



Mark Scheme (Results)

Summer 2024

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.

Marking guidance for levels-based mark schemes

How to award marks

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

Finding the right level

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

Placing a mark within a level

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

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

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

Question number	Answer	Mark
1(a)	AO1 (1 mark) C Tertiary (1) It cannot be A, B or D as these are not the sectors in which a school teacher would be employed.	(1)

Question number	Answer	Mark
1(b)(i)	AO1 (1 mark) B Lack of qualifications (1) The answer cannot be A, C or D as these are not causes of employment in the informal sector.	(1)

Question number	Answer	Mark
1(b)(ii)	AO1 (1 mark) Award 1 mark for a suitable job that can be found in the informal sector. <ul style="list-style-type: none"> • Street sellers/street food seller (1) • Shoe shining (1) • Rickshaw drivers (1) • Domestic workers (1) • Waste picker (1) • Textile worker/factory worker (1) • Construction workers (1). Accept any other appropriate response.	(1)

Question number	Answer	Mark
1(c)	AO2 (1 mark) / AO3 (1 mark) Award 1 mark for basic evidence from the from the figure (AO3) and a further 1 mark for extension (AO2), up to a maximum of 2 marks. <ul style="list-style-type: none"> • They are farming (1) which involves the extraction of raw materials (1). • The workers are harvesting grain (1) which is the extraction of a raw material (1). • The workers are involved in heavy labour (1) which is typical of the primary sector (1). • The workers are using a tractor (1) which helps harvest the wheat/extract the raw material (1). Accept any other appropriate response.	(2)

Question number	Answer	Mark
1(d)	<p style="text-align: center;">AO1 (1 mark)</p> <p>Award 1 mark for a suitable reason for the decline in the primary sector.</p> <ul style="list-style-type: none"> • Mechanisation/increased used of machinery (1) • Industrialisation (1) • Rural to urban migration (1) • Shift to secondary sector industry (1) • Increased imports (1) • Poor wages (1) • Decline in soil fertility/low crop yields (1) • Climate change (1) <p>Accept any other reasonable response.</p>	(1)

Question number	Answer	Mark
1(e)	<p style="text-align: center;">AO2 (2+2 marks)</p> <p>Award 1 mark for a positive impact and 1 mark for a negative impact and a further expansion mark, up to a maximum of 2 marks each. Maximum 2 marks for positive or negative impact.</p> <p>A range of developing or emerging countries could be chosen as context for this response.</p> <p>Do not double credit the same impact. Do not credit descriptions of increase or decrease in a sector as the impact.</p> <p>Positive:</p> <ul style="list-style-type: none"> • Increased industrialisation meant the growth of more factories (1) which created more jobs/reduced unemployment. • Industrialisation led to greater investment in cities (1) which led to improvements in infrastructure (1). • Increased IT services meant some factories closed down (1) which improved air quality in the city (1). • Increased TNCs (1) provides more opportunities (1). <p>Negative:</p> <ul style="list-style-type: none"> • Increased industrialisation meant the growth of more factories (1) which reduced air quality in cities (1). • The growth of secondary sector industries led to more rural to urban migration (1) which left many rural areas with fewer workers (1). • Mechanisation in factories (1) can lead to reduced jobs available/ increased unemployment (1). • Increased TNCs (1) which may have poor working condition (1). <p>Accept any other appropriate response.</p>	(4)

Question number	Answer	Mark
1(f)	<p style="text-align: center;">AO1 (1 mark) / (AO3) 2 marks</p> <p>Award 1 mark (AO1) for basic point about level of investment shown, or specific data from the graph used, and a further 2 marks (AO3) for extension through use of the resource, up to a maximum of 3 marks.</p> <ul style="list-style-type: none"> • Increased investment in buildings (1) from around \$150 to \$200bn (1) due to increase in use of renewable energy (1). • • High level of investment in buildings (1) due to growing populations /rapid urbanisation (1) and the need to reduce carbon emissions (1). • Overall increase in investment between 2015-2021 (1) as the importance of climate change mitigation is recognised (1) as this can reduce carbon emissions (1). • Consistently the highest investment in efficiency in buildings (1) may be due potential for retrofitting (1) so can be applied to all buildings in some form (1). <p>Accept any other appropriate response.</p>	(3)

Question number	Answer	Mark
1(g)	<p style="text-align: center;">AO2 (2+2 marks)</p> <p>Award 1 mark for one advantage and one disadvantage, and a further expansion mark, up to a maximum of 2 marks each.</p> <p>Advantage:</p> <ul style="list-style-type: none"> • Reduce carbon emissions (1) which can contribute to climate change (1). • Energy production can be tailored to demand (1) as water is stored behind a dam (1). • Renewable energy source (1) therefore it won't out (1). • Tourism (1) which can support the local economy (1). <p>Disadvantage</p> <ul style="list-style-type: none"> • Requires construction of large dam (1) which means a large area behind it needs to be flooded/can require flooding of villages/habitats (1). • Construction of the dam can interrupt the natural flow of fish (1) which can affect livelihoods downstream (1). 	(4)

	<ul style="list-style-type: none"> • Amount of energy produced is not as much as non-renewable energy (1) so need other sources of energy too (1). • Requires maintenance (1) which is expensive (1). <p>Accept any other appropriate response.</p>	
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Question number	Indicative content	
1(h)	A03 (4 marks)/A04 (4 marks)	
	<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:</p> <p>A03</p> <ul style="list-style-type: none"> • The energy mix will be affected by the natural resources that are available in different regions of the world. • The energy mix will be affected by the environmental conditions that are more suitable for different types of renewable energy sources. • For example, areas with large river networks may be more suitable for development of hydro power, and those with more consistent sun conditions may be more suitable for solar power. • Levels of development can affect the demand for energy, and therefore potentially a greater demand for energy from a broader range of resources. • Access to nuclear power requires high levels of investment which means that it is not always a suitable option for all countries. • Investment in renewable energy technologies can be expensive and may not always be the most feasible options for all countries. <p>A04</p> <ul style="list-style-type: none"> • Figure 1c shows how the EU and Africa have a large proportion of their energy from gas (40%/35%). • Figure 1c shows that while they broadly have the same types of energy production there are slight differences in how this is made up. • Figure 1c shows Africa makes significantly greater use of hydropower (17% compared to 7%). • Figure 1 shows the EU make significantly greater use of oil 15% for Africa compared to EU 31%). • Figure 1 shows how the EU make greater use of nuclear power (10% compared to 1% for Africa). 	
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

		<p>provides limited synthesis of understanding. Judgements that are supported by limited evidence. (AO3)</p> <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
2(a)(i)	<p style="text-align: center;">AO1 (1 mark)</p> <p>B a community of animals and plants occupying a major habitat (1)</p> <p>The answer cannot be A (refers to only animals), C or D as these are not definitions of a biome.</p>	(1)

Question number	Answer	Mark
2(a)(ii)	<p style="text-align: center;">AO1 (1 mark)</p> <p>Award 1 mark for suitable characteristics.</p> <ul style="list-style-type: none"> • Hot (climate) (1) • Dry (climate) (1) • Low rainfall /lack of precipitation (1) • Little/sparse vegetation/named suitable vegetation (1) • Dry/sandy soils (1) • Low biodiversity (1) <p>Accept any other appropriate responses.</p>	(1)

Question number	Answer	Mark
2(b)	<p style="text-align: center;">AO2 (1 mark) / AO3 (1 mark)</p> <p>Award 1 mark for identification of factor (AO2) and a further 1 mark for extension through explanation linked to the resource (AO3), up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Temperature (1) leading to deserts being located in hot areas closer to the equator (1). • Latitude as this affects sunlight (1) leading to less forests at extreme latitudes (1). • Climate as this determine the type of ecosystem that can survive (1). Typically, colder climates away from the equator are where tundra forms (1). • Rainfall (1) as this can affect the level of plants of vegetation found in tropical grasslands (1). • Altitude (1) at higher altitude there are colder temperature so can often find tundra (1). <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
2(c)	AO1 (1 mark) B farming that produces crops (1) The answer cannot be A, C or D as these are not definitions of arable farming. A is forestry, C is fish farming and D is livestock farming.	(1)

Question number	Answer	Mark
2(d)	AO1 (1 mark) Award 1 mark for a way provided. <ul style="list-style-type: none"> • Water pollution/eutrophication (1) • Deforestation (1) • Reduced biodiversity/loss of habitat (1) • Soil erosion/degradation (1) • Provision of jobs (1) • Loss of employment due to mechanisation (1) • Taking up land that could be used for housing/industry/recreation (1) Accept any other appropriate response.	(1)

Question number	Answer	Mark
2(e)	AO2 (2+2 marks) Award 1 mark for identification of a suitable reason and a further expansion mark, up to a maximum of 2 marks each. <ul style="list-style-type: none"> • To be able to commute for work (1) to ensure a stable income (1). • To ensure access to healthcare (1) to maintain a good quality of life (1). • To be able access services (1) to reduce isolation (1). • Access to market (1) as most farmers need a clear route to get their products to local/domestic/international markets (1). • To ensure workers can reach the rural areas (1) to facilitate harvests etc (1). • To allow people to visit farms (1) if they have diversified to include alternative activities (1). • Lack of public transport (1) so need routes to access jobs in other areas (1). Accept any other appropriate response.	(4)

Question number	Answer	Mark
2(f)	<p style="text-align: center;">AO1 (1 mark) / (AO3) 2 marks</p> <p>Award 1 mark for a reason and a further 2 marks for extension through explanation or description with references to the resource, up to a maximum of 3 marks.</p> <ul style="list-style-type: none"> • Diversification has the potential to increase income (1) with activities such as tourist accommodation being worth as much as £15,000 (1) which can complement income from crops/livestock (1). • Increases options to increase income (1) farms can engage in a range of alternative activities such as providing sport and recreation facilities (1) which could provide an additional £5,000 a year (1). • To reduce costs of production (1) using other diversified activities such as crop rotation (1) which could reduce the amounts of fertilisers/resources needed (1). <p>Accept any other appropriate response.</p>	(3)

Question number	Answer	Mark
2(g)	<p style="text-align: center;">AO2 (4 marks)</p> <p>Award 1 mark for initial explanation of how tourist pressures can affect rural areas, and an additional 1 mark for development through further explanation or exemplification, up to a maximum of 2 marks for each. A range of countries and tourist pressures could be chosen. For example:</p> <p>UK (Lake District):</p> <ul style="list-style-type: none"> • High numbers of tourists can cause traffic congestion (1) which can lead to reduced air quality/increased noise pollution (1). • High demand for tourist accommodation can put pressure on housing availability (1) making homes too expensive for local people (1). <p>Accept any other appropriate response.</p> <p>Do not credit pollution on its own.</p>	(4)

Question number	Indicative content	
2 (h)	<p style="text-align: center;">A03 (4 marks)/A04 (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:</p> <p>A03</p> <ul style="list-style-type: none"> • Natural ecosystems provide a range of goods and services. • Ecosystem goods are that ecosystems provide which are used by humans while services are benefits that are important for human wellbeing. • Typical goods provided by ecosystems include food, fuel, water, medicinal products, timber (depending on the ecosystem). • Services can often be categorised into: <ul style="list-style-type: none"> ○ Regulating services such as climate or flood regulation, or holding the soil together to reduce soil erosion (in forests). ○ Cultural services: such as provision of sites for tourism, science and education as health and wellbeing. • In some ecosystems the range of ecosystem goods may not appear to be as broad as the range of ecosystem services. • Such services have a large economic value, but may be less direct. While it is easy to calculate the economic value of timber from a forest, it is more complex to calculate the value of storm protection from mangroves. <p>A04</p> <ul style="list-style-type: none"> • Figure 2c shows how ecosystems provide a range of different goods and services. • Figure 2c show how ecosystem goods can include water supply, energy, materials and food and drink. • Figure 2c shows how the goods provided range from energy provision to food and drink, to building materials. • Figure 2c suggests there are greater range of services provided than goods. 	
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. (A03) • 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 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
3(a) (i)	AO1 (1 mark) A - Chennai, India (1) The answer cannot be B, C or D as these cities have populations with less than 10 million which is the minimum for a megacity.	(1)

Question number	Answer	Mark
3(a)(ii)	AO1 (1 mark) Award 1 mark for any suitable definition: <ul style="list-style-type: none"> • Growth of urban areas at the edges/suburbs (1) • Shift from central urban areas to the suburbs/movement of people to the suburbs (1) • Movement of people from central urban areas to the suburbs/rural-urban fringe (1) • Outwards movement of an urban area (1) Accept any other reasonable response.	(1)

Question number	Answer	Mark
3(b)	AO1 (1 mark) C population growth (1) The answer cannot be A, B or D as these are not reasons for building on rural-urban fringe. A would be city centre, B, would require less building and D relates to farming practices.	(1)

Question number	Answer	Mark
3(c)	AO2 (1 mark) / AO3 (1 mark) Award 1 mark for suitable type of land use (AO2) and a further 1 mark for extension using evidence from the resource (AO3), up to a maximum of 2 marks. <ul style="list-style-type: none"> • Retail (1) which is usually found in the city centre (1). • Offices/commercial buildings (1) as there are skyscrapers typically used for this purpose. (1). • Transport (1) as there is large train station present (1). • Residential (1) as there are many buildings which could be used as homes (1). • Industry (1) as good transport connections (1). • Recreation/tourism (1) use of green spaces for leisure time (1). Accept any other appropriate response	(2)

Question number	Answer	Mark
3(d)	<p style="text-align: center;">AO1 (1 mark)</p> <p>Award 1 mark for a suitable stakeholder:</p> <ul style="list-style-type: none"> • Planners (1) • Government/politicians (1) • Investors/business people (1) • Local councillors (1) • Residents/community groups (1) <p>Accept any other appropriate response.</p>	(1)

Question number	Answer	Mark
3(e)	<p style="text-align: center;">AO2 (2+2 marks)</p> <p>Award 1 mark for each initial challenge, with a further mark for expansion, up to a maximum of 2 marks each.</p> <ul style="list-style-type: none"> • Income not taxed (1) so governments cannot use money raised to invest in the local area (1) • People do not have a reliable income (1) therefore they may struggle to pay for bills/food which may lead to experiences of poverty (1) • Informal jobs often don't have much health and safety protection (1) so workers do not have safe working conditions/may be injured (1). • Not regulated/no contract/lack of legislation (1) so unlikely to get holiday pay/medical benefits/protective equipment (1). <p>Accept any other appropriate response.</p>	(4)

Question number	Answer	Mark
3(f)	<p style="text-align: center;">AO1 (1 mark) / (AO3) 2 marks</p> <p>Award 1 mark for an identification of a trend and a further 2 marks for extension through explanation or description, up to a maximum of 3 marks.</p> <ul style="list-style-type: none"> • Many cities have had consistently high levels of air pollution PM2.5 (1) as rapid urbanisation tends to increase the number of cars in the area (1) which can lead to increased particulate matter (1). • Urbanisation can lead to increased air pollution/PM2.5 (1) as there can be a lot of traffic congestion (1) which leads to increased emissions (1). • Levels of air pollution have declined in Bengaluru from 2016-2019 (1) from around 52 to 33 PM2.5 (1) as rapid urbanisation led to air pollution which prompted governments to put in place measure to reduce pollution (1). <p>Accept any other appropriate response.</p>	(3)

Question number	Answer	Mark
3(g)	<p style="text-align: center;">AO2 (4 marks)</p> <p>Award 1 mark for initial explanation and an additional 1 mark for development through further explanation or exemplification.</p> <p>A range of countries and examples could be chosen, relating to a range of improvements made to transport options.</p> <ul style="list-style-type: none"> • Bangladesh: <ul style="list-style-type: none"> ○ Dhaka has a new metro system (1) which can carry large number of passengers which could reduce congestion (1). ○ New highways built (1) designed to connect major urban areas (1). • Brazil: <ul style="list-style-type: none"> ○ Curitiba has a Mass Rapid Transit System (1) which connects residential areas to the commercial areas (1). ○ Cycle lanes have been built (1) to allow more travel by bike and reduce carbon emissions (1). <p>Accept any other appropriate response.</p>	(4)

Question number	Indicative content
3(h)	<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:</p> <p>AO3</p> <ul style="list-style-type: none"> • Cities around the world have been undergoing continued and often rapid urbanisation for many years. In 2007 the UN estimated that there were more people in urban areas than rural. • Rapid urbanisation is typically associated with countries that have gone through sector shifts through industrialisation and on to service sector industries. • Such shifts are associated with rural-urban migration as people seek more employment opportunities and the potential for a different quality of life. • By 2030 it is estimated that there will be over 40 megacities around the world. • Natural increase in some countries with relatively high birth rates contribute to growing populations in urban areas.

	<ul style="list-style-type: none"> • Growth of smaller cities due to counter-urbanisation. <p>A04</p> <ul style="list-style-type: none"> • Figure 3c shows how the global urban population is expected to grow to 5 billion people by 2030. • Figure 3c shows how there will be significant growth in the number of cities in all categories, but particularly mid-sized cities by 2030. • Figure 3 shows how the number of megacities grew from 10 in 1990 to 33 in 2018 and projected to 43 by 2030. • Figure 3 shows how there are different levels of predicted growth for the future, with a significant growth in mid-sized cities and megacities. 	
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
4(a)(i)	<p style="text-align: center;">A03 (1 mark)</p> <p>Award one mark for a suitable risk:</p> <ul style="list-style-type: none"> • Getting lost (1) • Falls/slips/injuries (1) • Loss of equipment (1) • Being hit by traffic/bikes (1) • Theft (1) • Sunburn/hypothermia (1) • Data collected is biased/data not reliable (1) • Failure of equipment (1) • Difficulty in achieving sample size (1) • Issues with wildlife (1) <p>Accept any other appropriate response.</p>	(1)
Question number	Answer	Mark
4(a)(ii)	<p style="text-align: center;">A03 (2 marks)</p> <p>Award 1 mark for suitable factor, and a further mark for explanation, up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Accessibility (1) they needed to be in walking distance to ensure data could be collected (1). • To ensure range of data gathered across the village (1) to support reliable conclusions (1). • Time available (1) to ensure all sites could be feasibly visited in a day (1). • Safety (1) to not go in areas that do not have sufficient pavements (1). <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
4(b)	<p style="text-align: center;">A03 (2 marks)</p> <p>Award 1 mark for a suitable way identified, and a further mark for development or explanation.</p> <ul style="list-style-type: none"> • Local newspaper articles (1) to provide evidence to support conclusion (1). • Government reports (1) provided background data on new renewable energy targets (1). • Government website (1) with data on local population characteristics (1). • Old photographs (1) to show change over time (1). 	(2)

	<ul style="list-style-type: none"> • Past investigations (1) to check for annual changes (1). • Maps/online maps/land use maps (1) to be able to explore patterns (1). <p>Accept any other appropriate response.</p> <p>Secondary data needs to be specific, do not accept, the internet for information. The secondary data will vary depending on the nature and context of the fieldwork, but it must be plausibly linked to the focus: economic activity and energy.</p>	
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Question number	Answer	Mark
4(c)	A03 (4 marks)	(4)
	<p>Award 1 mark for an advantage and 1 mark for a disadvantage with a further mark for development or explanation up to a maximum of 2 marks each. Max 2 marks for advantage or disadvantages.</p> <p>The data presentation techniques will vary depending on the nature and context of the fieldwork, but it must be plausibly linked to the focus: economic activity and energy.</p> <p>Advantages</p> <ul style="list-style-type: none"> • Pie chart allows view of relative proportion of people's views (1) which allows conclusions to be formed (1). • Bar graph give a clear visual picture of the data (1) which provides a summary of questionnaire data to be able to form conclusions (1). <p>Disadvantages:</p> <ul style="list-style-type: none"> • Pie chart only showed overall proportions of people's views (1) rather than explaining what they thought. • Bar graph only shows a snapshot of information (1) rather than how the data has changed over time (1). <p>Accept any other appropriate response.</p>	

Question number	Answer	Mark
4(d)	A03 (3 marks)	(3)
	<p>Award 1 mark for an initial point, and further 2 marks for explanation.</p> <ul style="list-style-type: none"> • Data was collected at several sites (1) to ensure an accurate representation of views (1) to ensure conclusions could be supported with evidence (1). • Findings from primary data collection were compared to findings from secondary data collection (1) and similar ideas were found (1) showing how the conclusions confirmed the views about the new development (1). <p>Accept any other appropriate response.</p>	

Question number	Indicative content	
4(e)	<p style="text-align: center;">A03 (4 marks)/A04 (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:</p> <p>A03</p> <ul style="list-style-type: none"> • Evaluation is likely to be linked to the choice of equipment and data collection methods used and how these linked to the aims for the enquiry. • Evaluation will most likely be linked to how suitable the equipment was for the choice of data collection methods and how this may have affected the conclusions made. • Recognition of the extent to which aim was met and how the equipment and data collection methods were suitable for the type of fieldwork carried out. • A supported judgement should be reached about the choice of equipment and data collection methods, such as the strength and weaknesses, or suggestions of additional/alternative equipment or data collection methods which could have been used. <p>A04</p> <ul style="list-style-type: none"> • In Figure 4a there shows there is relevant fieldwork equipment for the data collection methods identified (e.g. Interview guide for interviews). • In Figure 4a shows the students are using both primary and secondary data. • In Figure 4a does not specify if they are using any maps. • In Figure 4b there are no age groups specified in the interview. • In Figure 4b some of the questions are too general, e.g. Q3. • In Figure 4b the student only collects quantitative data for Q6 which should have been followed with a question to understand the reasons for their respond in Q6. 	
Level	Mark	Descriptor
	0	No acceptable response.
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. (A03) • 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	<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) • 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	<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) • All aspects of the enquiry process are supported by the use of geographical skills. Communicates enquiry-specific fieldwork findings with clarity and uses relevant geographical terminology consistently. (AO4)

Question number	Answer	Mark
5(a)(i)	<p style="text-align: center;">A03 (1 mark)</p> <p>Award one mark for a suitable risk:</p> <ul style="list-style-type: none"> • Getting lost (1) • Falls/slips/injuries (1) • Loss of equipment (1) • Being hit by traffic/bikes (1) • Theft (1) • Sunburn/hypothermia (1) • Data collected is biased/data not reliable (1) • Failure of equipment (1) • Difficulty in achieving sample size (1) • Issues with wildlife (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 suitable factor, and a further mark for explanation, up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Accessibility (1) they needed to be in walking distance to ensure data could be collected (1). • To ensure range of data gathered across the village (1) to support reliable conclusions (1). • Time available (1) to ensure all sites could be feasibly visited in a day (1). • Safety (1) to not go in areas that do not have sufficient pavements (1). <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
5(b)	<p style="text-align: center;">A03 (2 marks)</p> <p>Award 1 mark for a suitable way identified, and a further mark for development or explanation.</p> <ul style="list-style-type: none"> • Local newspaper articles (1) to provide evidence to support conclusion (1). • Government reports (1) provided background data on new transport schemes (1). • Government website (1) with data on rural population characteristics (1). • Old photographs (1) to show change over time (1). 	(2)

	<ul style="list-style-type: none"> • Past investigations (1) to check for annual changes (1). • Maps/online maps/land use maps (1) to be able to explore patterns (1). <p>Accept any other appropriate response.</p> <p>Secondary data needs to be specific, do not accept, the internet for information. The secondary data will vary depending on the nature and context of the fieldwork, but it must be plausibly linked to the focus: rural environments.</p>	
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Question number	Answer	Mark
5(c)	AO3 (4 marks)	(4)
	<p>Award 1 mark for an advantage and 1 mark for a disadvantage with a further mark for development or explanation up to a maximum of 2 marks each. Max 2 marks for advantage or disadvantages.</p> <p>The data presentation techniques will vary depending on the nature and context of the fieldwork, but it must be plausibly linked to the focus: rural environments.</p> <p>Advantages:</p> <ul style="list-style-type: none"> • Pie chart allows view of relative proportion of people's views (1) which allows conclusions to be formed (1). • Bar graph give a clear visual picture of the data (1) which provides a summary of questionnaire data to be able to form conclusions (1). <p>Disadvantages:</p> <ul style="list-style-type: none"> • Pie chart only showed overall proportions of people's views (1) rather than explaining what they thought. • Bar graph only shows a snapshot of information (1) rather than how the data has changed over time (1). <p>Accept any other appropriate response.</p>	

Question number	Answer	Mark
5(d)	AO3 (3 marks)	(3)
	<p>Award 1 mark for an initial point, and further 2 marks for explanation.</p> <ul style="list-style-type: none"> • Data was collected at several sites (1) to ensure an accurate representation of views (1) to ensure conclusions could be supported with evidence (1). • Findings from primary data collection were compared to findings from secondary data collection (1) and similar ideas were found (1) showing how the conclusions confirmed the views about the new development (1). <p>Accept any other appropriate response.</p>	

Question number	Indicative content	
5(e)	<p style="text-align: center;">A03 (4 marks)/A04 (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:</p> <p>A03</p> <ul style="list-style-type: none"> • Evaluation is likely to be linked to the choice of equipment and data collection methods used and how these linked to the aims for the enquiry. • Evaluation will most likely be linked to how suitable the equipment was for the choice of data collection methods and how this may have affected the conclusions made. • Recognition of the extent to which aim was met and how the equipment and data collection methods were suitable for the type of fieldwork carried out. • A supported judgement should be reached about the choice of equipment and data collection methods, such as the strength and weaknesses, or suggestions of additional/alternative equipment or data collection methods which could have been used. <p>A04</p> <ul style="list-style-type: none"> • In Figure 5a there shows there is relevant fieldwork equipment for the data collection methods identified (e.g. Interview guide for interviews). • Figure 5a shows the students are using both primary and secondary data. • Figure 4a does not specify if they are using any maps. • In Figure 5b there are no age groups specified in the interview. • In Figure 5b some of the questions are too general, e.g. Q3. • In Figure 5b the student only collects quantitative data for Q6 which should have been followed with a question to understand the reasons for their respond in Q6. 	
Level	Mark	Descriptor
	0	No acceptable response.
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. (A03) • 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	<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) • 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	<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) • 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)(ii)	<p style="text-align: center;">A03 (2 marks)</p> <p>Award 1 mark for suitable factor, and a further mark for explanation, up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Accessibility (1) they needed to be in walking distance to ensure data could be collected (1). • To ensure range of data gathered across the village (1) to support reliable conclusions (1). • Time available (1) to ensure all sites could be feasibly visited in a day (1). • Safety (1) to not go in areas that do not have sufficient pavements (1). <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
6(b)	<p style="text-align: center;">A03 (2 marks)</p> <p>Award 1 mark for a suitable way identified, and a further mark for development or explanation.</p> <ul style="list-style-type: none"> • Local newspaper articles (1) to provide evidence to support conclusion (1). • Government reports (1) provided background data on new transport schemes (1). • Government website (1) with data on urban population characteristics (1). • Old photographs (1) to show change over time (1). • Past investigations (1) to check for annual changes (1). • Maps/online maps/land use maps (1) to be able to explore patterns (1). <p>Accept any other appropriate response.</p> <p>Secondary data needs to be specific, do not accept, the internet for information. The secondary data will vary depending on the nature and context of the fieldwork, but it must be plausibly linked to the focus: urban environments.</p>	(2)

Question number	Answer	Mark
6(c)	<p style="text-align: center;">AO3 (4 marks)</p> <p>Award 1 mark for an advantage and 1 mark for a disadvantage with a further mark for development or explanation up to a maximum of 2 marks each. Max 2 marks for advantage or disadvantages.</p> <p>The data presentation techniques will vary depending on the nature and context of the fieldwork, but it must be plausibly linked to the focus: urban environments.</p> <p>Advantages:</p> <ul style="list-style-type: none"> • Pie chart allows view of relative proportion of people's views (1) which allows conclusions to be formed (1). • Bar graph give a clear visual picture of the data (1) which provides a summary of questionnaire data to be able to form conclusions (1). • Line graph can show trends (1) this can be used to compare between sites (1). <p>Disadvantages:</p> <ul style="list-style-type: none"> • Pie chart only showed overall proportions of people's views (1) rather than explaining what they thought. • Bar graph only shows a snapshot of information (1) rather than how the data has changed over time (1). • Line graph only shows continuous data (1) so limits the conclusions that be drawn (1). <p>Accept any other appropriate response which might include: land use maps, word clouds, GIS maps, use of interview quotes, annotated photographs, radar graphs.</p>	(4)

Question number	Answer	Mark
6(d)	<p style="text-align: center;">AO3 (3 marks)</p> <p>Award 1 mark for an initial point, and further 2 marks for explanation.</p> <p>Conclusion will vary depending on the nature and context of the fieldwork, but it must be plausibly linked to the focus: urban environments.</p> <ul style="list-style-type: none"> • Data was collected at several sites (1) to ensure an accurate representation of views (1) to ensure conclusions could be supported with evidence (1). • Findings from primary data collection were compared to findings from secondary data collection (1) and similar ideas were found (1) showing how the conclusions confirmed the views about the new development (1). <p>Accept any other appropriate response.</p>	(3)

Question number	Indicative content	
6(e)	<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:</p> <p>AO3</p> <ul style="list-style-type: none"> • Evaluation is likely to be linked to the choice of equipment and data collection methods used and how these linked to the aims for the enquiry. • Evaluation will most likely be linked to how suitable the equipment was for the choice of data collection methods and how this may have affected the conclusions made. • Recognition of the extent to which aim could be met and how the equipment and data collection methods were suitable for the type of fieldwork carried out. • A supported judgement should be reached about the choice of equipment and data collection methods, such as the strength and weaknesses, or suggestions of additional/alternative equipment or data collection methods which could have been used. <p>AO4</p> <ul style="list-style-type: none"> • In Figure 6a there shows there is relevant fieldwork equipment for the data collection methods identified (e.g. Interview guide for interviews). • In Figure 6a shows the students are using both primary and secondary data. • In Figure 6a does not specify if they are using any maps. • In Figure 6b there are no age groups specified in the interview. • In Figure 6b some of the questions are too general, e.g. Q3. • In Figure 6b the student only collects quantitative data for Q6 which should have been followed with a question to understand the reasons for their respond in Q6. 	
Level	Mark	Descriptor
	0	No acceptable response.
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)

		<ul style="list-style-type: none"> • 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	<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) • 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	<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) • 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)	<p style="text-align: center;">AO1 (1 mark)</p> <p>Award 1 mark for a greenhouse gas provided:</p> <ul style="list-style-type: none"> • carbon dioxide/CO₂ (1) • carbon monoxide (1) • methane/CH₄ (1) • nitrous oxide/N₂O (1) • sulphur dioxide (1) • CFCs (1) • water vapour (1) 	(1)

Question number	Answer	Mark
7(a)(ii)	<p style="text-align: center;">AO1 (1 mark)</p> <p>D using more renewable energy (1)</p> <p>The answer cannot be A, B, or C as these are not responses to reduce climate change.</p>	(1)

Question number	Answer	Mark
7(a)(iii)	<p style="text-align: center;">AO1 (1 mark)</p> <p>B increase in flood protection (1)</p> <p>The answer cannot be A, C or D as these are not descriptions of climate change adaptation, they would all contribute to climate change.</p>	(1)

Question number	Answer	Mark
7(b)(i)	<p style="text-align: center;">A03 (2 marks)</p> <p>Award 1 mark for each of the following answers.</p> <ul style="list-style-type: none"> • France (1) • India (1) 	(2)

Question number	Answer	Mark
7(b)(ii)	<p style="text-align: center;">AO2/AO3 (4 marks)</p> <p>Award 1 mark for identification of a pattern shown on the resource, and a further mark for a reason for this pattern, up to a maximum of 2 marks per idea.</p> <ul style="list-style-type: none"> • There is widespread risk of drought across the globe (1) which could be due to the effects of climate change (1). • The majority of countries in south-east Asia, including China and India are at medium to high risk of drought (1) which could be due to their proximity to the equator where temperatures tend to be higher (1). • South America mostly medium risk (0.41-0.6) (1) due some areas close to the equator/ due to changing rainfall patterns (1). <p>Accept any other appropriate response.</p> <p>Do not accept ideas about areas with no data because this does not give an idea of a pattern of drought risk.</p> <p>Accept a pattern to be a reference to more than one country.</p>	(4)

Question number	Answer	Mark
7(c)	<p style="text-align: center;">AO2 (4 marks)</p> <p>Award 1 mark for identification of potential impact of climate change and a further mark for an explanation or development, up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Increased sea levels (1) which could cause flooding to many coastal areas which are low lying e.g. much of Bangladesh coastline (1). • Increased temperatures (1) which could alter growing conditions for crops/increased risk of wildfires (1). • Changing weather patterns (1) due to variations in temperatures which affect atmospheric circulation (1). • Increased risk of drought/desertification (1) due to changing rainfall patterns (1). • Changes to habitat conditions (1) which leads to migration of animals/people (1). <p>Accept any other appropriate response.</p>	(4)

Question number	Answer	Mark
7(d)(i)	<p style="text-align: center;">AO4 2 marks</p> <p>Award 1 mark for correct answer, and 1 mark for method.</p> <p>5.1 – 0.5 (1)</p> <p>= 4.6 (1)</p>	(2)

Question number	Answer	Mark
7(d)(ii)	<p style="text-align: center;">AO2 (1 mark) /AO3 1 mark</p> <p>Award 1 mark for initial point, and further mark for further description which could include the use of data, up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Deforestation accounts for most of the forest loss in tropical regions (1) with nearly 3.5 MhA (1). • In temperate regions wildfires have been responsible for much of the forest loss (1) over 2 mhA in North America (1). • In Africa most of the deforestation is from agriculture, mining and urbanisation (1) compared to Russia China and South Asia where it is mostly wildfires (1). • Significant differences between regions (1) with North America having lots of wildfires and Africa lots of deforestation (1). <p>Accept any other appropriate response.</p>	(2)

Question number	Indicative content
7(e)	<p style="text-align: center;">AO3 (3 marks)/AO4 (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:</p> <p>AO3</p> <ul style="list-style-type: none"> • Deforestation is the process of clearing forested land, often for forestry, agriculture, mining, settlement or transport route building. Although there can also be loss of forests from wildfires. • Since 1990 around 420mha of forest have been lost due to human activities. Although the rate of deforestation has decreased in recent years it is still nearly around 10 million ha a year.

	<ul style="list-style-type: none"> • Forest loss contributes around 5 billion tonnes of CO₂ into the atmosphere every year. • There are a range of impacts of deforestation that affect the immediate environment (e.g. soil erosion) but also there is the potential for impacts to affect global environments. For example through increased CO₂ which can contribute to climate change. <p>A04</p> <ul style="list-style-type: none"> • Figure 7c shows six potential effects of deforestation: loss of biodiversity; increased atmospheric CO₂; increased drought; disruptions to water cycle; increased flooding; increased wildfires. • Figure 7c demonstrates how deforestation has immediate and long terms impacts. • Figure 7c demonstrates how deforestation can have effects beyond the forest ecosystem. 	
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. (A03) • 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 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. (A03) • Uses geographical skills to obtain accurate 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:</p> <p>AO2</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 there is variation in the causes of deforestation between tropical and temperate regions. • Figure 7b shows how agriculture contributes to deforestation in all global regions, although to different extents. • Figure 7b shows how wildfires have contributed to over half of deforestation in North America and Russia, China and South Asia. • Figure 7c shows potential effects of deforestation: loss of biodiversity; increased atmospheric CO₂; increased drought; disruptions to water cycle; increased flooding; increased wildfires. • Figure 7c demonstrates how deforestation has immediate and long terms impacts. • Figure 7c demonstrates how deforestation can have effects beyond the forest ecosystem.

Question number	Indicative content	
Level	Mark	Descriptor
	0	No acceptable response.
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 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	<ul style="list-style-type: none"> • 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)	(1)
	<p>B people have the choice to move location. (1)</p> <p>The answer cannot be A, C or D as these are not reasons for the definitions of voluntary migration, they are all examples of forced migration.</p>	

Question number	Answer	Mark
8(a)(ii)	AO1 (1 mark)	(1)
	<p>A availability of employment (1)</p> <p>The answer cannot be B, C or D as these are not pull factors for rural-urban migration. B is a reason for building on the rural-urban fringe, C and D are push factors.</p>	

Question number	Answer	Mark
8(a)(iii)	AO1 (1 mark)	(1)
	<p>Award one mark for a suitable strategy:</p> <ul style="list-style-type: none"> • Quotas (1) • Visas (1) • Immigration regulations (1) • Permits for seasonal workers (1) • Points based system (1) • Border control (1) • Deportation (1) • Trade blocs (1) • Passports (1) <p>Accept any other appropriate response.</p>	

Question number	Answer	Mark
8(b)(i)	A03 (2 marks)	(2)
	<p>Award 1 mark for:</p> <ul style="list-style-type: none"> • Highest positive net migration: Iceland • Highest negative net migration: Oman 	

Question number	Answer	Mark
8(b)(ii)	<p style="text-align: center;">AO2/AO3 (4 marks)</p> <p>Award 1 mark for the pattern, and a further mark for development with reference to the resource, up to a maximum of 2 marks per idea. Do not double credit mirrored reasons.</p> <ul style="list-style-type: none"> • High levels of negative net migration in South Asia (0-4.9) (1) due to a globalised world in which international migration is commonplace (1). • Some high levels of negative net migration in Central Africa (1) due to poverty/desire for jobs with higher income (1). • Positive net migration in North America (1) due to desire for higher paid jobs/better quality of life (1). • More positive net migration in HICs than LICs (1) due to higher availability of jobs (1). <p>Accept any other appropriate response.</p> <p>Accept a pattern to be a reference to more than one country.</p>	(4)

Question number	Answer	Mark
8(c)	<p style="text-align: center;">AO1/AO2 (4 marks)</p> <p>Award 1 mark (AO1) for identification of suitable advantage and disadvantage and a further mark (AO2) for an explanation of the impact, up to a maximum of 2 marks.</p> <p>Advantages:</p> <ul style="list-style-type: none"> • Increased employment opportunities (1) which can support increased household incomes (1). • Increased spending in the local areas (1) can boost the local economy (1). • Increased investment in infrastructure and services to cater for tourists (1) which can attract further investment and businesses (1). • Sharing of different cultures (1) leading to increased awareness of languages/traditions (1). • Positive multiplier effect (1) leading to greater investment in the area (1). <p>Disadvantages:</p> <ul style="list-style-type: none"> • Can put pressure on services (1) which can reduce availability of services for residents (1). • Can create environmental damage in some areas due to high numbers of tourists (1) which can reduce biodiversity (1). • Increased carbon emissions (1) due to lots of air travel (1). 	(4)

	<ul style="list-style-type: none"> • Economy become reliant on tourism (1) which makes the economy vulnerable to events that reduce tourism (1). • Erosion of local cultures (1) due to influence of western brands (1). <p>Accept any other appropriate response.</p> <p>Do not credit pollution on its own.</p>	
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Question number	Answer	Mark
8(d)(i)	<p style="text-align: center;">A04 (2 marks)</p> <p>Award 1 mark a suitable correct method and 1 mark for correct answer.</p> <p>125-35 (1) Accept 33-35 =90 (1) Accept responses in the range of 92-90</p>	(2)

Question number	Answer	Mark
8(d)(ii)	<p style="text-align: center;">A03 (2 marks)</p> <p>Award 1 mark for a suitable trend identified, and a further mark for description which could include the use of data.</p> <ul style="list-style-type: none"> • The development aid received by Ethiopia gradually increases (1), rising from around \$5 to nearly \$50 by 2019 (1). • The development aid received by Rwanda increases significantly (1) but fluctuated between 2010-2015 (1). • Development aid increased for all countries shown (1) with the highest growth experienced by South Sudan 2010-2019 (1). <p>Accept any other appropriate response.</p>	(2)

Question number	Indicative content
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:</p>

	<p>AO3</p> <ul style="list-style-type: none"> • Trade blocs play an important role in facilitating international relations between countries, in particular supporting trade. • The EU and NAFTA are some examples of trade blocs which have facilitated a large volume of trade/movement of people. • More recently African Continental Free Trade Area that now includes 54 countries and is designed to support trade between African nations. • There are other factors that supporting the creation of a more globalised economy. The actions of these international institutions such as the world bank and IMF as they try to reduce barriers to trade and support the development of different economies. • Where support is given to developing and emerging economies which can then lead to more integration into the global economy. Or the World Trade Organisation can place restrictions on some countries which can lead to some countries being more isolated from the global economy than others. • Transnational Corporations (TNCS) are another key factor in driving a globalised economy as they often have operations in different countries and are often linked to foreign direct investment (FDI). <p>AO4</p> <ul style="list-style-type: none"> • Figure 8c shows information about the Regional Comprehensive Economic Partnership free trade deal. • Figure 8c shows how this trade deal has the potential to impact a population of 2.2. billion. • Figure 8c shows how the countries involved in this free trade deal share 28% of global trade/30% of global economic output. 	
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)

Question number	Indicative content
8(f)	<p style="text-align: center;">A02 (4 marks), A03 (4 marks), A04 (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:</p> <p>A02</p> <ul style="list-style-type: none"> • The growth of the global economy has been driven by a range of factors including trade and investment but also aid, labour, improvements in transportation and developments in technology. • World trade volume (as measured by exports and imports) is around 45 times higher than in 1950, and trade values have increased by almost 400 times according to the World Trade Organisation. • Increases in trade have been made possible by creation of trade links and trade blocs between countries which has facilitated greater international trade. <p>A03</p> <ul style="list-style-type: none"> • Relationships between countries through trade agreements and trade blocs have increased some trade routes but have restricted others. Regional trade blocs such as ASEAN promote growth in the region but don't necessarily lead to increased global trade. Although increased economies in this region will contribute to the global economy overall. • Growth has been facilitated by advances in technology (such as the internet) which have increased productivity and reduced trade barriers and costs. It allows not only TNCs but also small and medium-sized enterprises to participate in the global economy. • The internet has revolutionized various aspects that can affect the global economy it has transformed how people communicate, reduced the need for transport, supported mass marketing and allowed for increased interactions. • Many countries have been supported by various forms of economic aid (such as loans from the IMF which aim to support sustainable growth). For many countries these have been an important measure to ensure growth in the economy. <p>A04</p> <ul style="list-style-type: none"> • Figure 8b shows how development aid received in selected African countries has increased since 1999.

Question number	Indicative content	
	<ul style="list-style-type: none"> • Figure 8b shows how for some countries the level of Development aid received per capita has increased significantly, for example in South Sudan this has increased from \$40 to \$160 by 2019. • Figure 8b shows how some countries have had a consistently rising amount of development aid from 1999-2019. • Figure 8c shows information about the Regional Comprehensive Economic Partnership free trade deal. • Figure 8c shows how this trade deal has the potential to impact a population of 2.2. billion. • Figure 8c shows how the countries involved in this free trade deal share 28% of global trade/30% of global economic output. 	
Level	Mark	Descriptor
	0	No acceptable response.
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 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	<ul style="list-style-type: none"> • Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Applies understanding to deconstruct information and provides logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3) • Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)

Question number	Answer	Mark
9(a)(i)	<p style="text-align: center;">AO1 (1 mark)</p> <p>D the total value of all goods and services produced by a country in a year (1)</p> <p>The answer cannot be A, B, or C as these are not definitions of gross domestic product (GDP).</p>	(1)

Question number	Answer	Mark
9(a)(ii)	<p style="text-align: center;">AO1 (1 mark)</p> <p>D World Bank (1).</p> <p>The answer cannot be A as this is an organisation that focuses on science and hazards, B is a trade bloc and C is a security system.</p>	(1)

Question number	Answer	Mark
9(a)(iii)	<p style="text-align: center;">AO1 (1 mark)</p> <p>Award 1 mark for a suitable way identified.</p> <ul style="list-style-type: none"> • Invest in education (1). • Build infrastructure (1) • To relieve poverty (1). • To provide suitable equipment/technology (1) • Training (1) • Micro-loans / financial support / loans (1) <p>Accept any other appropriate response.</p>	(1)

Question number	Answer	Mark
9(b)(i)	<p style="text-align: center;">A03 (2 marks)</p> <p>Award 1 mark for each of the following.</p> <ul style="list-style-type: none"> • Spain (1) • Australia (1) 	(2)

Question number	Answer	Mark
9(b)(ii)	<p style="text-align: center;">AO2/AO3 (4 marks)</p> <p>Award 1 mark for identification of a pattern, with a further mark for development with reference to the resource, up to a maximum of 2 marks. Do not double credit mirrored reasons.</p> <ul style="list-style-type: none"> • There is significant variation in life expectancy in South America (1), which could be due to variable access to healthcare which could lead to reduced life expectancy (1). • There are generally high life expectancies experienced across Europe (1) as these are considered developed countries with good healthcare systems (1). • Generally longer life expectancy in North America (1) due to higher incomes which can be used for better diet (1). <p>Accept any other appropriate response.</p> <p>Accept a pattern to be a reference to more than one country.</p>	(4)

Question number	Answer	Mark
9(c)	<p style="text-align: center;">AO1/AO2 (4 marks)</p> <p>Award 1 mark for identification of suitable advantage and a disadvantage, with a further mark for development or explanation, up to a maximum of 2 marks.</p> <p>Advantages</p> <ul style="list-style-type: none"> • Often involve large sums of investment (1) which can involve large international or national organisations (1). • Can provide opportunities to improve infrastructure (1) which can have a positive effect on a wide range of people/sectors (1). • Potential for larger economic impact (1) due to the large scale of the project (1). <p>Disadvantages</p> <ul style="list-style-type: none"> • Often requires large amounts of money (1) which may lead or tied loans/create debt for the country (1). • Tend not to have involvement from local people (1) so may not have desired impact for development (1). • Does not always use appropriate technology (1) which means local people don't always benefit (1). <p>Accept any other appropriate response.</p>	(4)

Question number	Answer	Mark
9(d)(i)	<p style="text-align: center;">A04 (2 marks)</p> <p>Award 1 mark for correct method and a further mark for correct answer.</p> <ul style="list-style-type: none"> • 120-68 (1) Allow 119-20 and allow 68-69 • 52 (1) Accept answers in the range 50-52 	(2)

Question number	Answer	Mark
9(d)(ii)	<p style="text-align: center;">A04 (2 marks)</p> <p>Award 1 mark for the identification of suitable trends and a further mark for description, which could include the use of data, up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> • Many countries have consistently had consistent numbers of people experiencing food insecurity (1) for example Bangladesh has been around 50 million from 2015-2019 (1). • Nigeria has experienced a significant increase in people experiencing food security (1) from 6 million to around (1) • Brazil has experienced some fluctuation in the number of people experiencing food insecurity (1) fluctuating 38 and 48 million (1). • Most countries have an increase in food insecurity (1) with the exception of Estonia which stays around the same level (1). <p>Accept any other appropriate response.</p>	(2)

Question number	Indicative content
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:</p> <p>A03</p> <ul style="list-style-type: none"> • The Human Development Index is a composite index which is used to measure a country's development, using a combination of life expectancy, years of schooling and GNI per capita.

	<ul style="list-style-type: none"> • HDI is a widely used measures of quality of life. The scores range from 0 to 1. The higher the HDI, this indicates a higher level of development and a higher quality of life. • HDI uses a mixture of three indicators which means it takes into account more measures than just using single indicators such as GNP/GNI/per capita income, or life expectancy. • The scores are still made at a national level and therefore they mask levels of inequality and differences in development within countries. • There are a range of economic, social, and political indicators that can be used to measure development that are not included in the HDI (e.g. birth rate, people per doctor, Gini equality index). <p>AO4</p> <ul style="list-style-type: none"> • Figure 9c shows how the human development index has three key dimensions. • Figure 9c shows how the dimension of living a long and healthy life is measured through life expectancy. • Figure 9c shows how the knowledge dimension is measured through expected years of schooling. • Figure 9c shows how the decent standard of living is measures through GNI per capita. 	
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)

Question number	Indicative content
9(f)	<p data-bbox="555 264 1262 297" style="text-align: center;">A02 (4 marks), A03 (4 marks), A04 (4 marks)</p> <p data-bbox="411 342 722 376">Marking instructions</p> <p data-bbox="411 383 1342 477">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 data-bbox="411 528 831 562">Indicative content guidance</p> <p data-bbox="411 568 1393 663">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:</p> <p data-bbox="411 714 475 748">A02</p> <ul data-bbox="459 748 1393 965" style="list-style-type: none"> • Human welfare of a country can be affected by a range of factors economic, social, technological, and cultural. • Growth in GDP and other economic indicators are often associated with improved human welfare. • Improvements in human welfare are often associated with improvements in life expectancy, mortality rates. <p data-bbox="411 1003 475 1037">A03</p> <ul data-bbox="459 1037 1406 1626" style="list-style-type: none"> • Development is often understood through economic terms through GDP etc. which does not necessarily reflect overall development of a country in terms of quality of life. • Social measures of development could include inequality which may more accurately portray the overall development of a country rather than an increase in wealth, which could have been fuelled by discovery of natural resources, or growth in a particular industry. • Patterns of development are often discussed at the national level, whereas there are significant variations within social and economic experiences within countries. • Human welfare issues are complex and while improvements in economic terms at the national scale may suggest development, the pattern may be uneven. Improvements to housing, education and healthcare are key social issues that lead to increased human welfare, but they all have an economic cost. <p data-bbox="459 1632 523 1666">A04</p> <ul data-bbox="459 1693 1425 1998" style="list-style-type: none"> • Figure 9b shows variations in the number of people who experience food insecurity in 2015-2019. • Figure 9b shows how many of the selected countries in Africa have a consistent level of people who experienced food insecurity during 2015-2019. • Figure 9b shows how Nigeria has had a rising number of people who experience food insecurity in 2015-2019. • Figure 9c shows how the human development index has three key dimensions.

Question number	Indicative content	
	<ul style="list-style-type: none"> • Figure 9c shows how the dimension of living a long and healthy life is measured through life expectancy. • Figure 9c shows how the knowledge dimension is measured through expected years of schooling. • Figure 9c shows how the decent standard of living is measured through GNI per capita. 	
Level	Mark	Descriptor
	0	No acceptable response.
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 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	<ul style="list-style-type: none"> • 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)

