



Mark Scheme (Provisional)

Summer 2021

Pearson Edexcel International GCSE in
Geography (4GE1)

Paper 2: 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.

Question number	Answer	Mark
1(a)(i)	<p style="text-align: center;">AO1 (1 mark)</p> <p>Award 1 mark for a suitable definition.</p> <ul style="list-style-type: none"> • The ability to provide sufficient, affordable and consistent energy supplies to match demand (1). • The ability of a country to secure sufficient, affordable and consistent energy supplies (1). <p>Accept any other appropriate response which refers to just one aspect of energy security.</p>	(1)

Question number	Answer	Mark
1(a)(ii)	<p style="text-align: center;">AO1 (2 marks)</p> <p>A - Coal (1) D - Oil (1) B, C, E, and F are incorrect as they are renewable sources of energy.</p>	(2)

Question number	Answer	Mark
1(b)	<p style="text-align: center;">AO2 (1 mark) / A03 (1 mark)</p> <p>Award 1 mark for identification of adaptation method evident from the photograph (AO3), and a further 1 mark for extension through explanation (AO2), up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Solar panels (1) have been installed to reduce reliance on energy from the national grid (1). • Large windows (1) to maximise temperature gains from sunlight during the day (1). • Double glazed windows / curtains or blinds (1) to reduce loss of heat through windows (1) <p>Accept any other appropriate response.</p> <p>Evidence must be plausibly inferred from the photograph, e.g. windows likely to be double-glazed.</p>	(2)

Question number	Answer	Mark
1(c)(i)	<p style="text-align: center;">AO1 (1 mark)</p> <p>Award 1 mark for any of the following:</p> <ul style="list-style-type: none"> • Usually involves provision of services. (1) • Can involve selling goods and products from primary and secondary industries. (1) • Dominant in developed countries. (1) • Workers usually need to be highly skilled /qualified. (1) • White-collar workers. (1) <p>Do not accept a job that would usually be found in the tertiary sector unless it linked to a characteristic e.g teacher working in a school, providing education.</p> <p>Accept any other appropriate response.</p>	(1)

Question number	Answer	Mark
1(c)(ii)	<p style="text-align: center;">AO2 (2 + 2 marks)</p> <p>Award 1 mark for a suitable factor that affects the location of tertiary industries, and a further mark for a development of this point, up to maximum of 2 marks per explanation.</p> <ul style="list-style-type: none"> • Transport links (1) to ensure workers can access the site. (1) • Fast communications provision (1) as usually telecommunications are an important component of operations. (1) • Access to skilled labour (1) to ensure suitable workers are available. (1) • Reliable power supply (1) as often this is needed for technology involved. (1) • Access to market (1) to ensure it remains profitable (1). <p>Accept any other appropriate response.</p>	(4)

Question number	Answer	Mark
1(d)(i)	<p style="text-align: center;">AO3 (1 marks)</p> <p>Award 1 mark for:</p> <p>Box pointing to UK in 2018.</p> <p>All the other options are incorrect as they have smaller secondary sector employment percentages or point to other sectors.</p>	(1)

Question number	Answer	Mark
1(d)(ii)	<p style="text-align: center;">AO3 (1 mark)</p> <p>B - India's employment in tertiary/quaternary sectors has increased by 12 percentage points (1).</p> <p>All the other options are incorrect.</p>	(1)

Question number	Answer	Mark
1(d)(iii)	<p style="text-align: center;">AO2 (1 mark)</p> <p>Award 1 mark for a suitable reason.</p> <ul style="list-style-type: none"> • Increased mechanization. (1) • Industrialisation. (1) • Rural to urban migration. (1) • Exhaustion of raw materials. (1) • Increased level of education for local population. (1) <p>Accept any other appropriate response.</p>	(1)

Question number	Answer	Mark
1(e)	<p style="text-align: center;">AO2 (4 marks)</p> <p>Award 1 mark for identification of an advantage of informal employment and an additional 1 mark for development through further explanation or exemplification. Maximum of 2 marks when no named megacity. Indication of a specific city should be present in at least one statement to achieve full marks.</p> <p>Responses will vary depending on megacity chosen.</p> <ul style="list-style-type: none"> • [Mumbai] <ul style="list-style-type: none"> ○ Working as a rickshaw driver provides opportunity for income (1) without having to pay taxes (1). ○ Selling street food in Dharavi but without needing a fixed building to sell produce (1) which means they don't need to pay rent (1). <p>Accept any other appropriate response.</p>	(4)

Question number	Indicative content
1(f)	<p style="text-align: center;">AO3 (4 marks)/AO4 (4 marks)</p> <p>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.</p> <p>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.</p> <p>AO3</p> <ul style="list-style-type: none"> • As an emerging country China’s energy use has been increasing at a rapid rate to fuel industrialisation and expansion of the economy. As countrys develop their need for energy grows. • China has also experienced rapid growth in population over the last few decades (981 million in 1980 to 1.37 billion in 2014). Such growth in population will cause an increase in energy demand. • As the country industrialises it has greater need for energy for industry and technology from coal power plants to high tech industries. • As the countries income rises, as indicated by GDP capita, populations often desire more consumer goods, many of which require energy in their manufacturing. • Increased wealth is often associated with increased car ownership for example which creates more demand for energy which given the size of China’s population gives good justification for the rate of growth shown in energy use. <p>AO4</p> <ul style="list-style-type: none"> • Figure 1c shows an increase in energy use and GDP per capita in China across several decades. • The two pieces of data follow a similar trend of slow growth in the 1980s and 1990s. • Energy use begins to rapidly increase in 2000, followed by GDP in 2005. • Figure 1c shows how the rate of growth of GDP has been rapid for China since 2005. • The rate of growth for energy use has slowed down slightly 2010-2014.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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)	<p style="text-align: center;">AO1 (1 mark)</p> <p>Award 1 mark for a suitable definition.</p> <ul style="list-style-type: none"> • Farming processes that do not use artificial chemicals. (1) • Using organic fertilisers and pesticides to grow food. (1) <p>Accept any other appropriate response.</p> <p>Do not accept farming organically.</p>	(1)

Question number	Answer	Mark
2(a)(ii)	<p style="text-align: center;">AO1 (2 marks)</p> <p>C Creating a farm shop. F Opening a bed and breakfast for tourists.</p> <p>A, B, D, E, are all incorrect as they focus on increasing agricultural production.</p>	(2)

Question number	Answer	Mark
2(b)	<p style="text-align: center;">AO2 (1 mark) /AO3 (1 mark)</p> <p>Award 1 mark for suitable way relevant to the photograph (AO3), and a further 1 mark for extension through explanation (AO2), up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Allowing people to visit the farm to pick strawberries (1) to gain additional income not provided by cows.(1) • Switched to producing other crops (1) to protect against falls in the value of price of dairy products. (1) <p>Accept any other appropriate response.</p> <p>Evidence must be plausibly inferred from the photograph, e.g. there are no longer cows in the photograph.</p>	(2)

Question number	Answer	Mark
2(c)(i)	<p style="text-align: center;">AO1 (1 mark)</p> <p>Award 1 mark for a suitable factor:</p> <ul style="list-style-type: none"> • Rural decline (1). • Shortage of workers in some rural areas (1). • Increased need for technology (1). • Closure of village services / closure of village post office / closure of local school (1). • Loss of bus routes (1). • Poor internet access (1). <p>Accept any other appropriate response.</p>	(1)

Question number	Answer	Mark
2(c)(ii)	<p style="text-align: center;">AO2 (2 +2 marks)</p> <p>Award 1 mark for each suitable way tourists are affecting rural areas, with a further mark for explanation, up to maximum of 2 marks for each.</p> <ul style="list-style-type: none"> • Increased number of tourists are causing pressures on services (1) which means local peoples' lives are affected. (1) • In national parks footpaths are being damaged (1) which means increased costs for maintenance. (1) • Increased traffic in small villages (1) causing congestion. (1) • Litter being left by tourists (1) damaging the natural beauty. (1) <p>Accept any other appropriate response.</p>	(4)

Question number	Answer	Mark
2(d)(i)	<p style="text-align: center;">A03 (1 mark)</p> <p>Award 1 mark for an X in the box above the 2017 column (1).</p> <p style="text-align: center;">■ Urban □ Rural</p>	(1)

Question number	Answer	Mark
2(d)(ii)	<p style="text-align: center;">A03 (1 mark)</p> <p>B 1995 (1)</p> <p>A is incorrect because the rural area is larger than urban. C and D are incorrect because there is an earlier year where the urban population is larger than rural.</p>	(1)

Question number	Answer	Mark
2(d)(iii)	<p style="text-align: center;">A02 (1 mark)</p> <p>Award 1 mark for a suitable factor.</p> <ul style="list-style-type: none"> • Lack of employment. (1) • Rural decline/isolation. (1) • Better jobs in the city. (1) • Lack of access to education. (1) • Lack of transport (1). <p>Accept any other appropriate response.</p>	(1)

Question number	Answer	Mark
2 (e)	<p style="text-align: center;">AO2 (4 marks)</p> <p>Award 1 mark for each initial explanation of an environmental challenge facing rural areas and an additional mark for development through further explanation or exemplification. Maximum of 2 marks when no named developing/emerging country is provided. Details related to specific country should be present in at least one of the points.</p> <p>A range of countries could be used.</p> <ul style="list-style-type: none"> • [Kenya]: <ul style="list-style-type: none"> ○ Increasing frequency of droughts (1) has led to reduced food supplies. (1) ○ Environmental degradation (1) due to poverty. (1) • [China]: <ul style="list-style-type: none"> ○ Rural areas have been damaged by natural disasters such as floods and earthquakes (1) and often emergency aid for rural areas is limited as priority is given to urban areas (1). ○ Salination of water supplies due to over irrigation (1) is reducing rice yields (1). <p>Accept any other appropriate response.</p>	(4)
Question number	Indicative content	
2(f)	<p style="text-align: center;">AO3 (4 marks)/AO4 (4 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance</p> <p>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.</p> <p>AO3</p> <ul style="list-style-type: none"> • Natural ecosystems provide a wide variety of goods and services which can provide significant economic benefit to a country. • Goods from natural ecosystems that may be discussed include: timber for building; fuelwood; food (for humans and animals); ingredients for medicine; and water. 	

	<ul style="list-style-type: none"> • For many developing and emerging countries these goods provide an important proportion of the economies' income, fuelling the development process. • While the economic benefit of goods from natural ecosystems (such as natural rubber) are more easily measured, the services it provides are less easy to measure but could be argued are more important. • Natural ecosystem services that may be discussed include: removal of air pollutants; emission of oxygen; recycling of nutrients; recycling water; maintaining biodiversity. Some services can even provide a more direct economic benefit such as leisure opportunities through tourism. <p>AO4</p> <ul style="list-style-type: none"> • Figure 2c shows the gradual increase in natural rubber production over time from forests in Indonesia. • Figure 2c shows how the export value of natural rubber has varied but with an overall decrease since 2008. • Figure 2c shows how despite increases in production the value of goods from natural ecosystems, in this case natural rubber, can vary, quite significantly from year to year. • Figure 2c shows a significant drop in the export value of natural rubber after 2011. • Figure 2c indicates that the export value of natural rubber is not constant despite increases in production. 	
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced,

		<p>well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3)</p> <ul style="list-style-type: none"> • Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)
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Question number	Answer	Mark
3(a)(i)	<p style="text-align: center;">AO1 (1 mark)</p> <p>Award 1 mark for a suitable definition.</p> <ul style="list-style-type: none"> • The movement of people and employment from cities to rural areas. (1) • The movement of people and employment from major cities to small cities and towns. (1) <p>Accept any other appropriate response.</p>	(1)

Question number	Answer	Mark
3(a)(ii)	<p style="text-align: center;">AO1 (2 marks)</p> <p>A Air pollution F Water contamination B, C, D, and E are all incorrect as they are other types of problems associated with rapid urban growth.</p>	(2)

Question number	Answer	Mark
3(b)(i)	<p style="text-align: center;">AO2 (1 mark) /AO3 (1 mark)</p> <p>Award 1 mark for suitable reason based on evidence from the photograph (AO3), and a further 1 mark for extension through explanation (AO2), up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • High building density (1) due to high population density. (1) • Dense transport network/transport hub (1) as people need to travel to the area for work. (1) • Multi-storey buildings (1) due to shortage of space. (1) • Lack of green space (1) due to high price of land. (1) <p>Accept any other appropriate response. Evidence must be plausibly inferred from the photograph.</p>	(2)

Question number	Answer	Mark
3(b)(ii)	<p style="text-align: center;">AO1 (1 mark)</p> <p>D The land at the edge of an urban area where the rural area begins.</p> <p>A, B and C are incorrect as they are not definitions of a rural-urban fringe.</p>	(1)
Question number	Answer	Mark
3(c)	<p style="text-align: center;">AO2 (2 +2 marks)</p> <p>Award 1 mark for identification of a suitable strategy for improving quality of life related to transport and housing, and an additional 1 mark for development through further explanation or exemplification. Maximum of 2 marks for transport and housing each.</p> <p>There are a range of countries and strategies that could be chosen.</p> <p>Transport</p> <ul style="list-style-type: none"> • Introduce congestion zone charges to reduce traffic (1) to try and reduce air pollution (1). • Increase electric car charging points (1) to reduce carbon emissions from burning petrol (1). <p>Housing</p> <ul style="list-style-type: none"> • Develop brownfield sites into affordable housing (1) to reduce pressure on existing housing (1). • Creating quotas for affordable houses (1) in any large new developments that would have otherwise been targeted to high income populations (1). <p>Accept any other appropriate response.</p>	(4)

Question number	Answer	Mark																																	
3(d)(i)	<p style="text-align: center;">AO3 (1 mark)</p> <p>Award 1 mark for an X in the box above the column for Lahore.</p> <div style="text-align: center;"> <div style="border: 1px solid black; width: 30px; height: 30px; display: inline-block; margin-bottom: 5px;">X</div> <table border="1" style="margin-top: 10px;"> <caption>Estimated Population Data (millions)</caption> <thead> <tr> <th>City</th> <th>2000</th> <th>2018</th> </tr> </thead> <tbody> <tr><td>Barcelona</td><td>4.4</td><td>5.5</td></tr> <tr><td>Chengdu</td><td>4.6</td><td>8.8</td></tr> <tr><td>Kuala Lumpur</td><td>4.2</td><td>7.5</td></tr> <tr><td>Lahore</td><td>5.5</td><td>11.8</td></tr> <tr><td>Lisbon</td><td>2.8</td><td>3.0</td></tr> <tr><td>Nairobi</td><td>2.2</td><td>4.4</td></tr> <tr><td>St Petersburg</td><td>3.8</td><td>5.8</td></tr> <tr><td>Sydney</td><td>3.8</td><td>4.8</td></tr> <tr><td>Tehran</td><td>7.0</td><td>8.8</td></tr> <tr><td>Toronto</td><td>4.5</td><td>6.8</td></tr> </tbody> </table> <p style="text-align: center;">Figure 3b</p> </div>	City	2000	2018	Barcelona	4.4	5.5	Chengdu	4.6	8.8	Kuala Lumpur	4.2	7.5	Lahore	5.5	11.8	Lisbon	2.8	3.0	Nairobi	2.2	4.4	St Petersburg	3.8	5.8	Sydney	3.8	4.8	Tehran	7.0	8.8	Toronto	4.5	6.8	(1)
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Question number	Answer	Mark
3(d)(ii)	<p style="text-align: center;">AO3 (1 mark)</p> <p>A Chengdu (1)</p> <p>B, C and D are incorrect as they have less than +4.2 increase experienced in Chengdu: Lisbon = +0.2; St Petersburg = +0.7; Toronto = +1.5</p>	(1)

Question number	Answer	Mark
3(d)(iii)	<p style="text-align: center;">AO2 (1 mark)</p> <p>Award 1 mark for a suitable factor.</p> <ul style="list-style-type: none"> • Economies of scale. (1) • Multiplier effect. (1) • Rural-urban migration. (1) 	

	<ul style="list-style-type: none"> • Concentration of employment possibilities. (1) • High birth rates (1) <p>Accept any other appropriate response.</p>	(1)
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Question number	Answer	Mark
3(e)	<p style="text-align: center;">AO2 (4 marks)</p> <p>Award 1 mark for initial idea of how a group manages a challenge, and an additional 1 mark for development through further explanation or exemplification of how they manage the social challenge. Maximum of 2 marks for each group. Maximum of 2 marks when no named developing or emerging country, or a developed country is used instead.</p> <p>A range of country examples and various groups could include:</p> <ul style="list-style-type: none"> • [Tanzania]: <ul style="list-style-type: none"> ○ Local government/ politicians can increase provision of social services (1) to improve health of the population (1). ○ NGO such as WaterAid can provide equipment to increase clean water supply to people living in informal settlements (1) reducing risk of poor water quality consumption (1). <p>Accept any other appropriate response.</p> <p>Note: group or organisations can be implicit or explicit.</p>	(4)

Question number	Indicative content
3(f)	<p style="text-align: center;">AO3 (4 marks)/AO4 (4 marks)</p> <p>.</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance</p>

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

- Populations in towns and cities across the globe have been growing at different rates for decades. The country's stage in development greatly affects this process.
- As a country begins to develop and industrialisation takes place, many towns and cities begin to grow and have an increased demand for workers. This causes a lot of rural-urban migration which leads to increased urban populations.
- Demographic trends also mean that some countries in earlier stages of development still tend to have quite high birth rates which leads to high rates of population growth in urban areas.
- Some economies do not develop at the same pace, and so patterns of urban growth are not as fast as others.
- In more developed countries, the proportion of the population living in urban areas has slowed down as counter-urbanisation is often taking place with many people preferring to live in the rural-urban fringe, or more rural areas.

AO4

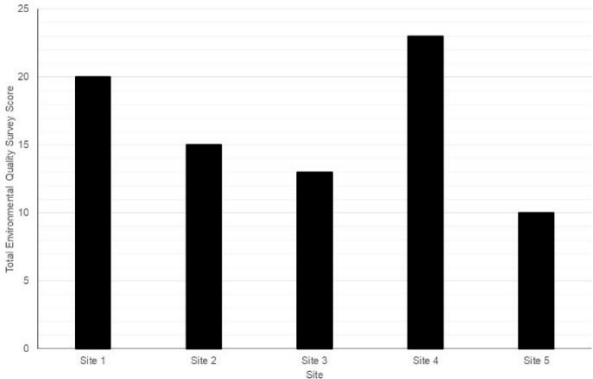
- Figure 3c shows varied patterns of growth for the proportion of populations living in urban areas in different countries.
- Figure 3c shows how during this time span (1960-2015) there have been different paces of growth across different countries from different starting points.
- Examples could include: Kenya has risen from 8 to around 25% while Brazil started at 46% and has grown to around 83%.
- Figure 3c shows that in recent years growth of urban populations has begun to plateau for some countries such as France.
- Figure 3c shows that in recent years urban growth has continued at pace, for example China.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> • 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)

		<ul style="list-style-type: none"> • Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)
Level 2	4-6	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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)	<p style="text-align: center;">AO3 (1 marks)</p> <p>Award 1 mark for a suitable piece of secondary data.</p> <ul style="list-style-type: none"> • Newspaper articles about the area. (1) • Local data on energy production and consumption. (1) • Census data. (1) • Leaflet from interested pressure group. (1) <p>Accept any other appropriate response.</p>	(1)

Question number	Answer	Mark
4(a)(ii)	<p style="text-align: center;">AO3 (2 marks)</p> <p>Award 1 mark for initial point and a further mark for explanation.</p> <ul style="list-style-type: none"> • Can capture lots of detail (1) which means they can be examined properly after the fieldtrip has ended. (1) • Provides an accurate representation of the site (1) at that point in time (1). • Can be used to capture the state of the site at the present time (1) which can be used to compare to historical photographs (1). • Easy to annotate to show details (1) so can help with analysis (1). <p>Accept any other appropriate response.</p> <p>Do not accept: easy to take</p>	(2)

Question number	Answer	Mark
4(b)(i)	<p style="text-align: center;">AO3 (2 marks)</p> <p>1 mark for each correctly plotted bar. Site 1 should be 20 (1) Site 2 should be 15 (1)</p>  <p>The bar chart displays the Total Environmental Quality Survey Score for five sites. The y-axis ranges from 0 to 25 in increments of 5. The x-axis lists Site 1, Site 2, Site 3, Site 4, and Site 5. The scores are: Site 1 (20), Site 2 (15), Site 3 (13), Site 4 (23), and Site 5 (10).</p>	(2)

Question number	Answer	Mark
4(b)(ii)	<p style="text-align: center;">AO4 (1 mark)</p> <p>A Bar</p> <p>All the other options are incorrect.</p>	(1)

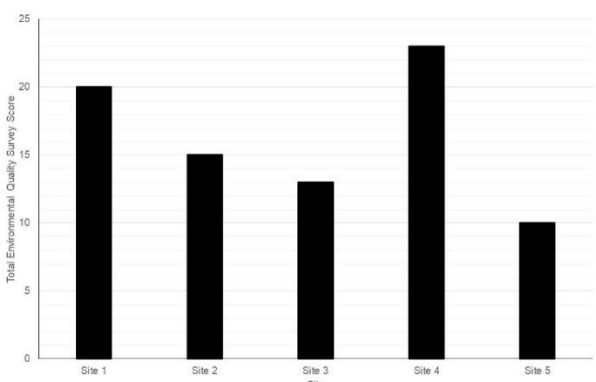
Question number	Answer	Mark
4(b)(iii)	<p style="text-align: center;">AO3 (1 mark)</p> <ul style="list-style-type: none"> • Site 4 (1) 	(1)

Question number	Answer	Mark
4(b)(iv)	<p style="text-align: center;">AO4 (2 marks)</p> <p>Award 1 mark for the calculation of the correct answer = 13 (1)</p> <p>Award 1 mark for correct method to calculate range = 23-10 (1) or working out with similar numbers, i.e. understands idea of difference/subtraction (highest and lowest values).</p>	(2)

Question number	Answer	Mark
4(c)	<p style="text-align: center;">AO3 (3 marks)</p> <p>Award 1 mark for a correct suggested way to manage a risk, with a further 2 marks for expansion.</p> <ul style="list-style-type: none"> • Remain alert (1) to ensure awareness for traffic (1) to prevent accident. (1) • Wear appropriate clothing (1) to ensure remain comfortable during fieldwork (1) and reduce chance of illness. (1) • Work in groups (1) to ensure safety (1) against unexpected events. (1) <p>Accept any other appropriate response. Note: credit ideas related to risk of poor data collection.</p>	(3)

Question number	Answer	Mark
5(a)(i)	<p style="text-align: center;">AO3 (1 marks)</p> <p>Award 1 mark for a suitable piece of secondary data.</p> <ul style="list-style-type: none"> • Newspaper articles about the area. (1) • Local data on rural populations. (1) • Census data (1) • Leaflet from interested pressure group. (1) <p>Accept any other appropriate response.</p>	(1)

Question number	Answer	Mark
5(a)(ii)	<p style="text-align: center;">A03 (2 marks)</p> <p>Award 1 mark for initial point and a further mark for explanation.</p> <ul style="list-style-type: none"> • Can capture lots of detail (1) which means they can be examined properly after the fieldtrip has ended. (1) • Provides an accurate representation of the site (1) at that point in time (1). • Can be used to capture the state of the site at the present time (1) which can be used to compare to historical photographs. (1). • Easy to annotate to show details (1) so can help with analysis (1). <p>Accept any other appropriate response.</p> <p>Do not accept easy to take.</p>	(2)

Question number	Answer	Mark												
5(b)(i)	<p style="text-align: center;">A04 (1 mark)</p> <p>1 mark for each correctly plotted bar. Site 1 should be 20 (1) Site 2 should be 15 (1)</p>  <p>The bar chart displays the Total Environmental Quality Survey Score for five sites. The y-axis ranges from 0 to 25 in increments of 5. The x-axis lists Site 1, Site 2, Site 3, Site 4, and Site 5. The scores are: Site 1 (20), Site 2 (15), Site 3 (13), Site 4 (23), and Site 5 (10).</p> <table border="1" style="display: none;"> <thead> <tr> <th>Site</th> <th>Total Environmental Quality Survey Score</th> </tr> </thead> <tbody> <tr> <td>Site 1</td> <td>20</td> </tr> <tr> <td>Site 2</td> <td>15</td> </tr> <tr> <td>Site 3</td> <td>13</td> </tr> <tr> <td>Site 4</td> <td>23</td> </tr> <tr> <td>Site 5</td> <td>10</td> </tr> </tbody> </table>	Site	Total Environmental Quality Survey Score	Site 1	20	Site 2	15	Site 3	13	Site 4	23	Site 5	10	(2)
Site	Total Environmental Quality Survey Score													
Site 1	20													
Site 2	15													
Site 3	13													
Site 4	23													
Site 5	10													

Question number	Answer	Mark
5(b)(ii)	<p style="text-align: center;">AO4 (1 mark)</p> <p>A Bar</p> <p>All the other options are incorrect.</p>	(1)

Question number	Answer	Mark
5(b)(iii)	<p style="text-align: center;">AO3 (1 mark)</p> <ul style="list-style-type: none"> • Site 4. 	(1)

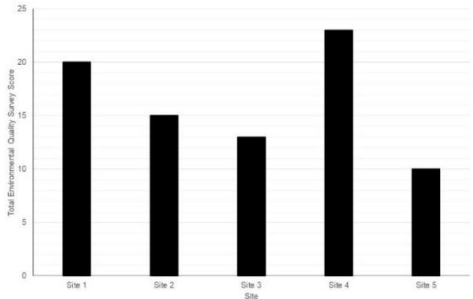
Question number	Answer	Mark
5(b)(iv)	<p style="text-align: center;">AO4 (2 marks)</p> <p>Award 1 mark for the calculation of the correct answer = 13 (1)</p> <p>Award 1 mark for correct method to calculate range = 23-10 (1) or working out with similar numbers, i.e. understands idea of difference/substraction (highest and lowest values).</p>	(2)

Question number	Answer	Mark
5(c)	<p style="text-align: center;">AO3 (3 marks)</p> <p>Award 1 mark for a correct suggested way to manage a risk, with a further 2 marks for expansion.</p> <ul style="list-style-type: none"> • Remain alert (1) to ensure awareness for traffic (1) to prevent accident. (1) • Wear appropriate clothing (1) to ensure remain comfortable during fieldwork (1) and reduce chance of illness. (1) • Work in groups (1) to ensure safety (1) against unexpected events. (1) <p>Accept any other appropriate response.</p> <p>Note: credit ideas related to risk of poor data collection.</p>	(3)

Question number	Answer	Mark
6(a)(i)	<p style="text-align: center;">AO3 (1 marks)</p> <p>Award 1 mark for a suitable piece of secondary data.</p> <ul style="list-style-type: none"> • Newspaper articles about the area. (1) • Local data on land values. (1) • Leaflet from interested pressure group. (1) • Land use map / town plan (1) <p>Accept any other appropriate response.</p>	(1)

Question number	Answer	Mark
6(a)(ii)	<p style="text-align: center;">AO3 (2 marks)</p> <p>Award 1 mark for initial point and a further mark for explanation.</p> <ul style="list-style-type: none"> • Can capture lots of detail (1) which means they can be examined properly after the fieldtrip has ended. (1) • Provides an accurate representation of the site (1) at that point in time (1). 	

	<ul style="list-style-type: none"> • Can be used to capture the state of the site at the present time (1) which can be used to compare to historical photographs. (1) • Easy to annotate to show details (1) so can help with analysis (1). <p>Accept any other appropriate response.</p> <p>Do not accept easy to take.</p>	(2)
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Question number	Answer	Mark												
6(b)(i)	<p style="text-align: center;">A03 (1 mark)</p> <p>1 mark for each correctly plotted bar. Site 1 should be 20 (1) Site 2 should be 15 (1)</p>  <table border="1" data-bbox="395 1041 869 1339"> <caption>Total Environmental Quality Survey Score</caption> <thead> <tr> <th>Site</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>Site 1</td> <td>20</td> </tr> <tr> <td>Site 2</td> <td>15</td> </tr> <tr> <td>Site 3</td> <td>13</td> </tr> <tr> <td>Site 4</td> <td>23</td> </tr> <tr> <td>Site 5</td> <td>10</td> </tr> </tbody> </table>	Site	Score	Site 1	20	Site 2	15	Site 3	13	Site 4	23	Site 5	10	(2)
Site	Score													
Site 1	20													
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Site 4	23													
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Question number	Answer	Mark
6(b)(ii)	<p style="text-align: center;">A04 (1 mark)</p> <p>A Bar</p> <p>All the other options are incorrect.</p>	(1)

Question number	Answer	Mark
6(b)(iii)	<p style="text-align: center;">AO3 (1 mark)</p> <ul style="list-style-type: none"> • Site 4. (1) 	(1)

Question number	Answer	Mark
6(b)(iv)	<p style="text-align: center;">AO4 (2 marks)</p> <p>Award 1 mark for the calculation of the correct answer = 13 (1)</p> <p>Award 1 mark for correct method to calculate range = 23-10 (1) or working out with similar numbers, i.e. understands idea of difference/subtraction (highest and lowest values).</p>	(2)

Question number	Answer	Mark
6(c)	<p style="text-align: center;">AO3 (3 marks)</p> <p>Award 1 mark for a correct suggested way to manage a risk, with a further 2 marks for expansion.</p> <ul style="list-style-type: none"> • Remain alert (1) to ensure awareness for traffic (1) to prevent accident. (1) • Wear appropriate clothing (1) to ensure remain comfortable during fieldwork (1) and reduce chance of illness. (1) • Work in groups (1) to ensure safety (1) against unexpected events. (1) <p>Accept any other appropriate response.</p> <p>Note: credit ideas related to risk of poor data collection.</p>	(3)

Question number	Answer	Mark
7(a)(i)	<p style="text-align: center;">AO1 (1 mark)</p> <p>D Variations in the tilt and/or orbit of the earth around the sun. (1) A, B and C are all incorrect.</p>	(1)

Question number	Answer	Mark
7(a)(ii)	<p style="text-align: center;">AO1 (2 marks)</p> <p>Award 2 marks for a suitable explanation.</p> <ul style="list-style-type: none"> • A period of time with abnormally low rainfall (1) for an extended period of time (1). • Shortage of water (1) due to reduced rainfall (1). • Shortage of water (1) which means people cannot irrigate their crops (1). <p>Accept any other appropriate response.</p> <p>Only award 1 mark for reference to lack of rainfall with no development.</p>	(2)

Question number	Answer	Mark
7(a)(iii)	<p style="text-align: center;">AO1 (1 mark)</p> <p>B Decaying organic matter. (1)</p> <p>A, C, and D are all incorrect as they lead to increases in other greenhouse gases.</p>	(1)

Question number	Answer	Mark
7(b)(i)	<p style="text-align: center;">A03 (1 mark)</p> <p>August (1).</p>	(1)

Question number	Answer	Mark
7(b)(ii)	<p style="text-align: center;">AO4 (2 marks)</p> <p>Award 1 mark for the comparison using Figure 7a, and a further mark for additional development, up to a maximum of 2 marks per idea.</p> <ul style="list-style-type: none"> • Temperature peaks in 1991-2016 in August at 32°C (1), whereas it plateaus around 25°C in 1901-1930 (1). • Greater range in temperature in 1991-2016 (1), from 22-32, whereas 20-25 in 1901-1930 (1). • January temperatures in both months are similar (1) but 1991-2016 has a higher peak (1). <p>Accept any other appropriate response.</p> <p>Use of data is not required to obtain marks.</p>	(2)

Question number	Answer	Mark
7(b)(iii)	<p style="text-align: center;">AO2 (2 marks)</p> <p>Award 1 mark (AO2) for identification of a cause and a further mark (AO2) for development or explanation up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Increased production of CO₂ from burning fossil fuels (1) which enhances the greenhouse effect. (1) • Intensive cattle farming (1) which increases the production of methane. (1) • Increased use of CFCs (1) which damages the ozone layer. (1) <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
7(b)(iv)	<p style="text-align: center;">AO2 (1 mark)/AO3 (1 mark)</p> <p>Award 1 mark (AO3) for identification of a reason and a further mark for development of the reason (AO2), up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Data only presents patterns for two time periods. (1) which is not long enough to understand patterns of climate change. (1) • Data is only for Africa (1) and does not necessarily reflect the global experience. (1) • The data shows averages for the times periods (1) and so will not show annual variations. (1) <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
7(c)	<p style="text-align: center;">AO1 (2 marks)</p> <p>Award 1 mark for each impact provided:</p> <ul style="list-style-type: none"> • Land degradation. (1) • Increased soil erosion. (1) • Damaged habitat for wildlife. (1) • Interruption of food chains. (1) • Increased CO₂ in the atmosphere. (1) • Loss of biodiversity. (1) • Changes to rainfall patterns. (1) <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
7(d)	<p style="text-align: center;">AO1 (2 marks) /AO2 (2 marks)</p> <p>Award 1 mark (AO1) for identification of approach and a further mark (AO2) for an explanation, up to a maximum of 2 per approach.</p> <p>A range of country examples could be used.</p> <ul style="list-style-type: none"> • Selective logging and replanting (1) to ensure areas affected by deforestation have tree replacement programmes to reduce overall loss (1). • Agroforestry to combine using trees and crops (1) to reduce the amount of trees being removed for agriculture (1). • Increasing community involvement in forest conservation projects (1) to increase potential for sustainable management (1). • Creation of a biosphere reserve (1) in order to protect biodiversity (1). <p>Accept any other appropriate response.</p>	(4)

Question number	Indicative content	Mark
7(e)	<p style="text-align: center;">A03 (3 marks)/A04 (3 marks)</p> <p>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.</p> <p>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.</p> <p>A03</p> <ul style="list-style-type: none"> • Existing climatic patterns will affect where has experienced desertification processes in the past. Arid areas with large deserts are naturally areas with a higher risk e.g. Sahel. • Variation in risk will also be affected by population distribution. • Variation in risk will be affected by human activities which can increase soil erosion, lower the water table or use up water sources which can all contribute to desertification. <p>A04</p> <ul style="list-style-type: none"> • Figure 7b shows there are great differences in the level of vulnerability to future desertification. • Figure 7b shows the Middle East and borders of the Sahel region are very vulnerable to future desertification. • Figure 7b shows that desertification has the potential to impact wide areas of the globe. • Figure 7b indicates that there remains several humid areas that are less vulnerable to desertification, particularly in the Amazon basin and Europe. 	(6)

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> 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	4-6	<ul style="list-style-type: none"> Applies understanding to deconstruct information but understanding and connections are flawed. 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 information that supports some aspects of the argument. (A04)

Question number	Indicative content
7(f)	<p style="text-align: center;">AO2 (4 marks)/AO3 (4 marks) /AO4 (4 marks)</p> <p>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.</p> <p>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.</p> <p>A02</p> <ul style="list-style-type: none"> Deforestation has a range of negative effects on fragile environments including loss of biodiversity, contribution to climate change, increased soil erosion. Rising global temperatures have the potential to have wide ranging impacts on fragile ecosystems. Rising global temperatures are likely to increase risk of desertification for areas of the globe, introducing desertification into some areas, and making it worse in others. Increased desertification has the potential to impact livelihoods across the globe in terms of the availability of land for agriculture.

	<p>AO3</p> <ul style="list-style-type: none"> • Changes in temperatures are likely to have more wide-ranging impacts on the globe than just deforestation. • Changing rainfall patterns will not only affect forests processes, but a wider range of areas with many facing increased rainfall and hazards associated with this. • Global temperatures have the potential to contribute to sea level rise which many would argue poses a greater threat to fragile environments. • The variation in patterns of surface water will affect humidity and therefore rainfall patterns and as a consequence risk of desertification. <p>AO4</p> <ul style="list-style-type: none"> • Figure 7b shows how many regions of the world are vulnerable to desertification for example the Middle East or large area of sub-Saharan Africa. • Figure 7c indicates a series of threats that are posed to fragile environments indicating a proposed order of significance, including deforestation, desertification, climate change, soil erosion, rising sea levels, industrialisation. • 	
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-4	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Demonstrates elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) • Applies understanding to deconstruct information but understanding and connections are flawed. An imbalanced argument that synthesises mostly relevant understanding,

		<p>but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3)</p> <ul style="list-style-type: none"> • Uses geographical skills to obtain information that supports some aspects of the argument. (A04)
Level 3	9-12	<ul style="list-style-type: none"> • Demonstrates accurate understanding of concepts and the interrelationship between 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 information that supports all aspects of the argument. (A04)

Question number	Answer	Mark
8(a)(i)	<p style="text-align: center;">AO1 (1 mark)</p> <p>B Transnational Corporation</p> <p>A, C and D are all incorrect as they are not correct meanings for TNC.</p>	(1)

Question number	Answer	Mark
8(a)(ii)	<p style="text-align: center;">AO1 (2 marks)</p> <p>Award 2 marks for a suitable explanation.</p> <ul style="list-style-type: none"> • Migration of people who have no choice but to move (1) due to war/famine/conflict (1). • Movement of refugees (1) displaced by circumstances in home country (1). <p>Accept any other appropriate response.</p> <p>Do not accept people who are forced to migrate.</p>	(2)

Question number	Answer	Mark
8(a)(iii)	<p style="text-align: center;">AO1 (1 mark)</p> <p>A Poor employment opportunities</p> <p>B, C and D are incorrect as they are not push factors for rural-urban migration.</p>	(1)

Question number	Answer	Mark
8(b)(i)	<p style="text-align: center;">AO3 (1 mark)</p> <p>Europe (1).</p>	(1)

Question number	Answer	Mark
8(b)(ii)	<p style="text-align: center;">AO4 (2 marks)</p> <p>Award 1 mark for the comparison using Figure 8a and a further mark for additional development, up to a maximum of 2 marks per idea.</p> <ul style="list-style-type: none"> • Internet use is much lower in Africa than in the Americas (1) and this trend remains throughout the time period. (1) • The number of internet users in the Americas has been increasing at a slightly faster rate than in Africa (1) 36-68% in the Americas and 2-22% in Africa. (1) • While they are both increasing, Africa did not increase its pace of growth until around 2009 (1) whereas in the Americas it has generally been at a faster rate. (1) <p>Accept any other appropriate response.</p> <p>Use of data is not required to obtain marks.</p>	(2)

Question number	Answer	Mark
8(b)(iii)	<p style="text-align: center;">AO2 (2 marks)</p> <p>Award 1 mark (AO2) for identification of an advantage and a further mark (AO2) for development up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • The world can become more interconnected (1) which can facilitate greater global trade. (1) • People can have access to more information (1) which can facilitate the transfer of knowledge between places. (1) • People can keep in touch with members of family who live abroad (1) which can improve emotional wellbeing (1). <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
8(b)(iv)	<p style="text-align: center;">AO2 (1 mark)/AO3 (1 mark)</p> <p>Award 1 mark (AO3) for identification of a reason and a further mark for development of the reason (AO2), up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Access to the internet does not necessarily mean more people will be involved in trade (1) and contribute to a growing global economy.(1) • Internet users may not be engaged in economic activities (1) the use may be more focused on individual needs. (1) • The data does not display variations within regions of access to the internet (1) which is likely to be much more variable. (1) • Governments can control the use of the internet (1) so limited use might not reflect the state of the economy. (1) <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
8(c)	<p style="text-align: center;">AO1 (2 marks)</p> <p>Award 1 mark for each pull factor, up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Higher wages. (1) • Better job opportunities. (1) • Better access to educational facilities. (1) • Better quality of life. (1) <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
8(d)	<p style="text-align: center;">AO1 (2 marks) / AO2 (2 marks)</p> <p>Award 1 mark for initial explanation of an approach and an additional 1 mark for development through further explanation or exemplification. Maximum of 2 marks for each approach.</p> <p>Developed:</p> <ul style="list-style-type: none"> • Education facilities for visitors (1) to educate people about the importance of minimising damage to the local environment. (1) • Increased restrictions on areas that tourists can access (1) to reduce the potential for environmental damage. (1) <p>Developing/Emerging:</p> <ul style="list-style-type: none"> • Charging tourists a tax of \$250 day per person (1) to act as a way to limit the number of tourists (1). • Establishing reserves (1) to protect some areas from damage from high numbers of tourists (1). <p>Accept any other appropriate response.</p>	(4)

Question number	Indicative content	Mark
8(e)	<p style="text-align: center;">A03 (3 marks)/A04 (3 marks)</p> <p>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.</p> <p>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.</p> <p>A03</p> <ul style="list-style-type: none"> • There is an uneven pattern of global international migration, which has led to some countries acting as the host to more migrants than others, while others act more as donor countries. • High levels of international migrants can place pressures on host countries in terms of housing, employment opportunities, and other resources. • If international migrants are skilled, they can benefit host countries by providing a skilled labour force. • Some countries have chosen to restrict or exclude migrants due to the potential impacts. • Migration can lead to greater cultural diversity which can increase the provision of different services. <p>A04</p> <ul style="list-style-type: none"> • Figure 8b shows how some countries have a larger percentage of their population as international migrants which has implications for host countries. • Figure 8b shows how Canada and Australia have positive net migration which is high compared to others. • Figure 8b shows how much of Asia and Sub-Saharan Africa have relatively high level of migrants leaving countries. 	(6)

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> 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	4-6	<ul style="list-style-type: none"> Applies understanding to deconstruct information but understanding and connections are flawed. 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 information that supports some aspects of the argument. (AO4)

Question number	Indicative content
8(f)	<p style="text-align: center;">AO2 (4 marks)/AO3 (4 marks) /AO4 (4 marks)</p> <p>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.</p> <p>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.</p> <p>A02</p> <ul style="list-style-type: none"> Increased access to technology has fuelled processes of globalisation as more people have access to both national and global markets, encouraging trade and in growth of the global economy. As a country develops, it develops greater capacity in technology, of which internet use is one aspect. The global economy has been supported by the rise in increased rail and cargo transportation options, including the use of shipping containers, and by aeroplanes. Information technologies in particular have been seen to contribute to increased ease of communication and trade with other countries.

	<p>AO3</p> <ul style="list-style-type: none"> • The rise of the global economy has been fuelled by many different factors including trade, foreign investment, improvements in transport. Technology is an important element of these, but alongside all the other factors. • Developing relationships within economic blocs (EU, ASEAN etc) has increased trade and economic relationships which have in turn contributed to a growing global economy. Without these trade relationships in place, the benefit of the technological advancements would not be felt as much. <p>AO4</p> <ul style="list-style-type: none"> • Figure 8a shows increases in the number of people who have access to the internet in several global regions, as an indicator of increased technology use. • Figure 8a shows that Europe and the Americas have a higher proportion of the population who have access to the internet while Africa, Arab states and Asia Pacific have much lower levels, although the difference is reducing. • Figure 8c indicates a series of factors that can affect the rise of the global economy: information and communications technology, transport, trade agreements, foreign investment, labour, migration. 	
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-4	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Demonstrates elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) • Applies understanding to deconstruct information but understanding and connections are flawed. An imbalanced

		<p>argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3)</p> <ul style="list-style-type: none"> • Uses geographical skills to obtain information that supports some aspects of the argument. (A04)
Level 3	9-12	<ul style="list-style-type: none"> • Demonstrates accurate understanding of concepts and the interrelationship between 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 information that supports all aspects of the argument. (A04)

Question number	Answer	Mark
9(a)(i)	<p style="text-align: center;">AO1 (1 mark)</p> <p>B Usually involves government decisions.</p> <p>A, C and D are incorrect as they are not features of top down development.</p>	(1)

Question number	Answer	Mark
9(a)(ii)	<p style="text-align: center;">AO1 (2 marks)</p> <p>Award 2 marks for a suitable explanation.</p> <ul style="list-style-type: none"> • Aid given from one international government or organisation to another country (1) this could be in the form of money or goods (1). • Aid given from one country to another (1) which can have conditions attached (1). <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
9(a)(iii)	<p style="text-align: center;">AO1 (1 mark)</p> <p>C Improving water supplies in an informal settlement.</p> <p>A, B and D are incorrect as they are not projects that an NGO would engage in.</p>	(1)

Question number	Answer	Mark
9(b)(i)	<p style="text-align: center;">AO3 (1 mark)</p> <p>45-49 (1)</p>	(1)

Question number	Answer	Mark
9(b)(ii)	<p style="text-align: center;">AO4 (2 marks)</p> <p>Award 1 mark for the comparison from Figure 9a and a further mark for additional development, up to a maximum of 2 marks per idea.</p> <ul style="list-style-type: none"> • The population sizes in all age groups are larger in 2015 than in 1980 (1). In 1980 only a couple of age groups for males or females reached over 2 million, where as in 2015 there are many groups that reach over this amount (1). • There are significantly more older females in the UK in 2015 (over 2 million) (1) compared to just over 1 million in 1980. (1) • The shape of the population pyramid has changed (1) with a greater proportion of the population in older age categories as well as the younger in 2015 (1). <p>Accept any other appropriate response.</p> <p>Use of data is not required to obtain marks.</p>	(2)

Question number	Answer	Mark
9(b)(iii)	<p style="text-align: center;">AO2 (2 marks)</p> <p>Award 1 mark (AO3) for identification of a reason and a further mark for development of the reason (AO2), up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Increased life expectancy (1) due to increases in healthcare (1). • Reduced infant mortality rate (1) which means greater amounts of population reach the older age groups (1). • Migration of young migrants often male (1) may shift the gender balance in younger groups (1). <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
9(b)(iv)	<p style="text-align: center;">AO2 (1 mark)/AO3 (1 mark)</p> <p>Award 1 mark (AO3) for identification of a reason and a further mark for development of the reason (AO2), up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Population structures in developing countries tend to be more pyramid shaped (1) as they usually have higher birth rates. (1) • Population structures in developed countries tend to have greater proportions in older age groups (1) as health care services and medical provision can increase life expectancy. (1) <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
9(c)	<p style="text-align: center;">AO1 (2 marks)</p> <p>Award 1 mark for each reason, up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Transport infrastructure. (1) • Provision of healthcare/education services. (1) • Investment. (1) • Physical landscape. (1) • Government investment / establishment of enterprise zones (1). <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
9(d)	<p style="text-align: center;">AO1 (2 marks) /AO2 (2 marks)</p> <p>Award 1 mark for initial identification of an advantage or disadvantage and an additional 1 mark for development through further explanation or exemplification.</p> <p>A range of country examples could be used.</p> <p>Advantages:</p> <ul style="list-style-type: none"> • More likely to suit the needs of local people (1) and use appropriate technology. (1) • More likely to use local people and local skills (1) which means they are more likely to be involved in maintenance later. (1) <p>Disadvantages:</p> <ul style="list-style-type: none"> • Usually projects are small scale (1) so do not necessarily impact large numbers of people. (1) • Cannot have large scale impact on national systems (1) and so their potential to create long term change is minimised. (1) <p>Accept any other appropriate response.</p>	(4)

Question number	Indicative content	Mark
9(e)	<p style="text-align: center;">A03 (3 marks)/A04 (3 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance</p> <p>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.</p> <p>A03</p> <ul style="list-style-type: none"> • Food security is an important element of human welfare as it affects the ability of populations to prosper. Much like many resources, the distribution of food is uneven, leading to some areas of the world being more prosperous than others. • Low food security is likely to lead to low human welfare, as it is a basic need. Poor access to food, suggests the possibilities of malnutrition and poor health which overall leads to poor standards of human welfare. • Food security is just one element of human welfare, which can be affected by other economic, social and environmental aspects of societies. • Human welfare is a complex subject which can affect the overall pattern globally. <p>A04</p> <ul style="list-style-type: none"> • Figure 9b shows the global distribution of food security. • Figure 9b shows how there are low levels of food security in most of Africa, South East Asia and some parts of Latin America. • Figure 9b shows how most of the northern hemisphere is considered to be more secure according to the Food Security Index. • Figure 9b shows how the pattern of food security broadly fits with the global pattern of north/south development divide. 	(6)

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> 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	4-6	<ul style="list-style-type: none"> Applies understanding to deconstruct information but understanding and connections are flawed. 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 information that supports some aspects of the argument. (A04)

Question number	Indicative content
9(f)	<p style="text-align: center;">A02 (4 marks)/AO3 (4 marks) /AO4 (4 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance</p> <p>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.</p> <p>Demographic indicators are the most important factors that can affect development.</p> <p>A02</p> <ul style="list-style-type: none"> Demographic characteristics including birth rate, death rate, infant mortality rate, maternal mortality rate etc are important factors that can affect a population's development pathway.

	<ul style="list-style-type: none"> Demographic characteristics are often used as an indicator of stage of development in the demographic transition model, but they are depicted more as a consequence of development stage rather than a factor affecting the development. Some demographic characteristics act as a barrier to development processes including high death rates, and low life expectancy. <p>AO3</p> <ul style="list-style-type: none"> There are a wide range of factors that can affect economic development from availability of resources (natural resources, technology, enterprise, innovation and labour), external boosters (globalisation, presence of TNCs, and geopolitics), and internal situations (government policies, business culture). The Human Development Index is comprised of a number of indicators (life expectancy, education, per capita income) – demographics are a key part of this but as a component of a more complex system. <p>AO4</p> <ul style="list-style-type: none"> Figure 9a shows demographic change for the population of the UK through population pyramids. Figure 9a shows how there is an ageing population in the UK with higher proportions of the population in older age groups in 2015 than in 1980. Figure 9c shows a selection of factors that can affect global development in order of importance. While demographic factors are important it highlights the need to acknowledge a wider range of factors also including literacy rate, political stability, natural resources, labour and technology. 	
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-4	<ul style="list-style-type: none"> 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)

		<ul style="list-style-type: none"> • Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (A04)
Level 2	5-8	<ul style="list-style-type: none"> • Demonstrates elements of understanding of concepts and the interrelationship between places, environments and processes. (A02) • Applies understanding to deconstruct information but understanding and connections are flawed. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (A03) <ul style="list-style-type: none"> • Uses geographical skills to obtain information that supports some aspects of the argument. (A04)
Level 3	9-12	<ul style="list-style-type: none"> • Demonstrates accurate understanding of concepts and the interrelationship between places, environments and processes. (A02) • 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. (A03) • Uses geographical skills to obtain information that supports all aspects of the argument. (A04)

