

INTERNATIONAL GCSE GEOGRAPHY

9230/2

Paper 2 Challenges in the Human Environment

Mark scheme

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Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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Level of response marking instructions

Level of response mark schemes are broken down into levels, each of which has a descriptor. The descriptor for the level shows the average performance for the level. There are marks in each level.

Before you apply the mark scheme to a student's answer read through the answer and annotate it (as instructed) to show the qualities that are being looked for. You can then apply the mark scheme.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptor for that level. The descriptor for the level indicates the different qualities that might be seen in the student's answer for that level. If it meets the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptor and the answer. With practice and familiarity you will find that for better answers you will be able to quickly skip through the lower levels of the mark scheme.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best fit approach for defining the level and then use the variability of the response to help decide the mark within the level, ie if the response is predominantly level 3 with a small amount of level 4 material it would be placed in level 3 but be awarded a mark near the top of the level because of the level 4 content.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The descriptors on how to allocate marks can help with this. The exemplar materials used during standardisation will help. There will be an answer in the standardising materials which will correspond with each level of the mark scheme. This answer will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the example to determine if it is the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the Lead Examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

Indicative content in the mark scheme is provided as a guide for examiners. It is not intended to be exhaustive and you must credit other valid points. Students do not have to cover all of the points mentioned in the Indicative content to reach the highest level of the mark scheme.

An answer which contains nothing of relevance to the question must be awarded no marks.

Section A – Urban issues and challenges

Question 1

Qu	Part	Marking guidance	Total marks
01	1	Which named African city has the fastest urban growth? Lagos	1 mark AO4=1

Qu	Part	Marking guidance	Total marks
01	2	How many African cities shown in Figure 1 have a population of over 5 million? 4	1 mark AO4=1

Qu	Part	Marking guidance	Total marks
01	3	Calculate the mean urban growth rate per hour for the named Asian cities shown on Figure 1. 45	1 mark AO4=1

Qu	Part	Marking guidance			Total marks
01	4	Explain why cities in many LICs/NEEs are growing rapidly.			4 marks AO1=2 AO2=2
		Level 2 (Clear)	3–4 marks	Identifies both migration and natural increase as factors which are encouraging the growth of cities in LIC/NEEs with clear explanation (migration factors/youthful population) OR offers development of one factor (3 marks)	
		Level 1 (Basic)	1–2 marks	Identifies either migration OR natural increase as a factor which is encouraging the growth of cities in LIC/NEEs with some attempt to explain why the identified factor encourages urban growth.	
			0	No relevant content.	
		Indicative content • Migration is a key factor in urban growth. • Push and pull factors of migration are significant (relative advantages and disadvantages of different places). • Push factors are often identified as climatic hazards, the challenges of farming, limited social services, isolation, limited opportunities. • Pull factors are often identified as wider range of employment opportunities, higher incomes, better access to healthcare and education, better connectivity/public transport, shopping/entertainment opportunities, link to family members living in the area, general improvements to living standards. • Natural increase is significant because cities have a youthful population so fertility rates will be higher. • Falling death rates in urban areas because of better healthcare means that more babies survive (infant mortality is lower).			

Qu	Part	Marking guidance	Total marks
01	5	What percentage of the urban population had access to safe drinking water in India in 2016? 80 (accept 79/81)	1 mark AO4=1

Qu	Part	Marking guidance	Total marks
01	6	Which country in Figure 2 had the greatest difference between rural and urban access to clean water in 2016? Shade one circle only. D Senegal	1 mark AO4=1

Qu	Part	Marking guidance			Total marks
01	7	Explain how strategies are being used to increase water or energy sustainability in LIC/NEE cities.			
		Use a case study of a city in a LIC or NEE that you have studied.			
		Level 3 (Detailed)	5–6 marks	Demonstrates detailed knowledge about strategies used to increase either water or energy sustainability with reference to a specific example(s). Uses this to express an understanding about how the strategy will ensure long term access to either water or energy and why it is seen as sustainable.	
		Level 2 (Clear)	3–4 marks	Demonstrates clear knowledge about strategies used to increase either water or energy sustainability with reference to a specific example(s). Uses this to express an understanding about how the strategy will increase access to either water or energy with some awareness of links to sustainability.	
		Level 1 (Basic)	1–2 marks	Identifies either a water or energy supply strategy and makes simplistic points about how it is increasing the availability of water or energy.	
			0	No relevant content.	
Indicative content					
• Building new dams to collect, store and distribute water. • Rain harvesting at both small scale (individual houses) and larger scale (industry). • Reducing wastage by repairing leaks and replacing older systems. • Constructing small scale recycling systems. • Constructing more treatment plants so that water can be re-used. • Water metering to manage demand. • Energy conservation regulations in all new buildings. • Ensuring that all appliances identify the level of energy use. • Increasing the use of renewable energy (regulations on energy companies to ensure this). • In Mumbai – Introduction of solar power generation in parks/public buildings. • In Mumbai – policy that by 2030 at least 40% of energy will be generated by renewables.					
6 marks AO1=3 AO2=3					

Qu	Part	Marking guidance			Total marks
01	8	Suggest how an urban regeneration project you have studied in London or New York has improved economic and environmental conditions.			6 marks AO2=3 AO3=3
		Level 3 (Detailed)	5–6 marks	Detailed understanding of how a specific regeneration project has changed an area which demonstrates an awareness of the economic and environmental challenges that the area had and an evaluative judgement about how they have been improved/resolved by the regeneration project. Balanced appreciation of both factors.	
		Level 2 (Clear)	3–4 marks	Clear understanding of how a specific regeneration project has changed an area with a judgement about how the project has resolved/improved the economic and environmental issues that the area had. Both factors considered, not always balanced.	
		Level 1 (Basic)	1–2 marks	Identifies how a regeneration project has helped to improve an area with limited judgement about specific economic or environmental factors.	
			0	No relevant content.	
		Indicative content			
Economic impacts					
• Investment in new infrastructure/business. • A range of employment opportunities during the building phase. • A range of jobs to suit different skill/qualification levels. • New service industries (retail/business). • Improved communications which link areas and create business opportunities. • Idea of ‘multiplier’ opportunities. • Generation of visitor/tourism opportunities.					

		Environmental impacts • Development of open space/parkland. • Water courses cleaned up and restocked. • Planting of a range of trees/shrubs (idea of increasing biodiversity). • Walking/cycling routes introduced. • Increase in recycling opportunities. • New buildings constructed with energy/water efficiency measures. • Pedestrianised/traffic free areas improve air quality.	
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Qu	Part	Marking guidance	Total marks												
01	9	To what extent are social and economic inequalities a challenge in world cities? Use evidence from Figure 3 and your own understanding. <table><tr><td>Level 3 (Detailed)</td><td>7–9 marks</td><td>Uses accurate knowledge to express an appreciation of the factors that express inequality (income, housing quality, levels of health and education, demographic factors etc) and offer a balanced discussion which considers the challenge of resolving such a complex issue. Uses evidence from Figure 3 to identify and support key points.</td></tr><tr><td>Level 2 (Clear)</td><td>4–6 marks</td><td>Shows an appreciation of what is meant by inequality, with some use of factors that evidence it. Clear reference to Figure 3 and offers a discussion which suggests why resolving this issue may be a challenge.</td></tr><tr><td>Level 1 (Basic)</td><td>1–3 marks</td><td>Shows a basic appreciation of inequality which largely focuses on ‘rich-poor’ ideas, with simple reference to Figure 3 and limited appreciation of why resolving this issue may be a challenge.</td></tr><tr><td></td><td>0</td><td>No relevant content.</td></tr></table> Indicative content There is clear evidence of significant social and economic differences within world cities (London/New York). • distribution of wealth (income) • employment (both levels and types) • crime rates • proportion receiving welfare benefits • housing quality • housing ownership • levels of health • access to health/education • education outcomes • demographic data (death rates/birth rates/life expectancy) • environmental quality. This is a multi-faceted challenge which involves both short and long term planning. It is a challenge because of the scale of the issue and the range of factors involved.	Level 3 (Detailed)	7–9 marks	Uses accurate knowledge to express an appreciation of the factors that express inequality (income, housing quality, levels of health and education, demographic factors etc) and offer a balanced discussion which considers the challenge of resolving such a complex issue. Uses evidence from Figure 3 to identify and support key points.	Level 2 (Clear)	4–6 marks	Shows an appreciation of what is meant by inequality, with some use of factors that evidence it. Clear reference to Figure 3 and offers a discussion which suggests why resolving this issue may be a challenge.	Level 1 (Basic)	1–3 marks	Shows a basic appreciation of inequality which largely focuses on ‘rich-poor’ ideas, with simple reference to Figure 3 and limited appreciation of why resolving this issue may be a challenge.		0	No relevant content.	9 marks AO2=3 AO3=3 AO4=3
Level 3 (Detailed)	7–9 marks	Uses accurate knowledge to express an appreciation of the factors that express inequality (income, housing quality, levels of health and education, demographic factors etc) and offer a balanced discussion which considers the challenge of resolving such a complex issue. Uses evidence from Figure 3 to identify and support key points.													
Level 2 (Clear)	4–6 marks	Shows an appreciation of what is meant by inequality, with some use of factors that evidence it. Clear reference to Figure 3 and offers a discussion which suggests why resolving this issue may be a challenge.													
Level 1 (Basic)	1–3 marks	Shows a basic appreciation of inequality which largely focuses on ‘rich-poor’ ideas, with simple reference to Figure 3 and limited appreciation of why resolving this issue may be a challenge.													
	0	No relevant content.													

Section B – The changing economic world

Question 2

Qu	Part	Marking guidance	Total marks
02	1	Which continent had the most countries with average wealth of less than US\$ 500? Shade one circle only. A Africa	1 mark AO4=1

Qu	Part	Marking guidance	Total marks									
02	2	To what extent does Figure 4 suggest that there are significant global differences in levels of economic development? <table><tr><td>Level 2 (Clear)</td><td>3–4 marks</td><td>Uses Figure 4 to identify global differences and the wealth gap expressed through the information and have a discussion about how this illustrates/reflects on relative levels of economic development.</td></tr><tr><td>Level 1 (Basic)</td><td>1–2 marks</td><td>Uses Figure 4 to identify global differences in wealth and makes simple points about how this shows that some areas are poorer than others.</td></tr><tr><td></td><td>0</td><td>No relevant content.</td></tr></table> Indicative content • There are significant global differences in income shown in Figure 4. • There are also regional differences (within continents) shown in Figure 4. • The data in Figure 4 illustrates relative wealth (and poverty) and reflects on the economic status of a country (HIC, LIC, NEE). • Levels of wealth might reflect on the level of economic development (types of employment/incomes etc). • Levels of wealth might reflect on levels of infrastructure and access to infrastructure (energy, water, communications etc), all of which are indications of the level of development. • Levels of wealth might reflect on the level of social development (education/health etc).	Level 2 (Clear)	3–4 marks	Uses Figure 4 to identify global differences and the wealth gap expressed through the information and have a discussion about how this illustrates/reflects on relative levels of economic development.	Level 1 (Basic)	1–2 marks	Uses Figure 4 to identify global differences in wealth and makes simple points about how this shows that some areas are poorer than others.		0	No relevant content.	4 marks AO3=2 AO4=2
Level 2 (Clear)	3–4 marks	Uses Figure 4 to identify global differences and the wealth gap expressed through the information and have a discussion about how this illustrates/reflects on relative levels of economic development.										
Level 1 (Basic)	1–2 marks	Uses Figure 4 to identify global differences in wealth and makes simple points about how this shows that some areas are poorer than others.										
	0	No relevant content.										

Qu	Part	Marking guidance	Total marks
02	3	Complete Figure 5 by adding the information below. USA share of global exports (2020) – 8% Vertical line must touch the 8% line and not the lines either side. The bar does not need to be shaded.	1 mark AO4=1

Qu	Part	Marking guidance	Total marks
02	4	How much greater was the share of global exports in China compared to South Korea in 2020? 12% Accept × 5 (five times as much).	1 mark AO4=1

Qu	Part	Marking guidance			Total marks
02	5	Describe the changing trading relationship with the wider world of one LIC or NEE you have studied.			4 marks AO1=2 AO2=2
		Level 2 (Clear)	3–4 marks	Shows an awareness about how trade has changed, either in terms of the types of goods that are traded OR in terms of the pattern and volume of trade.	
		Level 1 (Basic)	1–2 marks	A basic appreciation of how trade has grown with simple reference to types of goods OR pattern of trade OR volume of trade.	
			0	No relevant content.	
		Indicative content - Ideas about the growth (volume) of trade which might reflect information in Figure 5. - Trade has become more global, rather than regional. - The types of goods traded have changed (exporting increased amounts of manufactured goods/technology products and services; importing more raw materials and energy). - Growth of TNCs has increased globalisation/trade (Apple in China etc). - Answer might focus on the particular growth of international companies/products (Samsung – South Korea).			

Qu	Part	Marking guidance			Total marks
02	6	'Economic development always leads to improvements in the quality of life for people in LICs/NEEs.'			9 marks AO1=3 AO2=3 AO3=3
		To what extent do you agree with this statement?			
		Level 3 (Detailed)	7–9 marks	Demonstrates accurate and detailed knowledge and understanding about the potential for economic development to improve the quality of life (demonstrating a broad appreciation of what constitutes 'quality of life') for people in LICs/NEEs. Applies this effectively to have a discussion which offers an evaluative judgement about the extent to which economic development can improve the quality of life for people in LICs/NEEs.	
		Level 2 (Clear)	4–6 marks	Demonstrates appropriate and clear knowledge and understanding about the potential for economic development to improve the quality of life ('quality of life' considered in basic terms – jobs/money/access to basic facilities) for people in LICs/NEEs. Applies this effectively to have a discussion which attempts to make an evaluative judgement about how economic development can improve the quality of life for people in LICs/NEEs.	
		Level 1 (Basic)	1–3 marks	Demonstrates some knowledge and understanding which identifies ways that economic development can create opportunities (jobs/money) and how this might improve the quality of life. Simplistic attempt to offer an evaluative judgement.	
			0	No relevant content.	
Indicative content • 'Quality of life' includes a wide range of factors, including economic, social and environmental factors. • Economic development creates employment opportunities and income security (move away from informal economy). • Economic development creates infrastructure opportunities (energy, water and communications). • Economic development may help to upskill the population. • Economic development may help to move a country to a more 'value added' economy where it can achieve higher prices for finished goods. • Economic development may help to develop the service sector. • Links to the national economy in relation to tax, which can be used to improve infrastructure and social facilities such as education and healthcare and access to services.					

		• Links to the national economy in relation to increased trade opportunities, which can reduce trade deficits and create opportunities for greater imports. • Businesses might be encouraged to set up or expand (encouragement of TNC investment). • Economic development may lead to greater political stability and political freedoms. • There are both advantages and disadvantages in relation to the development of industry (TNCs). • People can be exploited by only being paid low wages or having poor working conditions. • Dependence can be an issue in relation to natural disasters, pandemics and civil unrest. • Advantages may only be felt by wealthier business owners and there may be limited 'trickle down' effects. • Effects may be regional (core areas) with some areas benefiting and others not. • There may be significant environmental impacts which could negatively affect levels of health.	
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Section C – Global issues**Water and energy resources or Population and communication****Question 3 – Water and energy resources**

Qu	Part	Marking guidance	Total marks
03	1	Which regions in Figure 6 had the highest level of access to safely managed drinking water facilities in 2020? Shade one circle only. B North America and Europe.	1 mark AO4=1

Qu	Part	Marking guidance	Total marks
03	2	Calculate the percentage difference between the regions with the highest and lowest level of access to safely managed drinking water facilities shown in Figure 6. Allow 60–68	1 mark AO4=1

Qu	Part	Marking guidance			Total marks
03	3	Explain how lack of access to safe water can affect local people and communities.			4 marks AO1=2 AO2=2
		Level 2 (Clear)	3–4 marks	Clear understanding of how a lack of safe water can affect communities which brings in both individual impacts and broader community impacts.	
		Level 1 (Basic)	1–2 marks	Some understanding of how a lack of safe water can affect people which considers individual impacts OR broader community impacts OR both in a superficial manner.	
			0	No relevant content.	
		Indicative content			
		• Direct individual impacts include links to disease and water pollution. • Potential contamination of food. • Indirect individual impacts include the cost of illness, in relation to treatment costs and the inability to work and earn a living. • Community costs include the health costs of managing illness and the resulting reduction in access to social services/education. • There are also ‘opportunity costs’, where money spent on managing the impacts of unsafe water could have been spent on other social or infrastructural services. • Community costs also include loss of agricultural and industrial production. • The overall impact could be a negative effect on socio-economic development.			

Qu	Part	Marking guidance	Total marks
03	4	Outline two factors affecting water availability. The Specification mentions: • climate • geology • pollution of supply • over-abstraction • limited infrastructure • poverty/cost of water • conflict. • natural hazards 2 × 2 marks. 1 mark for identifying a particular factor and 1 mark for development of the identified factor. • Climate might reduce water availability (1) if there is a drought and rivers dry up. (1) • People might not be able to afford to buy water (1) and have to rely on contaminated sources. (1) • If agriculture/industry remove a lot of water (1) there may be less available for domestic purposes. (1)	4 marks AO2=4

Qu	Part	Marking guidance	Total marks												
03	5	‘Large-scale water transfer schemes create more advantages than disadvantages.’ To what extent do you agree with this statement? Use an example you have studied. Max Level 1 if no appropriate example. Max Level 2 if only advantages or disadvantages considered. <table><tr><td>Level 3 (Detailed)</td><td>5–6 marks</td><td>Demonstrates accurate and detailed knowledge and understanding about the advantages and disadvantages of at least one named large scale water transfer scheme. Applies this effectively to put forward a coherent discussion which evaluates the impact of the example(s) used.</td></tr><tr><td>Level 2 (Clear)</td><td>3–4 marks</td><td>Demonstrates appropriate and clear knowledge and understanding about the advantages and/or disadvantages of at least one named large scale water transfer scheme. Applies this effectively to put forward a discussion which offers some judgement about the relative merit of the example(s) used.</td></tr><tr><td>Level 1 (Basic)</td><td>1–2 marks</td><td>Offers an appreciation that large scale water transfer schemes can have advantages and/or disadvantages with limited use of a specific example.</td></tr><tr><td></td><td>0</td><td>No relevant content.</td></tr></table> Indicative content Advantages include: • income generated, which can be used for development • potential water/energy supply • improvements to infrastructure and consequent living standards • creates opportunities for industry and agriculture • creates employment opportunities • increased skill base. Disadvantages include: • people being moved from land/communities • destruction of environment/damage to ecosystem • cost of large scale projects, relative to smaller scale projects • water supplied to larger settlements increases wealth gap.	Level 3 (Detailed)	5–6 marks	Demonstrates accurate and detailed knowledge and understanding about the advantages and disadvantages of at least one named large scale water transfer scheme. Applies this effectively to put forward a coherent discussion which evaluates the impact of the example(s) used.	Level 2 (Clear)	3–4 marks	Demonstrates appropriate and clear knowledge and understanding about the advantages and/or disadvantages of at least one named large scale water transfer scheme. Applies this effectively to put forward a discussion which offers some judgement about the relative merit of the example(s) used.	Level 1 (Basic)	1–2 marks	Offers an appreciation that large scale water transfer schemes can have advantages and/or disadvantages with limited use of a specific example.		0	No relevant content.	6 marks AO1=3 AO3=3
Level 3 (Detailed)	5–6 marks	Demonstrates accurate and detailed knowledge and understanding about the advantages and disadvantages of at least one named large scale water transfer scheme. Applies this effectively to put forward a coherent discussion which evaluates the impact of the example(s) used.													
Level 2 (Clear)	3–4 marks	Demonstrates appropriate and clear knowledge and understanding about the advantages and/or disadvantages of at least one named large scale water transfer scheme. Applies this effectively to put forward a discussion which offers some judgement about the relative merit of the example(s) used.													
Level 1 (Basic)	1–2 marks	Offers an appreciation that large scale water transfer schemes can have advantages and/or disadvantages with limited use of a specific example.													
	0	No relevant content.													

Qu	Part	Marking guidance	Total marks
03	6	Complete Figure 7 by using the information below. Biomass – 4% Other renewable energy sources – 8% 1 mark for correct line and 1 mark for shading. Accept sectors in any order.	2 marks AO4=2

Qu	Part	Marking guidance	Total marks
03	7	Give two examples of ‘other renewable energy sources’ in Figure 7. • Hydro-electricity (hydro-power)/accept “hydro”/water dams (not just “water”) • Geothermal energy • Tidal energy • Wave energy • Accept nuclear energy 2 × 1 mark	2 marks AO1=2

Qu	Part	Marking guidance	Total marks									
03	8	Explain how a local renewable energy scheme in a LIC or NEE is increasing energy sustainability. Max Level 1 if generic response with no implied reference to the idea of 'local'. <table><tr><td>Level 2 (Clear)</td><td>3–4 marks</td><td>Clearly explains how a local renewable scheme is increasing energy supply with some reference about why the scheme is seen as sustainable.</td></tr><tr><td>Level 1 (Basic)</td><td>1–2 marks</td><td>Shows some understanding about how a local renewable energy scheme is increasing energy supply OR a basic awareness of sustainability (idea of renewables).</td></tr><tr><td></td><td>0</td><td>No relevant content.</td></tr></table> Indicative content • A micro-hydro scheme in Peru is a commonly used example. • The idea of a 'local scheme' implies that it is relatively small scale. • The idea of small scale and sustainable implies an element of 'appropriateness' in relation to the use of technology, so large scale hydro-schemes or geothermal energy may not be appropriate. • Small scale hydro, solar or wind turbines and bio-mass are likely to be the ideas which are most appropriate. • Sustainable can be considered in relation to on-going, reliable energy supply and/or the ability to manage/maintain the scheme within the context of the local area.	Level 2 (Clear)	3–4 marks	Clearly explains how a local renewable scheme is increasing energy supply with some reference about why the scheme is seen as sustainable.	Level 1 (Basic)	1–2 marks	Shows some understanding about how a local renewable energy scheme is increasing energy supply OR a basic awareness of sustainability (idea of renewables).		0	No relevant content.	4 marks AO1=2 AO2=2
Level 2 (Clear)	3–4 marks	Clearly explains how a local renewable scheme is increasing energy supply with some reference about why the scheme is seen as sustainable.										
Level 1 (Basic)	1–2 marks	Shows some understanding about how a local renewable energy scheme is increasing energy supply OR a basic awareness of sustainability (idea of renewables).										
	0	No relevant content.										

Qu	Part	Marking guidance	Total marks												
03	9	‘Individual decisions can reduce carbon footprints.’ Discuss this statement. Use Figure 8 and your own understanding. <table><tr><td>Level 3 (Detailed)</td><td>5–6 marks</td><td>Identifies and discusses how individual choices can reduce energy use and consequently reduce carbon footprints. Detailed use of Figure 8, which focuses on transport and also considers other domestic and behavioural factors to support the discussion.</td></tr><tr><td>Level 2 (Clear)</td><td>3–4 marks</td><td>Considers how individual choices can reduce energy use and affect carbon footprints. Clear use of Figure 8 and some identification of other factors.</td></tr><tr><td>Level 1 (Basic)</td><td>1–2 marks</td><td>Uses Figure 8 OR other factors which suggest how individual choices might reduce carbon footprints.</td></tr><tr><td></td><td>0</td><td>No relevant content.</td></tr></table> Indicative content • Figure 8 focuses on methods of transport and the relative environmental impact of each. • There are a range of house construction factors, including insulation, double/triple glazing. • Selecting energy efficient appliances, low energy lightbulbs, energy management systems. • Managing energy use in the home. • Owning fewer vehicles. • Travelling less/fewer holidays.	Level 3 (Detailed)	5–6 marks	Identifies and discusses how individual choices can reduce energy use and consequently reduce carbon footprints. Detailed use of Figure 8, which focuses on transport and also considers other domestic and behavioural factors to support the discussion.	Level 2 (Clear)	3–4 marks	Considers how individual choices can reduce energy use and affect carbon footprints. Clear use of Figure 8 and some identification of other factors.	Level 1 (Basic)	1–2 marks	Uses Figure 8 OR other factors which suggest how individual choices might reduce carbon footprints.		0	No relevant content.	6 marks AO3=3 AO4=3
Level 3 (Detailed)	5–6 marks	Identifies and discusses how individual choices can reduce energy use and consequently reduce carbon footprints. Detailed use of Figure 8, which focuses on transport and also considers other domestic and behavioural factors to support the discussion.													
Level 2 (Clear)	3–4 marks	Considers how individual choices can reduce energy use and affect carbon footprints. Clear use of Figure 8 and some identification of other factors.													
Level 1 (Basic)	1–2 marks	Uses Figure 8 OR other factors which suggest how individual choices might reduce carbon footprints.													
	0	No relevant content.													

Question 4 – Population and communication

Qu	Part	Marking guidance	Total marks
04	1	Which regions in Figure 9 had the highest level of access to safely managed sanitation facilities in 2020? Shade one circle only. B North America and Europe.	1 mark AO4=1

Qu	Part	Marking guidance	Total marks
04	2	Calculate the percentage difference between the regions with the highest and lowest level of safely managed sanitation facilities shown in Figure 9. Allow 50–58	1 mark AO4=1

Qu	Part	Marking guidance	Total marks									
04	3	Explain how access to sanitation facilities can influence population growth. <table><tr><td>Level 2 (Clear)</td><td>3–4 marks</td><td>Clear understanding of how access to sanitation facilities can influence population growth with ‘cause-effect’ links considered. (improved sanitation facilities – less disease – lower death rate – population growth).</td></tr><tr><td>Level 1 (Basic)</td><td>1–2 marks</td><td>Some understanding of how access to sanitation facilities might improve levels of health with limited ‘cause-effect’ links considered in relation to population growth.</td></tr><tr><td></td><td>0</td><td>No relevant content.</td></tr></table> Indicative content The Specification links improved sanitation to population increase (not decrease). • The link expressed is particularly significant in relation to infant deaths. • Improvements in sanitation systems reduces the risk of disease and reduces death rates. • Areas with improved sanitation tend to have lower infant death rates and higher life expectancy. • Responses could bring in ideas about the Demographic Transition Model.	Level 2 (Clear)	3–4 marks	Clear understanding of how access to sanitation facilities can influence population growth with ‘cause-effect’ links considered. (improved sanitation facilities – less disease – lower death rate – population growth).	Level 1 (Basic)	1–2 marks	Some understanding of how access to sanitation facilities might improve levels of health with limited ‘cause-effect’ links considered in relation to population growth.		0	No relevant content.	4 marks AO1=2 AO2=2
Level 2 (Clear)	3–4 marks	Clear understanding of how access to sanitation facilities can influence population growth with ‘cause-effect’ links considered. (improved sanitation facilities – less disease – lower death rate – population growth).										
Level 1 (Basic)	1–2 marks	Some understanding of how access to sanitation facilities might improve levels of health with limited ‘cause-effect’ links considered in relation to population growth.										
	0	No relevant content.										

Qu	Part	Marking guidance	Total marks
04	4	Outline two factors that might affect population growth, other than access to sanitation facilities. The Specification mentions: • improved medical care • role of aid • religion • status of women • role of children • education. • Income/wealth 2 × 2 marks. 1 mark for identifying a particular factor and 1 mark for development of the identified factor. • Aid might affect population growth (1) if it offers help with birth control. (1) • The status of women might influence population growth (1) because women may choose to have smaller families. (1) • Improved medical care might affect population growth (1) because less children are dying. (1) • Education might affect population growth (1) if people are taught about birth control. (1)	4 marks AO2=4

Qu	Part	Marking guidance	Total marks												
04	5	‘International migration creates more advantages than disadvantages.’ To what extent do you agree with this statement? Use an example you have studied. Max Level 1 if no appropriate example. Max Level 2 if only advantages or disadvantages considered. <table><tr><td>Level 3 (Detailed)</td><td>5–6 marks</td><td>Demonstrates accurate and detailed knowledge and understanding about the advantages and disadvantages of at least one named example of international migration. Applies this effectively to put forward a coherent discussion which evaluates the impact of the example(s) used.</td></tr><tr><td>Level 2 (Clear)</td><td>3–4 marks</td><td>Demonstrates appropriate and clear knowledge and understanding about the advantages and/or disadvantages of at least one named example of international migration. Applies this effectively to put forward a discussion which offers some judgement about the relative impact of the example(s) used.</td></tr><tr><td>Level 1 (Basic)</td><td>1–2 marks</td><td>Offers an appreciation that international migration can have both advantages and/or disadvantages with limited use of a specific example (s).</td></tr><tr><td></td><td>0</td><td>No relevant content.</td></tr></table> Indicative content The Specification specifically focuses on London or New York. However migration is mentioned in the context of LIC/NEE (with opportunities and challenges indicated) so ACCEPT appropriate examples from anywhere. Accept any valid advantage and disadvantage to the country of origin or destination. Advantages • Migration brings labour and skills. • Increased employment increases tax revenues. • Opportunity for cultural diversity. • When migrants return home they may take back useful skills. • Mixing with different cultures can lead to greater understanding.	Level 3 (Detailed)	5–6 marks	Demonstrates accurate and detailed knowledge and understanding about the advantages and disadvantages of at least one named example of international migration. Applies this effectively to put forward a coherent discussion which evaluates the impact of the example(s) used.	Level 2 (Clear)	3–4 marks	Demonstrates appropriate and clear knowledge and understanding about the advantages and/or disadvantages of at least one named example of international migration. Applies this effectively to put forward a discussion which offers some judgement about the relative impact of the example(s) used.	Level 1 (Basic)	1–2 marks	Offers an appreciation that international migration can have both advantages and/or disadvantages with limited use of a specific example (s).		0	No relevant content.	6 marks AO1=2 AO3=2
Level 3 (Detailed)	5–6 marks	Demonstrates accurate and detailed knowledge and understanding about the advantages and disadvantages of at least one named example of international migration. Applies this effectively to put forward a coherent discussion which evaluates the impact of the example(s) used.													
Level 2 (Clear)	3–4 marks	Demonstrates appropriate and clear knowledge and understanding about the advantages and/or disadvantages of at least one named example of international migration. Applies this effectively to put forward a discussion which offers some judgement about the relative impact of the example(s) used.													
Level 1 (Basic)	1–2 marks	Offers an appreciation that international migration can have both advantages and/or disadvantages with limited use of a specific example (s).													
	0	No relevant content.													

		Disadvantages • Conflict with local people. • Added pressure on local services. • Cheap labour causing imbalance to the labour market. • Increased call for government control leading to political tension. • Challenges of integrating people who cannot speak the native language.	
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Qu	Part	Marking guidance	Total marks
04	6	Complete Figure 10 by using the information below. Percentage of call centres in: South America – 8% Middle East/Africa – 7% 1 mark for correct line and 1 mark for shading.	2 marks AO4=2

Qu	Part	Marking guidance	Total marks									
04	7	Explain how the development of ICT has created the opportunity for the global growth of call centres.	4 marks AO1=2 AO2=2									
		<table><tr><td>Level 2 (Clear)</td><td>3–4 marks</td><td>Clear understanding of how the development of ICT has increased the global growth of call centres by increasing access and the ability to communicate with different parts of a business and customers rapidly and at any time. Clear awareness that the Call Centre industry is fundamentally about the need to be able to communicate effectively.</td></tr><tr><td>Level 1 (Basic)</td><td>1–2 marks</td><td>Some understanding of how the development of ICT has brought about better communication, which has meant that call centres can set up anywhere.</td></tr><tr><td></td><td>0</td><td>No relevant content.</td></tr></table>		Level 2 (Clear)	3–4 marks	Clear understanding of how the development of ICT has increased the global growth of call centres by increasing access and the ability to communicate with different parts of a business and customers rapidly and at any time. Clear awareness that the Call Centre industry is fundamentally about the need to be able to communicate effectively.	Level 1 (Basic)	1–2 marks	Some understanding of how the development of ICT has brought about better communication, which has meant that call centres can set up anywhere.		0	No relevant content.
		Level 2 (Clear)		3–4 marks	Clear understanding of how the development of ICT has increased the global growth of call centres by increasing access and the ability to communicate with different parts of a business and customers rapidly and at any time. Clear awareness that the Call Centre industry is fundamentally about the need to be able to communicate effectively.							
		Level 1 (Basic)		1–2 marks	Some understanding of how the development of ICT has brought about better communication, which has meant that call centres can set up anywhere.							
	0	No relevant content.										
Indicative content												
• Developments in cabling has allowed international communications to take place. • There are increasingly high speed communication links. • An increasing amount of fibre optic cables have been aimed at linking poorer parts of the world (text book). • The Call Centre industry is based on communications and 24/7 access and improvements in ICT have allowed this. • The development of ICT has increasingly made the Call Centre industry more 'footloose'. • More companies are setting up Call Centres in cheaper locations – ICT allows this to happen.												

Qu	Part	Marking guidance	Total marks
04	8	Give two environmental challenges that airport development might cause. • Destruction of landscape • Loss of specific plants/animals • Loss of farmland • Air pollution • Water pollution • Noise pollution 2 × 1 marks.	2 marks AO1=2

Qu	Part	Marking guidance	Total marks												
04	9	‘Increased transport links creates opportunities for international trade and tourism.’ Discuss this statement. Use Figure 11 and your own understanding. <table><tr><td>Level 3 (Detailed)</td><td>5–6 marks</td><td>Uses evidence from Figure 11 and own understanding to have a detailed discussion about how increased transport links creates opportunities for international trade and tourism and the development of increased globalisation.</td></tr><tr><td>Level 2 (Clear)</td><td>3–4 marks</td><td>Uses evidence from Figure 11 and own understanding to have a discussion about how increased transport links creates opportunities for trade and tourism with some reference to the idea of the global scale.</td></tr><tr><td>Level 1 (Basic)</td><td>1–2 marks</td><td>Basic reference to Figure 11 with observations which suggest that increased transport links will create business opportunities/easier access.</td></tr><tr><td></td><td>0</td><td>No relevant content.</td></tr></table> Indicative content • Figure 11 identifies that airport development is occurring at the global scale and as such there are clear international and globalisation links. • Figure 11 identifies that airport development will connect an increasing amount of places and create opportunities for both the trade in goods and tourism. • Figure 11 suggests that airport development has the potential to reduce travel times and travel costs. There are a number of advantages of developing transport links including: • faster delivery times which increases reliability and efficiency and allows ‘just in time’ manufacturing • market areas can be expanded, increasing potential sales • matching up supply and demand becomes easier • high value and perishable goods can be transported over a wider area more quickly • links to express carrier services which allows people access to a wider range of goods • more remote areas become accessible, allowing regional economic development • the development of transport links may be especially significant for land-locked countries • developing air transport links expands the range of potential tourist destinations, allowing areas to develop tourism and related industries.	Level 3 (Detailed)	5–6 marks	Uses evidence from Figure 11 and own understanding to have a detailed discussion about how increased transport links creates opportunities for international trade and tourism and the development of increased globalisation.	Level 2 (Clear)	3–4 marks	Uses evidence from Figure 11 and own understanding to have a discussion about how increased transport links creates opportunities for trade and tourism with some reference to the idea of the global scale.	Level 1 (Basic)	1–2 marks	Basic reference to Figure 11 with observations which suggest that increased transport links will create business opportunities/easier access.		0	No relevant content.	6 marks AO3=3 AO4=3
Level 3 (Detailed)	5–6 marks	Uses evidence from Figure 11 and own understanding to have a detailed discussion about how increased transport links creates opportunities for international trade and tourism and the development of increased globalisation.													
Level 2 (Clear)	3–4 marks	Uses evidence from Figure 11 and own understanding to have a discussion about how increased transport links creates opportunities for trade and tourism with some reference to the idea of the global scale.													
Level 1 (Basic)	1–2 marks	Basic reference to Figure 11 with observations which suggest that increased transport links will create business opportunities/easier access.													
	0	No relevant content.													