2+2 marks)** Award 1 mark for initial explanation of a local and/or national government scheme/response, and an additional 1 mark for development through further explanation or exemplification. Maximum of 2 marks when no named developing or emerging country is used in context. Answers will depend on chosen case studies, but expect the following points to arise. • In many locations where there are foreign visitors, ecotourism has been promoted by governments (1). This improves the quality of life for locals, with better employment opportunities, and helps the money generated to stay in the local community (1). • In many poorer rural areas of countries, such as Kenya, governments have supported the introduction of commercial farming (1). They have achieved this through special loans and financing schemes so that local people can afford new land and have access to more money and appropriate technology (1). • Fair trade means that the producer receives a guaranteed and fair price for their product regardless of the price on the world market (1). This has been used in Bangladesh, for example. This means the quality of life for fair trade producers should improve, as well as the long-term prospects for their children (1). Accept any other appropriate response.	**(4)**

Question number	Indicative content
2(i)	**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 the following. **AO3** • Some areas in the world are experiencing a rapid growth in their population, largely due to a high rate of natural increase. This puts pressure on the food supply and may prompt stakeholders to increase the amount of agricultural land area to ensure that supply meets demand. • Some areas of the world may have experienced an increase in wars, natural hazards and/or diseases in recent years, such as AIDS and other epidemics, which raise the death rate. This means that there are fewer older people to work in the fields to produce food and, therefore, the land area used for agriculture could be reduced. • Environmental degradation may have increased in some areas, which reduces the amount of available land for agriculture. As people seek to produce food and earn income from the land, more vulnerable land is used. The processes of desertification and deforestation mean that the environment degrades so that it is no longer suitable for agriculture. • Increase in globalisation/tourism in some rural environments brings money into the area and may help improve local infrastructure, which may allow previously unused land to be used for agricultural purposes. • Increased deforestation in some parts of the world have increased the amount of land available for farming. • As an area becomes more developed, the use, availability and affordability of technology, e.g. machinery, genetically-modified (GM) crops, fertilisers, irrigation systems, herbicides and pesticides, increases and so does the amount of land that can be used for agriculture. • Possible impacts of climate change, e.g. temperature/rainfall, may increase or decrease the land area in a region that is used for agriculture.

	AO4 • In general, there is a broad split between areas with a decrease in agricultural area in developed countries and an increase in agricultural area in developing/emerging countries. • The continents of Africa and South America have the largest areas that have seen an increase in agricultural land. However, there are some countries, e.g. South Africa/Namibia in Africa and Colombia/Ecuador in South America, which have had a decrease in agricultural land area. • The majority of North America and Europe have seen a decrease in agricultural land area. However, there are some small pockets in these continents, e.g. the Republic of Ireland, where there has actually been an increase in agricultural land area. • Several countries in South America, e.g. Bolivia/Peru, Africa, e.g. Botswana/Egypt, and Asia, e.g. North Korea/Afghanistan, have had little change in the amount of land used for agriculture.

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)	**AO1 (1 mark)** A Population growth on the edge of urban areas	**(1)**

Question number	Answer	Mark
3(b)	**AO1 (1 mark)** • An increase in the proportion of people living in urban areas compared to rural areas, or similar (1). Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
3(c)	**AO1 (1 mark)** C A site that has previously been built on	**(1)**

Question number	Answer	Mark
3(d)	**AO2 (1 mark)/AO3 (1 mark)** Award 1 mark (AO3) for one piece of evidence and a further 1 mark (AO2) for an appropriate extension, up to a maximum of 2 marks. • The housing in the picture is very high density (1), which is typical of city areas where land values are high (1). • The image shows multiple-storey houses (1), which are likely to house large numbers of people (1). • There is little green space (1), indicating the built-up nature of the area since land values are so high (1). Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
3(e)(i)	**AO1 (1 mark)** Megacities have populations of over 10 million. Globally there are 35 of these megacities (2015). Award 1 mark for any of the following. Examples include: • London (1) • Tokyo (1) • Mumbai (1) • New York (1) • Jakarta (1) • São Paulo (1). The full list available here: en.wikipedia.org/wiki/Megacity Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
3(e)(ii)	**AO2 (2 + 2 marks)** Award 1 mark for a basic factor that has led to the growth of megacities and a further 1 mark for a development of this point, up to maximum of 2 marks per explanation. • Natural increase is high (1) as birth rates are higher than death rates (1). • High birth/increasing birth rate (1), with stated reason (1). • With fewer people dying, death rates are falling (1), with stated reason (1). • Rural to urban migration (1), with extension through details of a push or pull factor (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
3(f)	**AO2 (2 marks)/AO3 (1 mark)** Award 1 mark (AO3) for a basic reason for the differences in commuting patterns and a further 2 marks (AO2) for extension through explanation or description, up to a maximum of 3 marks. • In the outer areas there is a predominance of cars (1) because there may be less road congestion and/or limited public transport options (1). People living in these areas might have a further distance to travel into the centre of London for work (1). • Central London has many people cycling/walking (1) due to potentially higher levels of traffic congestion in the central area (1), which would slow down journey times (1). • Central London has many people cycling/walking (1) as they only need to travel a short distance (1), with the bulk of their journey being completed via public transport (1). • In the middle/inner suburbs, public transport is dominant (1). This might be because people need the connectivity of public transport (1) as it still would be too far to walk/cycle into the centre of London (1). Accept any other appropriate response.	**(3)**

Question number	Answer	Mark
3(g)	**AO2 (2 + 2 marks)** Award 1 mark for initial explanation of a scheme, and an additional 1 mark for development through further explanation or exemplification. Maximum of 2 marks when no named developed country is used in context. Answers will depend on chosen case studies, but expect the following points to arise. • A named policy/strategy used by national and/or local government (1) details how this reduces household and/or municipal waste (1). • Introduction of schemes to 'reduce, reuse and recycle' (1), with further explanation of how this will reduce waste/why this strategy is better than other options, e.g. landfill or incineration (1). • Equipping residents with facilities to recycle and compost their own waste (1), e.g. through doorstep recycling schemes, bottle banks and household waste recycling centres (1). • Development of waste-burning, as opposed to power stations burning fossil fuels (1), will reduce the amount of waste that is disposed of via landfill (1). Accept any other appropriate response.	**(4)**

Question number	Indicative content
3(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 the following. **AO3** • Social and economic challenges are likely to be greatest in developing nations because of a combination of factors. They have fewer resources to cope with more people and their rates of urbanisation are much greater than that of their developed counterparts. • Much of the rapid growth in cities in developing and emerging countries has been caused by rural-urban migration, leading to the creation of shanty towns and squatter settlements. Because of the unplanned nature and scale, this is one of the biggest problems. • Rapid urbanisation creates traffic congestion and transport challenges in a range of developed, developing and emerging countries. This is a problem for various groups in society, rich and poor alike. Solutions are very expensive in nearly all cases, so this is also a big problem. • Lack of access to quality health provision affects developing and emerging countries more. This is linked to mushrooming cities where there is the problem of access to clean water, enabling disease to spread rapidly. • There are other challenges, such as low levels of employment or employment in the informal sector, which is unregulated and poorly paid. This economic challenge can be difficult to solve without clear government intervention. **AO4** • From 2000–2014, the majority of cities in each region have experienced growth, although this growth has been uneven. For example, in Oceania and Europe there has been much smaller growth when compared to Africa and Asia. • Asia has seen the largest increase in cities, both in terms of the number of cities on the continent and the amount by which these cities have grown, with many growing by more than 6%. • Cities in developed countries tend to grow more slowly (0–4%) compared to cities in developing/emerging countries (many by 4–8%). • Europe has the most cities that experienced a decrease in size (usually 0–1%) between 2000 and 2014. • Oceania has the fewest number of cities with a population between 1–5 million (and no megacities). These cities appear to be growing relatively slowly, with only 0–2% change between 2000 and 2014.

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
4(a)	**AO4 (2 marks)** Sampling strategy: random, systematic or stratified. NB There are no marks for stating the strategy. • Stratified – used to allow fair data collection (1) as the population of the interview sample was mixed in terms of age (1). • Systematic – adopted as the most practical approach in order to collect a large number of questionnaire responses (1), not knowing anything about the underlying population (1). • Random – chosen as the expectation was that the land use would be similar in all areas where the interviews were carried out (1), therefore creating an equal chance of reaching a particular type of person (1). Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
4(b)	**AO4 (3 marks)** Award 1 mark for initial, clear type of a specific data and an additional 2 marks for development through further description or exemplification. The secondary data will vary on the nature and context of the fieldwork, but it must be plausibly linked to the focus: developing energy resources. • 2015 geodemographic Index of multiple deprivation (IMD) data was used (1) to find out about the spatial variation in the city (1). This allowed the groups to design an appropriate sampling frame that helped to further understand the area from the fieldwork data (1). • A 2015 city future report from the regional government (accessed online) (1) allowed access to information about how the city was changing its transport policy to encourage more sustainability (1). This understanding helped in forming the questions included in the questionnaire (1). Accept any other appropriate response.	**(3)**

Question number	Answer	Mark
4(c)	**AO3 (2 + 2 marks)** NB There is no credit for stating type of graph or diagram. Award 1 mark for the identification of a reason and a further mark for an explanation of the reason, up to a maximum of 2 marks. There are two reasons required in this question. • A gain-loss graph was used because this showed both the positives and negatives in people's attitudes (1) and made comparisons between the questions much easier to see (1). • A located proportional bar was used for some questions so that changes along the road could be seen (1), as well as the places/sites where most change happened in terms of the development of different attitudes (1). Reward candidates who give reasons for use of maps/ geographic information system (GIS)/photos. Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
4(d)	**AO3 (3 marks)** Award 1 mark for the identification of a reason and a further mark(s) for an explanation of the reason, up to a maximum of 3 marks. • The approach by the individual to collect the data may vary (1), leading to different results when measuring the same data/information (1), making results (conclusions) unreliable (1). • All the variables affecting the data/information being measured are not considered (1), so the results measured have been affected in different ways (1), making results (conclusions) unreliable (1). • An Environmental quality survey (EQS) was designed with open descriptors and questions (1), which led to ambiguous responses (1) and, therefore, unreliable results (conclusions) (1). Accept any other appropriate response.	**(3)**

Question number	Indicative content
4(e)	**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 the following. **AO3** • The sampling strategy, e.g. random, stratified and/or systematic, is important when planning data collection for an investigation. For example, if something is either under- or over-represented, results, despite being accurately collected, might not provide valid conclusions. • Recognition of limitations in the data collection/sampling techniques may be flawed in terms of the number of sites (spatial) and the time of year (temporal). • Reliability and accuracy of the student's methods may be evaluated with reference to potential evaluation, including equipment errors and operator errors. • Judgement about limitations of equipment used/operator error in relation to the enquiry question. • An evaluation of how far the student's results can be trusted may be provided (or repeated to obtain the same results – reliability). **AO4** • The student only carried out a data collection (EQS and annotated digital photograph) at one location in Dubai, therefore variations across the city will not have been measured. The student could have repeated the method at 500 m intervals (systematic sampling) along a transect across the city for a more accurate result that would have possibly identified spatial variations/changes. • The location of the annotated digital photograph is unknown and may be in an area of the city where transport pressures are low. This means that the results may not be representative of the city as a whole and greater sampling is required to obtain valid conclusions. • The EQS does include a broad range of criteria that have been used to assess the location. However, the +2 score for 'safe for pedestrians' could have been explored further, e.g. with a land use map, for more meaningful results.

	• The completion of the EQS, and the overall positive +10 rating arrived at by the student, may be accurate and reliably carried out at different locations across the city, but it is subjective to the individual. An approach that may produce results leading to a more valid conclusion would be to ask a group of students to each carry out their own EQS and average the results, or to ask a group of students to discuss and agree on the scores for each criterion.	
Level	**Mark**	**Descriptor**
	0	No acceptable response.
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 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)
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) • 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)	**AO4 (2 marks)** Sampling strategy: random, systematic or stratified. NB There are no marks for stating the strategy. • Stratified – used to allow fair data collection (1) as the population of the interview sample was mixed in terms of age (1). • Systematic – adopted as the most practical approach in order to collect a large number of questionnaire responses (1), not knowing anything about the underlying population. • Random – chosen as the expectation was that the population would be similar in all areas where the interviews were carried out (1), therefore creating an equal chance of reaching a particular type of person (1). Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
5(b)	**AO4 (3 marks)** Award 1 mark for initial clear type of a specific data and an additional 2 marks for development through further description or exemplification. The secondary data will vary on the nature and context of the fieldwork, but it must be plausibly linked to the focus: rural change. • 2015 geodemographic IMD data was used (1) to find out about the spatial variation of the local villages/ areas (1). This allowed the groups to design an appropriate sampling frame that helped to further understand the area from the fieldwork data (1). • A 2015 rural transport strategy document from the government (accessed online) (1) allowed access to information about how the region was changing its transport policy towards a more sustainable framework (1). This understanding helped in forming the questions included in the questionnaire (1). Accept any other appropriate response.	**(3)**

Question number	Answer	Mark
5(c)	**AO3 (2 + 2 marks)** NB There is no credit for stating the type of graph or diagram. Award 1 mark for the identification of a reason and a further mark for an explanation of the reason, up to a maximum of 2 marks. There are two reasons required in this question. • A gain-loss graph was used because this showed the positives and negatives in people's attitudes (1) and made comparisons between the questions much easier to see (1). • A located proportional bar was used for some questions so that changes along the road could be seen (1), as well as the places/sites where most change happened in terms of the development of different attitudes (1). Reward candidates who give reasons for use of maps/GIS/photos. Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
5(d)	**AO3 (3 marks)** Award 1 mark for the identification of a reason and a further mark(s) for an explanation of the reason, up to a maximum of 3 marks. • The quality of sampling procedure, i.e. the number of sites (1) would have impacted on the results, and the fact that there was lots of variability in people's responses at any one site (1) could have caused inaccuracies (1). • The quality of recording sheet used and potential for errors to be introduced (1) due to poor questionnaire design, e.g. sequencing of questions (1), which could have caused inaccurate findings (1). Accept any other appropriate response.	**(3)**

Question number	Indicative content
5(e)	**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 the following. **AO3** • The sampling strategy, e.g. random, stratified and/or systematic, is important when planning data collection for an investigation. For example, if something is either under- or over-represented, results, despite being accurately collected, might not provide valid conclusions. • A recognition of limitations in the data collection/sampling techniques may be flawed in terms of the number of sites (spatial) and the time of year (temporal). • The reliability and accuracy of the student's methods may be evaluated with reference to potential evaluation, including equipment errors and operator errors. • A judgement about limitations of equipment used/operator error in relation to the enquiry question. • An evaluation of how far the student's results can be trusted may be provided (or repeated to obtain the same results – reliability). **AO4** • The student only carried out a data collection (EQS and annotated digital photograph) at one location, Andhra Pradesh, therefore variations across the area will not have been measured. The student could have repeated the method at 500 m intervals (systematic sampling) along a transect across the area for a more accurate result that would have possibly identified spatial variations/changes. • The location of the annotated digital photograph is unknown and may be in the only part of the area that shows any sign of renewable energy sources, so the results may not be representative of the area as a whole and greater sampling is required to obtain valid conclusions. • The EQS does include a broad range of criteria that have been used to assess the location. However, the +2 score for 'new energy resources are renewable' could have been explored further, e.g. with a land use map, for more meaningful results. • The completion of the EQS, and the overall +1 rating arrived at by the student, may be accurate and reliably carried out at different locations across the area but it is subjective to the individual. An approach that may produce results leading to a more valid conclusion would be to ask a group of students to each carry out their own EQS and average the results, or to ask a group of students to discuss and agree on the scores for each criteria.

Level	Mark	Descriptor
	0	No acceptable response.
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 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)
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) • 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)	**AO4 (2 marks)** Sampling strategy: random, systematic or stratified. NB There are no marks for stating the strategy. • Stratified – used to allow fair data collection (1) as the population of the interview sample was mixed in terms of age (1). • Systematic – adopted as the most practical approach in order to collect a large number of questionnaire responses (1), not knowing anything about the underlying population. • Random – chosen as the expectation was that the population would be similar in all areas where the interviews were carried out (1), therefore creating an equal chance of reaching a particular type of person (1). Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
6(b)	**AO4 (3 marks)** Award 1 mark for initial clear type of a specific data and an additional 2 marks for development through further description or exemplification. The secondary data will vary on the nature and context of the fieldwork, but it must be plausibly linked to the focus: rural change. • 2015 geodemographic IMD data was used (1) to find out about the spatial variation in urban areas (1). This allowed the groups to design an appropriate sampling frame that helped to further understand the area from the fieldwork data (1). • A 2015 urban transport strategy document from the government (accessed online) (1) allowed access to information about how the region was changing its transport policy towards a more sustainable framework (1). This understanding helped me in forming the questions included in the questionnaire (1). Accept any other appropriate response.	**(3)**

Question number	Answer	Mark
6(c)	**AO3 (2 + 2 marks)** NB There is no credit for stating the type of graph or diagram. Award 1 mark for the identification of a reason and a further 1 mark for an explanation of the reason, up to a maximum of 2 marks. There are two reasons required in this question. • A gain-loss graph was used because this showed the positives and negatives in people's attitudes (1) and made comparisons between the questions much easier to see (1). • A located proportional bar was used for some questions so that changes along the road could be seen (1), as well as the places/sites where most change happened in terms of the development of different attitudes (1). Reward candidates who give reasons for use of maps/GIS/photos. Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
6(d)	**AO3 (3 marks)** Award 1 mark for the identification of a reason and a further mark(s) for an explanation of the reason, up to a maximum of 3 marks. • The quality of sampling procedure, i.e. the number of sites (1) would have impacted on the results and the fact that there was lots of variability in people's responses at any one site (1) could have caused inaccuracies (1). • The quality of recording sheet used and potential for errors to be introduced (1) due to poor questionnaire design, e.g. sequencing of questions (1) could have caused inaccurate findings (1). Accept any other appropriate response.	**(3)**

Question number	Indicative content
6(e)	**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 the following. **AO3** • The sampling strategy, e.g. random, stratified and/or systematic, is important when planning data collection for an investigation. For example, if something is either under- or over-represented, results, despite being accurately collected, might not provide valid conclusions. • Recognition of limitations in the data collection/sampling techniques may be flawed in terms of the number of sites (spatial) and the time of year (temporal). • The reliability and accuracy of the student's methods may be evaluated with reference to potential evaluation, including equipment errors and operator errors. • A judgement about limitations of equipment used/operator error in relation to the enquiry question. • An evaluation of how far the student's results can be trusted may be provided (or repeated to obtain the same results – reliability). **AO4** • The student only carried out a data collection (EQS and annotated digital photograph) at one location in Dublin therefore variations across the urban environment will not have been measured. The student could have repeated the method at 500 m intervals (systematic sampling) along a transect across the urban environment for a more accurate result that would have possibly identified spatial variations/changes. • The location of the annotated digital photograph is unknown and may be in the only part of Dublin where there is no evidence of renewable energy use, so the results may not be representative of the area as a whole and greater sampling is required to obtain valid conclusions. • The EQS does include a broad range of criteria that have been used to assess the location. However, the −2 score for 'strong evidence of renewable energy use' could have been explored further, e.g. with a land use map, for more meaningful results. • The completion of the EQS, and the overall positive +4 rating arrived at by the student, may be accurate and reliably carried out at different locations across Dublin, but it is subjective to the individual. An approach that may produce results leading to a more valid conclusion would be to ask a group of students to each carry out their own EQS and average the results, or to ask a group of students to discuss and agree on the scores for each criteria.

Level	Mark	Descriptor
	0	No acceptable response.
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 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)
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) • 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)** D Methane	**(1)**

Question number	Answer	Mark
7(a)(ii)	**AO1 (1 mark)** Award 1 mark for any of the following. • Milankovitch cycles (1). • Solar variation/sunspots (1). • Volcanic eruptions (1). Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
7(b)(i)	**AO1 (1 mark)** • Desertification means the spread of desert-like conditions into nearby areas/the outward expansion of deserts into their surrounding regions (1). Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
7(b)(ii)	**AO3 (2 marks)** Award 1 mark for any of the following, up to a maximum of 2 marks. • USA (1) • Australia (1) • South Africa (1)	**(2)**

Question number	Answer	Mark
7(b)(iii)	**AO2 (2 marks)/AO3 (2 marks)** Award 1 mark for the identification of a possible reason for the pattern shown on Figure 7a (AO3) and a further mark for an explanation of the reason (AO2), up to a maximum of 2 marks per idea. • A lack of rainfall in named area (1) reduces vegetation cover (1). • Some areas have less vegetation than others (1), which increases the chances of soil erosion happening (1). • Some areas experience intense rainfall/flash floods (1), which increases the rate of run-off/reducing soil moisture (1). • Over-farming in named area(s) (1) reduces soil fertility over time (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
7(c)	**AO1 (2 marks)/AO2 (2 marks)** Award 1 mark (AO1) for the identification of a reason and a further mark (AO2) for an explanation of the reason, up to a maximum of 2 marks per cause. • Trees have been cut down to make room for agriculture (1). This is carried out because the land is initially fertile and can be planted with a valuable cash crop, e.g. palm oil (1). • Land is converted from a primary/natural forest into a commercial timber crop (1). This is because tropical hardwood timber, for example, has a high commercial export value (1). • Growing importance/market of fuelwood in some developing countries (1) has increased the demand for timber/the amount of illegal logging (1). • Population growth (1) has led to many areas of forest being cleared to make room for new housing (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
7(d)(i)	**AO4 (2 marks)** Award 1 mark for a correct answer and 1 mark for working. (new number) 390 – (old number) 293 = increase of 97 (1) (increase of 97) divided by (old number) 293 × 100 = percentage increase of 33% (1) Accept any other appropriate working.	**(2)**

Question number	Answer	Mark
7(d)(ii)	**AO3 (2 marks)** Award 1 mark for the identification of a pattern and 1 mark for further detail through description or use of supporting data from the resource, up to a maximum of 2 marks. • There is an overall positive relationship (1) but in some years, e.g. 1945–50, annual average global temperature falls while carbon dioxide increases (1). • As annual average global temperature goes up, so does carbon dioxide concentration (1), but the increase in global temperature fluctuates a lot more than carbon dioxide concentration (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 the following. **AO3** • Soil erosion may increase as a result of climate change, e.g. linked to drying out, wind and droughts. • Soil erosion could be in the form of gully and sheet erosion with more intense precipitation events, which are associated with climate change. • Desertification may increase as productive land becomes degraded by drought, extreme temperatures, unreliable rainfall, further increasing the fragility of the ecosystem. • Rising sea levels may threaten/flood low-lying coastal ecosystems and fragile environments. This is something that could be further exacerbated by more frequent storms/hurricanes due to warmer ocean temperatures. • Increasing risk of fragile environments being affected by flooding as a result of glacial melting, flash floods and baked/impermeable soils. **AO4** • Figure 7c shows an overall increase in all types of climate disasters, apart from drought. • Figure 7c shows that the most significant rises have been in storms and floods: up to 100 storms and around 50–200 floods per year. • Droughts and extreme temperatures show some variability per year but storms and floods show much higher variability. • Figure 7c indicates that there is only a moderate increase in extreme temperatures over the 1980–2011 period.

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 the following. **AO2** • The term climate change can be defined in a range of ways, often to suit different arguments. • Climate change will have an impact on soil, temperature, rainfall and weather events. • Climate change could threaten fragile environments, e.g. tropical rainforests or coral reefs, in terms of structure, function and biodiversity. • Fragile environments may be threatened by rising sea levels caused by climate change; ecosystem biodiversity could be threatened by animals migrating because they cannot adapt to the changing climate of their current habitat. • Responses may be either based around adaptation or mitigation.

	AO3 • Attempts to mitigate against climate change threats, e.g. through sustainable management, can vary significantly for different fragile environments (judgements will depend on case studies). • A specific ecosystem's natural ability to adapt to climate change can vary, which means impacts of climate change will be 'threats' only to ecosystems that cannot adapt. • A main cause of climate change is greenhouse gas emissions – and the challenge is to reduce these emissions. This can be done by reducing fossil fuel consumption, finding alternative energy sources, reducing deforestation, e.g. in tropical rainforests, and developing carbon capture technologies. However, different groups of people have different opinions about which strategy is the best/most effective. • The challenge of climate change crosses international boundaries and, therefore, international cooperation is crucial, e.g. Kyoto, 1997. However, arriving at agreement is never a straightforward process. • The development of alternative energy sources, such as wind farms, nuclear power, HEP and solar panels will reduce fossil fuel consumption, but the development of each type of source has its own advantages and disadvantages. **AO4** • Figure 7a shows rapid increases in temperature and CO_2. • Figure 7c shows an overall increase in all types of climate disasters during the period 1980–2011. • Figure 7c shows that the most significant rises have been in storms and floods: up to 100 storms and around 50–200 floods per year. • Droughts and extreme temperatures show some variability per year but storms and floods show much higher variability. • Figure 7c indicates that there is only a moderate increase in both droughts and floods over the 1908–2011 period.

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. (AO4)
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)** C Find a job	**(1)**

Question number	Answer	Mark
8(a)(ii)	**AO1 (1 mark)** Award 1 mark for any of the following. • Low wages/incomes in the countryside (1). • Poor harvest/low crop yields (1). • Lack of (education/health) services (1). Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
8(b)(i)	**AO1 (1 mark)** • Voluntary migration is where a person chooses (i.e. they are not forced) to move to another place to live (1). Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
8(b)(ii)	**AO3 (2 marks)** Award 1 mark for any of the following, up to a maximum of 2 marks. • Norway (1) • Australia (1) • Namibia (1)	**(2)**

Question number	Answer	Mark
8(b)(iii)	**AO2 (2 marks)/AO3 (2 marks)** Award 1 mark for the identification of a possible reason for the pattern shown in Figure 8a (AO3) and a further 1 mark for an explanation of the reason (AO2), up to a maximum of 2 marks per factor. • More job opportunities in some countries (1), which will increase levels of disposable income (1). • Better services (1), which could lead to people gaining more qualifications (education) or living longer (health) (1). • People are attracted to areas with a less extreme climate (1), which makes it easier to grow crops (1). • People migrate to areas with greater political stability (1) so that they have greater freedom of speech/employment opportunities (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
8(c)	**AO1 (2 marks)/AO2 (2 marks)** Award 1 mark (AO1) for the identification of a reason and a further 1 mark (AO2) for an explanation of the reason, up to a maximum of 2 marks per benefit. • Money is brought into the host country (1), which can be used to invest in new infrastructure (1). • TNCs may improve existing infrastructure themselves (1), which may improve communication/accessibility for people living in the host country (1). • New jobs are created (1), which means that there will be more people paying taxes to the government (1). • Idea of the multiplier effect (1), which raises the standard of living for many more people living in the area (1). Accept any other appropriate response.	**(4)**

Question number	Answer	Mark
8(d)(i)	**AO4 (2 marks)** Award 1 mark for a correct answer and 1 mark for working. (new number) 19 000 – (old number) 10 000 = increase of 9000 (1) (increase of) 9000 divided by (old number) 10 000 × 100 = percentage increase of 90% (1) Accept any other appropriate working.	**(2)**

Question number	Answer	Mark
8(d)(ii)	**AO3 (2 marks)** Award 1 mark for the identification of a pattern and a further 1 mark for further detail through description or use of supporting data from the resource, up to a maximum of 2 marks. • No clear relationship between total manufacturing production and time (1), e.g. it has increased markedly in Asia Pacific but has stayed fairly constant in Western Europe (1). • Most regions experienced an increase between 2005 and 2008 (1) and a decline between 2008 and 2009 (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 the following. **AO3** • Locations that have a large number of visitors will benefit from considerable foreign exchange and might be known as 'world cities'. • Large numbers of visitors generally boost the local and regional economy, creating jobs (although many might be poorly paid and/or seasonal). • Tourism can have indirect impacts on agriculture and manufacturing, e.g. buying food and souvenirs. • In some places, tourism brings congestion and pollution, especially in cities where vehicle transport is a problem. • There is also a linked issue of overuse of valuable water supplies for tourists' demands. • Local culture/traditions may be a reason why tourists visit a particular destination. However, in some destinations, the traditional way of life is being replaced by a more westernised culture in response to the demands of tourism. **AO4** • Figure 8c shows a big variation in the numbers of international visitors to cities, ranging from 18.8 million down to 5.2 million. • London has the most overseas international visitors (18.8 million). • The bottom ten cities have less range – 8.6 million–5.2 million. • The top four locations attract considerably more visitors between them than the rest of the locations. • The locations are a mixture of high income country (HIC) and low income countries (LICs).

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 the following. **AO2** • There are different types of migration. The two main categories are voluntary migration (people have chosen to move) and forced migration (caused by a push factor, such as war, famine or religious persecution). • Global migration has increased in recent years, e.g. the mass migration in 2015 and 2016 from Syria and Afghanistan to Europe. • Several factors have increased the rate of migration, such as improvements in communications, transport and the relaxation of national boundaries. • The enlargement of the European Union (EU) triggered a marked increase in population flows within Europe, mainly for economic reasons. • The process of migration can have both advantages and disadvantages for the host country and country of origin. The challenge is to try and manage these impacts in a sustainable way. **AO3** • Population flows often lead to a complex combination of impacts, some good and some bad, for different groups of people. For example, migration could be good for the host country because it can stimulate economic growth, but it can also create unrest and conflict as residents of the host country may perceive the migrants in a negative way. • In recent years, the challenge of managing migration has been made increasingly complex with rising numbers of refugees and asylum seekers. Issues arise with these types of migrants in host countries and some people object to resources being used to support them. • There are different approaches to managing the impacts of migration, but these approaches rarely satisfy the needs of all stakeholders. • The number of migrants a country receives is influenced by the country's migration policy. Countries such as the UK operate a points-based system. People are awarded points depending on their skills, previous income and age. This system gives some people visas to allow them entry into the UK for work, especially where there is a shortage of labour in that sector. • Migration laws are complex and they are different in different countries, even if all are within the EU.