



A-level GEOGRAPHY 7037/2

Paper 2 Human geography

Mark scheme

June 2024

Version: 1.0 Final



2 4 6 A 7 0 3 7 / 2 / M S

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.

No student should be disadvantaged on the basis of their gender identity and/or how they refer to the gender identity of others in their exam responses.

A consistent use of 'they/them' as a singular and pronouns beyond 'she/her' or 'he/him' will be credited in exam responses in line with existing mark scheme criteria.

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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 typical 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.

The notes for answers provide indicative content. Students' responses may take a different approach in relation to that which is typical or expected. It is important to stress that examiners must consider all a student's work and the extent to which this answered the question, irrespective of whether a response follows an expected structure. If in doubt the examiner should contact their team leader for advice and guidance.

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

Qu	Part	Marking guidance	Total marks
01	1	Outline the role of one or more institutions, such as the UN, in regulating global systems. <u>Point marked</u> Allow 1 mark per valid point with extra mark(s) for developed points (d). For example: <u>Notes for answers</u> Allow credit for specific knowledge and understanding of the role played by institutions in regulating global systems. There is no requirement to cover the UN, any global institution can be used. They may also choose just one institution and score maximum marks. For full marks there must be some reference to the role played in regulating global systems. No mark for simply identifying a relevant institution. • Global systems are regulated by different institutions at a variety of scales (1) from national governments influencing global decisions through to large international regulators (1) (d). The IMF is a financial institution (1) which regulates the global financial systems by following the economic policies of its 190 member countries (1) (d). • The G8 is an inter-governmental political institution consisting of 8 countries (1). They regulate global systems by holding an annual summit where they plan actions to take on global issues such as aid for LICs (1). However, they can't force anyone to agree to any actions, but as they are wealthy they are often listened to (1) (d). • Global institutions can make International laws which regulate global systems as they are binding between countries (1). For example as a result of a UN convention, law of the sea was agreed (1). It governs the rights and duties of nations in maritime environments (1) (d). It covers freedom of the seas, whereby no nation can claim any part of an ocean as its own (1) (d). The notes for answers are not exhaustive. Credit any valid points.	4 AO1 = 4

01	2	Analyse the data shown in Figure 1a and Figure 1b. AO3 – Analysis of the divided bar graph and scattergraph showing data about the level of skilled workforce, literacy rates and income of south-eastern Asian countries. <u>Mark scheme</u> Level 2 (4–6 marks) AO3 – Clear analysis of the quantitative evidence provided which makes appropriate use of data to support. Clear connections between different aspects of the data. Level 1 (1–3 marks) AO3 – Basic analysis of the quantitative evidence provided which makes limited use of data to support. Basic or limited connections between different aspects of the data. <u>Notes for answers</u> This question requires analysis of the relationship between in the level of skilled workforce, literacy rates and income as shown in Figures 1a and 1b. There should be analysis of the divided bars to show the variation in the levels of different skills in the workforce in 1a and the relationship between literacy rates and GDP in 1b. Connections can be made between Figures 1a and 1b and within the data sets, for example by analysing the relationship between the proportion of the high-skilled workforce and literacy rates. AO3 • Figure 1a shows that there is considerable variation in the proportions of different levels of skills in the workforce. For example, over half the Singapore workforce is high-skilled which is nearly 14 times more than Cambodia. • Medium skilled workers account for the largest share in all countries with the exception of Singapore. They account for the largest share in Lao PDR making up 93% of the workforce. • Figure 1b shows there is a clear positive relationship between GDP and literacy rates. Singapore has the second highest rate of literacy at 97% and the highest GDP, whereas Myanmar has the lowest literacy rate at 76% and the second lowest GDP. • However, the highest literacy rate is the Philippines but it has a GDP of which is less than a 10th that of Singapore. In the literacy range of 95–98, there is considerable variation in GDP and the relationship is less clear. There does seem to be some links between Figures 1a and 1b, as the highest literacy rate seen in Figure 1b such as the Philippines and Singapore also have the highest proportions of high skilled workers and Myanmar and Cambodia are in the bottom 3 for highly skilled workers. However, Vietnam and the Philippines both have the highest proportions of low-skilled workers despite their high literacy rates above 95%. Credit any other valid analysis.	6 AO3 = 6
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01	3	Using Figure 2 and your own knowledge, assess the trading relationships between emerging major economies, such as China, and smaller less developed economies, such as those in Sub-Saharan Africa. AO1 – Knowledge and understanding of trading relationships and patterns between emerging major economies and smaller less developed economies. AO2 – Applies knowledge and understanding to the novel situation to analyse and evaluate the trading relationships between China and Sub-Saharan Africa. <u>Mark scheme</u> Level 2 (4–6 marks) AO1 – Demonstrates clear knowledge and understanding of concepts, processes, interactions and change. AO2 – Applies knowledge and understanding to the novel situation offering clear analysis and evaluation drawn appropriately from the context provided. Connections and relationships between different aspects of study are evident with clear relevance. Level 1 (1–3 marks) AO1 – Demonstrates basic knowledge and understanding of concepts, processes, interactions, change. AO2 – Applies limited knowledge and understanding to the novel situation offering basic analysis and evaluation drawn from the context provided. Connections and relationships between different aspects of study are basic with limited relevance. <u>Notes for answers</u> This question requires knowledge of trading relationships between emerging major economies and less-developed economies. Students should apply this knowledge to analyse the relationship between China and Sub-Saharan Africa as shown in Figure 2. For Level 2 there must be reference to Figure 2. AO1 • Form and nature of interdependence in the contemporary world. • Trading relationships between emerging major economies and less developed economies not shown in Figure 2. • Differential access to markets associated with levels of economic development and trading agreements.	6 AO1 = 2 AO2 = 4
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		AO2 • Analysis of the trade deficit shown in Figure 2 suggest that there is an imbalance of trade. In 2014, the balance was in the favour of Sub-Saharan African countries, receiving more money in exports than the value of imports. However, in 2016 this has switched and the value of exports has fallen below that of the imports from China. • There is also an imbalance of the types of good traded. The imports from China are mainly manufactured products whereas the exports to China are mainly raw materials. In fact 90% of exports comes from minerals, fuels and gold. This creates a dependence on these goods and price fluctuations can cause surges in trade deficits in a short timescale such as what seems to have happened between 2014 and 2016 in Figure 2. • Smaller less developed economies are often more dependent on larger economies who have more influence in global markets. This can be applied to Figure 2 where Sub-Saharan African countries are exporting over \$111 billion of goods in 2014. China extracts fuels and minerals in Africa to develop its manufacturing base so this is clear evidence of interdependence. Credit any other valid approach.	
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01	4	‘Global governance of the global commons has a direct impact on your life and the lives of people across the globe.’ Critically assess the extent to which you agree with this statement. AO1 – Knowledge and understanding of the concept of the global commons and the need to protect them. Knowledge and understanding of the geographical consequences of global governance of the global commons AO2 – Application of knowledge and understanding to critically assess the extent to which global governance of the global commons impacts on the student’s lives and lives of people around the globe. <u>Notes for answers</u> The question requires students to make links between different aspects of the global governance unit. They need to apply their knowledge of global governance of the global commons to the impact this governance might have on their own lives and the lives of others around the globe. This is a very open question and students can tackle it in a variety of ways. Antarctica is likely to be a common example, but there is no requirement to include it and they do not need to make reference to more than one global commons. AO1 • Knowledge and understanding of issues and attempts of global governance by agencies such as the UN. • Interactions between the local, regional, national, international and global scales are fundamental to understanding global governance. • The concept of the global commons. • The rights of all to the benefits of the global commons. Acknowledgement that the rights of all people to sustainable development must also acknowledge the need to protect the global commons. • Threats to Antarctica from tourism and scientific research, fishing and whaling, the search for minerals. • Governance of Antarctica and other global commons – international organisations and NGOs. • Strategies for enhancing protection of Antarctica and other global commons. • Analysis and assessment of the geographical consequences of global governance for citizens and places in Antarctica and elsewhere to specifically consider how global governance underlies and impacts on students’ and other people’s lives across the globe.	20 AO1 = 10 AO2 = 10
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	AO2 • Analysis of the importance of protecting the global commons in relation to shared ownership. The global commons are not owned by a single nation so global governance is a necessity to ensure they are not exploited. • They may consider the concept of the ‘tragedy of the commons’. Some nations may exploit the commons for their own gain, resulting in other countries taking more, resulting in unsustainable resource use. This benefits the citizens of those countries but globally could be disastrous, for example the depletion of cod stocks in the Atlantic. • Evaluation of conventions and treaties used to protect the commons. For example the 1982 UN convention on the law of the sea (UNCLOS) has not been very successful as many countries refuse to ratify it and many activities such as bioprospecting are not regulated by it. • The extent to which global governance is important in achieving sustainable development for global citizens rather than citizens of individual nations. For example, the Paris agreement to reduce atmospheric carbon is necessary for the planet as a whole, despite having detrimental impacts on people working in the coal industry. • Evaluation of the extent to which their global governance has a positive impact on their own lives. For example, they may consider their own well-being knowing there are attempts to reduce carbon emissions into the atmosphere. • The extent to which their global governance has a negative impact on their own lives. For example, they could consider that the Antarctic Treaty restricts travel and their own opportunities to view Antarctica. • Evaluation of the role of international agreements in protecting the global commons, for example the Paris Agreement to limit carbon emissions is trying to reduce the impact of climate change on our oceans and Antarctica. This could protect people living in coastal areas at threat from sea-level rise. • The extent to which there is no direct impact on their lives. For example, the international whaling commission banned whaling in the high seas, however this has no direct impact on them, but indirectly affects them by preserving whale species and ensuring they will be around for future generations. • Alternative futures in terms of different outcomes of global governance of the global commons would also be relevant. • Overall conclusion should seek to consider the extent to which they agree with the statement. It should be supported by the body of the text and evidence provided. Any valid assessment will be credited.	
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Marking grid for Question 1.4

Level/ Mark Range	Criteria/Descriptor
Level 4 (16–20 marks)	• Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question (AO2). • Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout (AO2). • Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout (AO1). • Full and accurate knowledge and understanding of key concepts and processes throughout (AO1). • Detailed awareness of scale and temporal change which is well integrated where appropriate (AO1).
Level 3 (11–15 marks)	• Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question (AO2). • Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding (AO2). • Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Generally clear and relevant knowledge and understanding of place(s) and environments (AO1). • Generally clear and accurate knowledge and understanding of key concepts and processes (AO1). • Generally clear awareness of scale and temporal change which is integrated where appropriate (AO1).
Level 2 (6–10 marks)	• Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question (AO2). • Some partially relevant analysis and evaluation in the application of knowledge and understanding (AO2). • Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Some relevant knowledge and understanding of place(s) and environments which is partially relevant (AO1). • Some knowledge and understanding of key concepts, processes and interactions and change (AO1). • Some awareness of scale and temporal change which is sometimes integrated where appropriate. There may be a few inaccuracies (AO1).
Level 1 (1–5 marks)	• Very limited and/or unsupported evaluative conclusion that is loosely based upon knowledge and understanding which is applied to the context of the question (AO2). • Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence (AO2). • Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Very limited relevant knowledge and understanding of place(s) and environments (AO1). • Isolated knowledge and understanding of key concepts and processes (AO1). • Very limited awareness of scale and temporal change which is rarely integrated where appropriate. There may be a number of inaccuracies (AO1).
Level 0 (0 marks)	• Nothing worthy of credit.

Section B

Qu	Part	Marking guidance	Total marks
02	1	Outline how you used a qualitative data source to investigate lived experience in the past in your local place. <u>Point marked</u> Allow 1 mark per valid point with extra mark(s) for developed points (d). If more than one data source, then credit the best one. Past characteristics can be anything that is not current or future, so accept any timescales. Whilst they do not need to name the local place, max 3 marks if a generic response with no discernible specific place characteristics. No mark for simply identifying a qualitative data source. There are different routes to credit. Candidates may take the approach of describing the method involved in using the data source = we watched a video, read a poem, studied a painting, asked for opinions in a questionnaire survey.... Or, they may say how they used the source to enable them to understand more about lived experience / how the source was interpreted. <u>Notes for answers</u> • I used 19th century census data and descriptions of employment to investigate lived experience in my local place. I compared types of jobs to present day occupations from the 2011 census (1). I compared four different streets in Tower Hamlets, (1) (d) and could see that in the past, jobs were mainly related to the dockyards and manufacturing (1) (d). • I used a photograph of my local place to investigate lived experience. The photograph showed that there was high building density making the area look overcrowded (1). Building quality looked poor with broken windows and gutters indicating that the area was deprived (1). There was no evidence of green space in the photo suggesting people had limited access to parks and recreation (1). • I used a poem by William McGonagall 'Beautiful Torquay' to find out about 19th century lived experience (1). He mentions the 'fragrant air' showing the importance of this at that time (1). People came to Torquay to get away from the industrial cities and believed the fresh air could cure TB (1). The notes for answers are not exhaustive. Credit any valid points.	4 AO1 = 4

02	2	Interpret the maps shown in Figure 3a and Figure 3b. AO3 – Interpretation of the quantitative data shown in Figure 3a and Figure 3b. <u>Mark scheme</u> Level 2 (4–6 marks) AO3 – Clear interpretation of the quantitative evidence provided which makes appropriate use of data to support. Clear connections between different aspects of the data. Level 1 (1–3 marks) AO3 – Basic interpretation of the quantitative evidence provided which makes limited use of data to support. Basic or limited connections between different aspects of the data. <u>Notes for answers</u> The question requires interpretation of the two maps shown in Figure 3a and Figure 3b. Connections can be made within the maps and between the maps. AO3 • It is clear that there is considerable variation in the percentage of residents with no qualifications across the Falmouth area shown in Figure 3a. • The highest percentages with no qualification are seen in northern areas of the town either side of a main routeway, with some areas to the west of the road having greater than 40.2% of residents with no qualifications. • The lowest areas with less than 6.1% are found close to the docks and a few central areas closer to the river. • Figure 3b shows that deprivation is highest in northern areas of Falmouth. There are 2 areas in Falmouth and one in Penryn in the second most deprived deciles. There are no areas in the most deprived. • Figure 3b shows that western areas of Falmouth are the least deprived in the 8th decile. The least deprived are also the south coast areas. No areas are in the lowest 10% of areas of deprivation. • The areas with the highest amounts of residents with no qualifications are found in those areas that are in decile 2 for deprivation. However, those areas below 6.1% of people with no qualifications are found in the 5th deciles and 7th deciles. Credit any other valid interpretation and analysis.	6 AO3 = 6
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02	3	Using Figure 4a, Figure 4b and your own knowledge, to what extent can shifting flows of investment change the characteristics of a place? AO1 – Knowledge and understanding of the factors contributing to character of places. How the characteristics of places are shaped by shifting flows of investment. AO2 – Application of knowledge and understanding to this novel situation. Interpretation of Figure 4a and Figure 4b to evaluate the role of shifting flows of investment in shaping the characteristics of a place. <u>Mark scheme</u> Level 2 (4–6 marks) AO1 – Demonstrates clear knowledge and understanding of concepts, processes, interactions and change. AO2 – Applies knowledge and understanding to the novel situation offering clear analysis and evaluation drawn appropriately from the context provided. Connections and relationships between different aspects of study are evident with clear relevance. Level 1 (1–3 marks) AO1 – Demonstrates basic knowledge and understanding of concepts, processes, interactions, change. AO2 – Applies limited knowledge and understanding to the novel situation offering basic analysis and evaluation drawn from the context provided. Connections and relationships between different aspects of study are basic with limited relevance. <u>Notes for answers</u> The question requires an understanding of how shifting flows of investment can shape and influence the characteristics of a place. Candidates must look for evidence of shifting flows of investment from the figures and explain how these have impacted on the character of Princesshay in Exeter. Reference to places other than Princesshay can be credited as AO1 knowledge. For L2 there must be reference to Figure 4. Expect to see comments on shifting flows of investment to develop / change the location shown or other places. Investment flows do not have to be related to retail / commercial spaces. AO1 • Factors contributing to the character of places. • How the demographic, socio-economic and cultural characteristics of places are shaped by shifting flows of people, resources, money and investment, and ideas at all scales from local to global. • The influence of past and present processes of development on social and economic characteristics. • The influence of past and present processes of development on present-day place meaning.	6 AO1 = 2 AO2 = 4
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		• Characteristics of places other than Princesshay.	
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	AO2 • Figure 4a shows that before the redevelopment, the area clearly shows the characteristics of a shopping area. The area is busy and there are shops visible in the image. In the rear we can also see historical characteristics, with an older building. Some green space is also evident with a sense of wide open streets and space. • Figure 4b after the redevelopment shows retail dominating the characteristics as all the buildings appear to be shops. The buildings appear taller and it is more closed in. There is no sense of open space. • Flows of investment in Figure 4 show how the main characteristic of a retail area has not really changed, however the shops look more modern and less evidence of boarded up and empty shops, making it seem more prosperous. • Flows of investment in Princesshay have retained important historical characteristics such as the blue statue, this is obviously important to the area and it has been retained, however you can no longer see the historical buildings present in Figure 4a. • Candidates should consider the extent to which the character has changed as a result of flows of investment. They may consider that all the shops are chain stores in Figure 4b and therefore it has removed the individuality and turned Exeter into a clone town, but that overall it still has the characteristics of a retail area. Credit any other valid assessment.	
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02	4	Assess the role of endogenous factors in shaping people's lived experience in your local place or the distant place that you have studied. AO1 – Knowledge and understanding of people's lived experience in their local or distant place. Knowledge and understanding of endogenous factors contributing to the character of place. AO2 – Applies this knowledge and understanding to assess the role of endogenous factors on people's lived experience in the local or distant place studies. <u>Notes for answers</u> The question links different parts of the theme of Changing places, specifically the factors that contribute to the character of places and the local or distant place study. The question is very open-ended, and candidates may attempt this in a variety of ways. However, there should be a focus on the impact of different endogenous factors on people's lived experience in their distant or local place. If they do both local and distant place, credit the best response. AO1 • Factors contributing to the character of places: ◦ Endogenous: location, topography, physical geography, land use, built environment and infrastructure, demographic and economic characteristics. • How the demographic, socio-economic and cultural characteristics of places are shaped by shifting flows of people, resources, money and investment, and ideas at all scales from local to global. • Local or distant place studies – character and lived experience of the place. AO2 • Analysis of the role of endogenous factors in shaping the characteristics of the place. For example, in Stoke Bishop, Bristol the built environment of large detached villas, mean it is an affluent area. • The links between these characteristics and lived experience, so in Stoke Bishop, people are wealthy and able to afford to send their children to private schools and as a result educational outcomes are higher than the Bristol average. • Analysis of the extent to which endogenous factors such as location impact lived experience over time. For example, Weston-super-Mare is on the coast and Victorians came to visit for the sea air all year round. Lots of people worked in this tourism industry. Today the location still impacts lived experience as many people work in tourism but the seasonal nature means there is high winter unemployment. • Evaluation of the role of endogenous factors such as demographic characteristics in shaping lived experience. For example, in Brick Lane, the multicultural population allows people to experience many different cultures through shopping and eating, broadening their lived experience.	20 AO1 = 10 AO2 = 10
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		• Temporal change in the characteristics and lived experience of the local or distant place in relation to endogenous factors over time. • Evaluation of the role of endogenous factors in shaping lived experience of the local or distant place. This may be considered in relation to exogenous factors or external forces. For example, government regeneration policies such as the impact of the Olympic regeneration on Stratford. • There should be an overall conclusion. Any conclusion is valid as long as it is supported by evidence in the body of the response. Credit any other valid approach. Evaluation should be based upon preceding content.	
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Marking grid for Question 2.4

Level/ Mark Range	Criteria/Descriptor
Level 4 (16–20 marks)	- Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question (AO2). - Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout (AO2). - Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout (AO1). - Full and accurate knowledge and understanding of key concepts and processes throughout (AO1). - Detailed awareness of scale and temporal change which is well integrated where appropriate (AO1).
Level 3 (11–15 marks)	- Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question (AO2). - Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding (AO2). - Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Generally clear and relevant knowledge and understanding of place(s) and environments (AO1). - Generally clear and accurate knowledge and understanding of key concepts and processes (AO1). - Generally clear awareness of scale and temporal change which is integrated where appropriate (AO1).
Level 2 (6–10 marks)	- Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question (AO2). - Some partially relevant analysis and evaluation in the application of knowledge and understanding (AO2). - Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Some relevant knowledge and understanding of place(s) and environments which is partially relevant (AO1). - Some knowledge and understanding of key concepts, processes and interactions and change (AO1). - Some awareness of scale and temporal change which is sometimes integrated where appropriate. There may be a few inaccuracies (AO1).
Level 1 (1–5 marks)	- Very limited and/or unsupported evaluative conclusion that is loosely based upon knowledge and understanding which is applied to the context of the question (AO2). - Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence (AO2). - Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Very limited relevant knowledge and understanding of place(s) and environments (AO1). - Isolated knowledge and understanding of key concepts and processes (AO1). - Very limited awareness of scale and temporal change which is rarely integrated where appropriate. There may be a number of inaccuracies (AO1).
Level 0 (0 marks)	Nothing worthy of credit.

Section C

Qu	Part	Marking guidance	Total marks
03	1	Outline the impact of urban form on local weather and climate. <u>Point marked</u> Allow 1 mark per valid point with extra mark(s) for developed points (d). <u>Notes for answers</u> • The structure of built-up areas cause changes to weather and climate, for example building and street patterns influence airflow (1). • Urban materials such as concrete and asphalt used to build city landscapes absorb shortwave radiation (1). Concrete absorbs heat 2000 more times than air (1) (d). This energy is slowly released as longwave radiation at night(1) (d), increasing air temperatures (1) (d). • Large expanses of steel and glass in city centres contribute to the urban heat island effect (1). The glass and steel reflect heat into the surrounding street, increasing temperatures (1) (d). • Rising heat and water vapour from industrial plants and power stations (1) leads to increased precipitation and thunderstorms as a result of increased convection (1) (d). • Reduced vegetation in urban areas leads to lower levels of evapotranspiration, reducing humidity (1). • Cities produce waste heat from air conditioning units and lighting which add to the urban heat island effect (1). Credit points that link in a sequence to outline the impact of urban form on local weather and climate. The notes for answers are not exhaustive. Credit any valid points.	4 AO1 = 4

03	2	Analyse the data shown in Figure 5a and Figure 5b. AO3 – Analysis of air quality across EU cities. <u>Mark scheme</u> Level 2 (4–6 marks) AO3 – Clear analysis of the quantitative evidence provided which makes appropriate use of data to support. Clear connections between different aspects of the data. Level 1 (1–3 marks) AO3 – Basic analysis of the quantitative evidence provided which makes limited use of data to support. Basic or limited connections between different aspects of the data. <u>Notes for answers</u> The question requires analysis of the data shown in Figure 5a and Figure 5b. Connections should be made between different aspects of the data shown in Figure 5a and Figure 5b. AO3 • Figure 5a shows that air quality deteriorates as you move east and south across Europe. The lowest levels below 10 are mainly found in western countries such as France and northern Scandinavian countries. The worst levels above 15 are found in eastern European countries such as Poland (east) and Italy. • Very few countries have cities with levels above 25 pm_{2.5} and those that do are found in Eastern Europe, Italy. The top 5 most polluted cities shown in Figure 5b are found in Poland and Italy. • As you move north air quality is generally better • Figure 5b shows the large variation in air quality across Europe, with the least polluted city, Umea having 9 times less fine particulate matter than the most polluted city, Nowy Sacz. • Figure 5b supports the pattern seen in Figure 5a with 3 out of the 5 least polluted cities being in northern Europe and four out of the 5 most polluted cities are in southern Europe. • There doesn't seem to be a link between urban air pollution and population size. Three of the most polluted cities have population sizes smaller than the least polluted city, Umea in Europe. Credit any other valid analysis.	6 AO3 = 6
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03	3	Using Figure 6a, Figure 6b and your own knowledge, to what extent do you agree that La Défense shows the characteristics of an edge city? AO1 – Knowledge and understanding of new urban landscapes: edge cities. AO2 – Application of knowledge and understanding to analyse the extent to which La Défense shows the characteristics of an edge city as shown in Figures 6a and 6b. <u>Mark scheme</u> Level 3 (7–9 marks) AO1 – Demonstrates detailed knowledge and understanding of concepts, processes, interactions and change. These underpin the response throughout. AO2 – Applies knowledge and understanding appropriately with detail. Connections and relationships between different aspects of study are fully developed with complete relevance. Analysis and evaluation are detailed and well supported with appropriate evidence. A well balanced and coherent argument is presented. Level 2 (4–6 marks) AO1 – Demonstrates some appropriate knowledge and understanding of concepts, processes, interactions and change. These are mostly relevant though there may be some minor inaccuracy. AO2 – Applies some knowledge and understanding appropriately. Connections and relationships between different aspects of study are emerging/evident with some relevance. Analysis and evaluation evident and supported with some appropriate evidence. A clear but partial argument is presented. Level 1 (1–3 marks) AO1 – Demonstrates basic/limited knowledge and understanding of concepts, processes, interactions and change. These offer limited relevance with inaccuracy. AO2 – Applies limited knowledge and understanding. Connections and relationships between different aspects of study are basic with limited relevance. Analysis and evaluation basic and supported with limited appropriate evidence. A basic argument is presented. <u>Notes for answers</u> This question requires a discussion of the extent to which La Defense can be considered to be an edge city. They are required to apply their knowledge and understanding to Figures 6a and 6b but can also consider other urban areas and cities in comparison to La Defense. The focus of the question should be on the characteristics of edge cities. Any view is creditworthy as long as it relates to the figures and application of knowledge and understanding of the concept of edge cities.	9 AO1 = 4 AO2 = 5
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	AO1 • Global patterns of urbanisation since 1945. Urbanisation, suburbanisation, counter-urbanisation, urban resurgence. • Urban change: deindustrialisation, decentralisation, rise of service economy. • New urban landscapes: edge cities. • Knowledge and understanding of edge cities. • Environmental problems in urban areas: atmospheric pollution, water pollution and dereliction. AO2 • Analysis of Figure 6a and Figure 6b to assess the extent to which La Défense appears to display the characteristics of being a city in its own right. It has a residential population, employment and services such as retail and cinemas. • However the population is relatively small, unlike many North American edge cities. In LA 18 million people live in 20 edge cities beyond the core area of LA. • Figure 6a suggests it is 3km beyond the centre of Paris, this means it is relatively close to the centre, suggesting it doesn't typically fit the characteristics of an edge city • Figure 6b shows purpose built shops, that would be attractive to business and retail sectors, allowing it to be self-sufficient so the residents would not need to leave La Défense. This also suggests decentralisation of businesses may have taken place in Paris. • The buildings and businesses in 6b may attract more wealthy residents causing social segregation. This is seen in edge cities in LA and Washington DC, causing a donut effect where the poor are left behind in areas like South Central LA. • They may consider that the concept of edge cities is generally applied to North American cities and therefore La Défense cannot be considered an edge city. • They should come to an overall conclusion that assesses the extent to which La Défense shows the characteristics of an edge city. Any view is acceptable as long as it is supported by the rest of the response. Credit any other valid approach.	
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03	4	Evaluate the use of sustainable urban drainage systems (SUDS) as a strategy to manage water movement through urban catchments. AO1 – Knowledge and understanding of water movement through urban catchments. Knowledge and understanding of sustainable urban drainage systems (SUDS). AO2 – Application of knowledge and understanding to analyse and evaluate the use of SUDS to manage water movement through urban catchments. <u>Mark scheme</u> Level 3 (7–9 marks) AO1 – Demonstrates detailed knowledge and understanding of concepts, processes, interactions and change. These underpin the response throughout. AO2 – Applies knowledge and understanding appropriately with detail. Connections and relationships between different aspects of study are fully developed with complete relevance. Analysis and evaluation are detailed and well supported with appropriate evidence. A well balanced and coherent argument is presented. Level 2 (4–6 marks) AO1 – Demonstrates some appropriate knowledge and understanding of concepts, processes, interactions and change. These are mostly relevant though there may be some minor inaccuracy. AO2 – Applies some knowledge and understanding appropriately. Connections and relationships between different aspects of study are emerging/evident with some relevance. Analysis and evaluation evident and supported with some appropriate evidence. A clear but partial argument is presented. Level 1 (1–3 marks) AO1 – Demonstrates basic/limited knowledge and understanding of concepts, processes, interactions and change. These offer limited relevance with inaccuracy. AO2 – Applies limited knowledge and understanding. Connections and relationships between different aspects of study are basic with limited relevance. Analysis and evaluation basic and supported with limited appropriate evidence. A basic argument is presented. <u>Notes for answers</u> This question requires students to evaluate the success of SUDS in managing water movement and urban drainage. There is no requirement to name specific schemes but give credit to named examples where appropriate	9 AO1 = 4 AO2 = 5
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		AO1 • Urban precipitation, surfaces and catchment characteristics; impacts on drainage basin storage areas. • Urban water cycle: water movement through urban catchments. • Issues associated with catchment management in urban areas. • Knowledge and understanding of sustainable urban drainage systems (SUDS). AO2 • Analysis of the use of SUDS to manage water movement. SUDS hold back and slow surface runoff from any urban development. For example, permeable road and pavement surfaces reduce surface run-off and allowing greater ground infiltration slowing down water movement through the urban catchment. • Some SUDS schemes use green roofs which means there is minimal water transfer to guttering, again slowing surface run-off and slowing down water movement. • Evaluation of SUDS in managing urban drainage. For example, groundwater is recharged by use of swales meaning less risk of drought. Detention basins acts as holding ponds reducing the risk of flooding downstream. • They may consider other benefits of SUDS, for example green roofs minimise surface run-off but also act as insulating wildlife habitats as well. They are easy to manage so very cost effective. • The extent to which SUDS might benefit areas beyond the development might be considered. For example, some SUDS schemes don't actually reduce the flood risk at the development site, but have a bigger impact downstream, successfully slowing down water movement. • Students may consider the success of other strategies to manage water movement such as hard engineering, in contrast to SUDS. This is a legitimate approach. • They should come to an overall conclusion that evaluates the success of SUDS in managing water movement through urban catchments. Credit any other valid approach.	
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03	5	‘Urban regeneration in Britain since 1979 has evolved to feature more dimensions of sustainability.’ To what extent do you agree with this statement? AO1 – Knowledge and understanding of urban policy and regeneration in Britain since 1979. Knowledge and understanding of the dimensions of sustainability. AO2 – Application of knowledge and understanding to analyse and evaluate the extent to which urban policy has changed to feature more dimensions of sustainability. <u>Notes for answers</u> The question links various aspects of the contemporary urban environments section of the specification, specifically the study of urban regeneration policies since 1979 and dimensions of sustainability. The focus is on the extent to which urban regeneration policies have evolved to be more sustainable. There should be reference to more than one example of regeneration and more than one point in time. There is no credit for regeneration beyond the UK or regeneration that is not rooted in urban areas. AO1 • Knowledge and understanding of urban policies since 1979. • Processes – urbanisation, suburbanisation, counter-urbanisation and urban-resurgence. • Urban change – deindustrialisation, decentralisation and rise of the service economy. • Issues associated with economic inequality, social segregation and cultural diversity and strategies to manage these issues. • Knowledge and understanding of the dimensions of sustainability: natural, physical, social and economic. • Nature and features of sustainable cities. • Contemporary opportunities and challenges in developing more sustainable cities. • Strategies for developing more sustainable cities.	20 AO1 = 10 AO2 = 10
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		AO2 • Analysis and evaluation of the link between urban regeneration and natural dimensions of sustainability. Earlier regeneration policies such as UDCs did not improve local ecosystems and habitats – focus was on economic investment. Later partnership schemes often created wetland habitats or restored canals. This is similar to physical dimensions, use of river restoration in partnership schemes to manage urban drainage • Evaluation of the success in tackling social dimensions of sustainability. UDCs failed to support local people who were priced out of the area and jobs were not appropriate, however city challenge schemes focused on local communities and talking their needs, whilst encouraging mixed social structures • Evaluation of the success in managing economic dimensions of sustainability. UDCs focused on private investment and development of large-scale industries such as finance. Very much top-down finance. Later policies such as LEPs gave more funding powers to local councils, tasked with creating economic growth and jobs. • Analysis of the use of urban regeneration schemes to tackle economic inequality and social segregation may also be considered linked to features of sustainability • Analysis of use of urban regeneration policies to tackle environmental issues such as dereliction. • They may consider alternative futures in urban policies. For example, UDCs were seen as successful economically. Economic sustainability is very different to that of the 1980s and there is pressure from the global pandemic alongside greater environmental and political awareness. • Overall conclusion may highlight the complexity in evaluating policies that didn't set out to be sustainable and different timescales involved. • Any conclusion is valid as long as it is supported by the body of the essay. Credit any other valid approach.	
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Marking grid for Question 3.5

Level/ Mark Range	Criteria/Descriptor
Level 4 (16–20 marks)	- Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question (AO2). - Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout (AO2). - Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout (AO1). - Full and accurate knowledge and understanding of key concepts and processes throughout (AO1). - Detailed awareness of scale and temporal change which is well integrated where appropriate (AO1).
Level 3 (11–15 marks)	- Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question (AO2). - Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding (AO2). - Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Generally clear and relevant knowledge and understanding of place(s) and environments (AO1). - Generally clear and accurate knowledge and understanding of key concepts and processes (AO1). - Generally clear awareness of scale and temporal change which is integrated where appropriate (AO1).
Level 2 (6–10 marks)	- Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question (AO2). - Some partially relevant analysis and evaluation in the application of knowledge and understanding (AO2). - Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Some relevant knowledge and understanding of place(s) and environments which is partially relevant (AO1). - Some knowledge and understanding of key concepts, processes and interactions and change (AO1). - Some awareness of scale and temporal change which is sometimes integrated where appropriate. There may be a few inaccuracies (AO1).
Level 1 (1–5 marks)	- Very limited and/or unsupported evaluative conclusion that is loosely based upon knowledge and understanding which is applied to the context of the question (AO2). - Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence (AO2). - Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Very limited relevant knowledge and understanding of place(s) and environments (AO1). - Isolated knowledge and understanding of key concepts and processes (AO1). - Very limited awareness of scale and temporal change which is rarely integrated where appropriate. There may be a number of inaccuracies (AO1).
Level 0 (0 marks)	Nothing worthy of credit.

Qu	Part	Marking guidance	Total marks
04	1	Outline the concept of the ‘ecological footprint’. <u>Point marked</u> Allow 1 mark per valid point with extra mark(s) for developed points (d). Credit examples where appropriate. <u>Notes for answers</u> • Ecological footprint is the area of land needed to provide the necessary resources and absorb the waste generated by a community (1). • The concept of the ecological footprint can be considered at different scales (1) such as individuals / households / communities / countries (1) (d) • It includes factors such as the amount of food consumed (1) the waste that is produced (1), the carbon emissions produced from human activities eg transport (1), energy consumed through daily tasks (1). There are many activities that contribute to the ecological footprint so credit valid points. • The ecological footprint can be reduced by managing / adjusting human activities – these ideas can be credited as part of the concept. • Ecological footprints measure the impact that individuals and societies have on the Earth’s resources (1). Ecological footprints are generally higher in HICs where resource use and waste production are high (1). • Ecological footprints determine whether the planet is large enough to cope with the number of people living on it (1). It can be expressed as the number of planets needed to sustain a population of a country (1) (d). • The ‘Earth overshoot’ day is related to ecological footprint. This is the date each year when the global demand for resources exceeds the capacity for earth to regenerate those resources (1). In 2021 the date was July 29th, in 2022 it was July 28th and in 2023 it was August 2nd, so just over halfway through the year, Earth is in ecological deficit (1) (d). • Ecological footprints consider the balance between assets and demands on resources (1). Biocapacity represents the assets and shows the earth’s productive land areas such as pasture, forests and fisheries (1) (d). These areas can also act as sinks for waste and emissions (1) (d). The notes for answers are not exhaustive. Credit any valid points.	4 AO1 = 4

04	2	Analyse the data shown in Figure 7. AO3 – Analysis of the changes in European fertility rates as shown in Figure 7. <u>Mark scheme</u> Level 2 (4–6 marks) AO3 – Clear analysis of the quantitative evidence provided which makes appropriate use of data to support. Clear connections between different aspects of the data. Level 1 (1–3 marks) AO3 – Basic analysis of the quantitative evidence provided which makes limited use of data to support. Basic or limited connections between different aspects of the data. <u>Notes for answers</u> The question requires analysis of the changes, relationships and patterns in fertility measures in European countries shown in Figure 7. AO3 • There is clear variation in fertility rates across Europe. Northern countries tend to have higher fertility rates than southern countries. For example, Sweden has a fertility rate 0.53 higher than Cyprus. • The pattern is less clear when looking at west–east trends. Portugal in the west has the lowest fertility in Europe at 1.31, whereas Ireland has the second highest. Central European countries tend to have lower fertility rates than the EU average. • The age of first-time mothers varies across Europe, but only by 4.8 years. Italy, the highest, also has one of the lowest overall fertility rates. Bulgaria has the lowest at 26 years but its fertility rate is below the EU average. • Responses may make connections between the fertility rates and ages of first-time mothers. Credit any other valid analysis.	6 AO3 = 6
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04	3	Using Figure 8 and your own knowledge, evaluate the success of mitigation strategies used to reduce the incidence of non-communicable diseases. AO1 – Knowledge and understanding of management and mitigation strategies used for non-communicable diseases. AO2 – Application of knowledge and understanding to evaluate management and mitigation strategies used for non-communicable diseases such as those shown in Figure 8. <u>Mark scheme</u> Level 3 (7–9 marks) AO1 – Demonstrates detailed knowledge and understanding of concepts, processes, interactions and change. These underpin the response throughout. AO2 – Applies knowledge and understanding appropriately with detail. Connections and relationships between different aspects of study are fully developed with complete relevance. Analysis and evaluation are detailed and well supported with appropriate evidence. A well balanced and coherent argument is presented. Level 2 (4–6 marks) AO1 – Demonstrates some appropriate knowledge and understanding of concepts, processes, interactions and change. These are mostly relevant though there may be some minor inaccuracy. AO2 – Applies some knowledge and understanding appropriately. Connections and relationships between different aspects of study are emerging/evident with some relevance. Analysis and evaluation evident and supported with some appropriate evidence. A clear but partial argument is presented. Level 1 (1–3 marks) AO1 – Demonstrates basic/limited knowledge and understanding of concepts, processes, interactions and change. These offer limited relevance with inaccuracy. AO2 – Applies limited knowledge and understanding. Connections and relationships between different aspects of study are basic with limited relevance. Analysis and evaluation basic and supported with limited appropriate evidence. A basic argument is presented. <u>Notes for answers</u> The question requires knowledge and understanding of non-communicable diseases such as lung cancer and the mitigation strategies used to reduce and control them. Candidates should apply understanding to evaluate strategies such as those shown in Figure 8. Max low level 2 if no reference to lung cancer. There is no credit for analysing data on the graph in isolation but evaluation of the success of the strategies using evidence from the graph is acceptable and a way to demonstrate AO2.	9 AO1 = 4 AO2 = 5
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		AO1 • The global prevalence and distribution of non-communicable disease, eg a specific type of cancer, coronary heart disease, asthma. • The links to physical and socio-economic environment including impacts of lifestyles. • Impact of the non-communicable disease on health and well-being. • Management and mitigation strategies. • Knowledge and understanding of non-communicable diseases other than lung cancer. AO2 • Figure 8 suggests that there is a clear link between smoking and lung cancer, first demonstrated in 1953. The mitigation strategies are all related to reducing smoking in an attempt to reduce the incidence of lung cancer. • Figure 8 shows that the smoking rates fluctuated in men and women between 1950 and 1970. This suggests that knowing the links between lung cancer and smoking had a limited impact and that other strategies were needed. • Evaluation of the mitigation strategies suggests that banning TV ads on smoking had a big impact on smoking as at the point smoking rates fell for both males and females. • Evaluation of the extent to which mitigation strategies to reduce lung cancer are effective. Figure 8 suggests that the incidence of lung cancer is falling dramatically in males but the strategies are not effective in reducing lung cancer in females, despite falling rates of smoking. Since 2000 the rates of lung cancer in females have risen and only seen a very small drop in males, despite the smoking ban in closed spaces. This might be due to the time lag between smoking and incidence of lung cancer. • Alternative possible futures may also be considered by looking at future success in mitigating against non-communicable diseases such as lung cancer. There may be greater challenges in the future especially in LIC countries as greater levels of affluence lead to unhealthy lifestyles. Alternatively, there may be technological advancements which may mean that disease can be managed more effectively or cures are discovered. • There may be an overall conclusion evaluating the mitigation strategies as shown in Figure 8. It should be supported by evidence in the response. Credit any other valid approach.	
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04	4	To what extent do you agree that some soil problems related to agriculture are easier to manage than others? AO1 – Knowledge and understanding of soil problems and their management as they relate to agriculture. AO2 – Applies knowledge and understanding to analyse and evaluate the extent to which some soil problems are easier to manage than others. <u>Mark scheme</u> Level 3 (7–9 marks) AO1 – Demonstrates detailed knowledge and understanding of concepts, processes, interactions and change. These underpin the response throughout. AO2 – Applies knowledge and understanding appropriately with detail. Connections and relationships between different aspects of study are fully developed with complete relevance. Analysis and evaluation are detailed and well supported with appropriate evidence. A well balanced and coherent argument is presented. Level 2 (4–6 marks) AO1 – Demonstrates some appropriate knowledge and understanding of concepts, processes, interactions and change. These are mostly relevant though there may be some minor inaccuracy. AO2 – Applies some knowledge and understanding appropriately. Connections and relationships between different aspects of study are emerging/evident with some relevance. Analysis and evaluation evident and supported with some appropriate evidence. A clear but partial argument is presented. Level 1 (1–3 marks) AO1 – Demonstrates basic/limited knowledge and understanding of concepts, processes, interactions and change. These offer limited relevance with inaccuracy. AO2 – Applies limited knowledge and understanding. Connections and relationships between different aspects of study are basic with limited relevance. Analysis and evaluation basic and supported with limited appropriate evidence. A basic argument is presented. <u>Notes for answers</u> This question requires students to assess the relative degree to which soil problems can be managed. Students should choose more than one soil problem and comparatively assess their management strategies. The specification requires students to study soil erosion, waterlogging, salinisation and structural deterioration. There is no requirement to include all of these and students could refer to other soil problems. Problems relating to two different soil types is also a valid route.	9 AO1 = 4 AO2 = 5
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		AO1 • Soil problems and their management as they relate to agriculture: soil erosion, waterlogging, salinisation, structural deterioration. • Strategies to ensure food security. • Global and regional patterns of food production and consumption. • Agricultural systems and agricultural productivity. Relationship with key physical environmental variables – climate and soils. AO2 • Evaluation of the extent to which different soil problems reduce agricultural yields and impact on food security. • The extent to which global and regional patterns of food production and consumption cause soil problems and impact on management strategies. • Evaluation of the success of strategies to manage soil problems in relation to population carrying capacities, food security and agricultural yields. • Management of soil problems at different scales for example geographical size, HICs versus LICs or temporal change. • Relative success of different strategies to reduce soil problems in order to achieve better food security and higher yields. • Relative success of different management strategies in relation to socio-economic factors for example, cost-effectiveness, appropriate technology, ease of use for populations. • They may consider other factors that affect management of soil problems for example, labour supplies, conflict, wealth or attitudes of local populations / government. • Alternative futures in the development of soil problems and / or new technologies in management of soil problems may also be considered. • Conclusion should consider the relative success of managing soil problems. Any conclusion is valid as long as it supports the preceding content. Credit any other valid approach.	
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04	5	Using a case-study of a country/society experiencing population change, assess the relative importance of environmental and socio-economic factors in demographic transition. AO1 – Knowledge and understanding of a case study of a country/society experiencing specific patterns of overall population change. Knowledge and understanding of factors in natural population change: the demographic transition model. AO2 – Application of knowledge and understanding to assess the role of environmental and socio-economic factors in causing demographic transition in a country/society experiencing change. <u>Notes for answers</u> The question requires students to make links between different parts of the population and environment specification, specifically relationships between the natural environment, socio-economic factors and demographic transition. They should apply this to their case-study of a country / society that has undergone population change. AO1 • Knowledge and understanding of factors in natural population change: the demographic transition model. • Key population parameters: distribution, density, numbers, change. • Key vital rates, age-sex composition; cultural controls. Models of natural population change, and their application in contrasting physical and human settings. • Case study of a country/society experiencing specific patterns of overall population change – increase or decline – to illustrate and analyse the character, scale, and patterns of change, relevant environmental and socio-economic factors and implications for the country/society. • Critical appraisal of future population-environment relationships.	20 AO1 = 10 AO2 = 10
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		AO2 • Analysis of the environmental factors leading to population change. For example, drought leading to population decline as a result of migration. • Analysis of socio-economic factors leading to population change, for example increased rural-urban migration as a result of industrialisation. • Evaluation of the links between environmental / socio-economic factors and the impact on demographic transition. • Analysis of the environmental and socio-economic factors impacting on population change in the country studied. • The extent to which the demographic transition model can be applied to the case-study chosen. • The extent to which environmental and socio-economic factors affect the applicability of the demographic transition model. For example, migration is not taken into account in the model. • Critical assessment of alternative futures on population change in the case-study area and the extent to which this will fit the DTM may be considered. • They should consider the relative importance of environmental factors and socio-economic factors in causing demographic transition. • Any conclusion is valid as long as it is supported by the preceding content. Credit any other valid approach.	
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Marking grid for Question 4.5

Level/ Mark Range	Criteria/Descriptor
Level 4 (16–20 marks)	- Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question (AO2). - Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout (AO2). - Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout (AO1). - Full and accurate knowledge and understanding of key concepts and processes throughout (AO1). - Detailed awareness of scale and temporal change which is well integrated where appropriate (AO1).
Level 3 (11–15 marks)	- Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question (AO2). - Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding (AO2). - Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Generally clear and relevant knowledge and understanding of place(s) and environments (AO1). - Generally clear and accurate knowledge and understanding of key concepts and processes (AO1). - Generally clear awareness of scale and temporal change which is integrated where appropriate (AO1).
Level 2 (6–10 marks)	- Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question (AO2). - Some partially relevant analysis and evaluation in the application of knowledge and understanding (AO2). - Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Some relevant knowledge and understanding of place(s) and environments which is partially relevant (AO1). - Some knowledge and understanding of key concepts, processes and interactions and change (AO1). - Some awareness of scale and temporal change which is sometimes integrated where appropriate. There may be a few inaccuracies (AO1).
Level 1 (1–5 marks)	- Very limited and/or unsupported evaluative conclusion that is loosely based upon knowledge and understanding which is applied to the context of the question (AO2). - Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence (AO2). - Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Very limited relevant knowledge and understanding of place(s) and environments (AO1). - Isolated knowledge and understanding of key concepts and processes (AO1). - Very limited awareness of scale and temporal change which is rarely integrated where appropriate. There may be a number of inaccuracies (AO1).
Level 0 (0 marks)	Nothing worthy of credit.

Qu	Part	Marking guidance	Total marks
05	1	Outline global patterns of water availability. <u>Point marked</u> Allow 1 mark per valid point with extra mark(s) for developed points (d). One mark for exemplification. <u>Notes for answers</u> - Physical water scarcity occurs where demand exceeds supply (1). Economic water scarcity occurs when people cannot afford water even if it's readily available (1)(d). Areas of physical water scarcity are mainly found in the Northern Hemisphere in a belt about 30–40° latitude (1). A large area stretches across Central Asia including China (1) (d). - Physical water scarcity is also an issue for North Africa, the Arabian peninsula and south western parts of North America, (1)(d). - Areas of economic water scarcity are found mainly in Africa with some small areas in Central America and south-east Asia (1) (d). - Water scarcity can be seasonal (1) for example the Mediterranean region suffers water scarcity in the summer months but less so in the winter (1) (d) - Water quality can influence patterns of water availability (1). The notes for answers are not exhaustive. Credit any valid points.	4 AO1 = 4

05	2	Analyse the data shown in Figure 9. AO3 – Analysis of global variations in solar power capacity as shown in Figure 9. <u>Mark scheme</u> Level 2 (4–6 marks) AO3 – Clear analysis and interpretation of the quantitative evidence provided, which makes appropriate use of data in support. Clear connection(s) between different aspects of the data and evidence. Level 1 (1–3 marks) AO3 – Basic analysis and interpretation of the quantitative evidence provided, which makes limited use of data and evidence in support. Basic connection(s) between different aspects of the data and evidence. <u>Notes for answers</u> The question requires analysis of the global variation in solar power capacity. The map shows solar capacity in relation to overall capacity and per capita and students should focus analysis on the spatial variation and relationship between location and quantity. AO3 • Figure 9 shows there is considerable variation in global capacity in total solar power capacity per country. For example, China produces the most and produces more than 3 times as much as the second highest, the USA. • Overall south-east Asia and Europe produce the most solar power by continent. Europe shows huge variation though, with Germany producing 4 times more solar power than the UK. • Figure 9 shows that only two countries produce over 600 kw per capita, Germany and Australia. China, which produces nearly 4 times more solar power than Japan, produces far less per capita. • The highest production per capita is mainly seen in HICs with most LICs / NEEs producing less than 100 watts per capita. Africa as a continent produces the least amount of solar power both in terms of total and per capita production. South Africa produces the most but produces only 5900 mw. Credit any other valid analysis.	6 AO3 = 6
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05	3	Using Figure 10a, Figure 10b and your own knowledge, discuss the environmental impacts of major dams and/or barrages. AO1 – Knowledge and understanding of the environmental impacts of a major water supply scheme incorporating a major dam and/or barrage and associated distribution networks. AO2 – Applies knowledge and understanding to evaluate and analyse the environmental impacts as shown in Figure 10a and Figure 10b. <u>Mark scheme</u> Level 3 (7–9 marks) AO1 – Demonstrates detailed knowledge and understanding of concepts, processes, interactions and change. These underpin the response throughout. AO2 – Applies knowledge and understanding appropriately with detail. Connections and relationships between different aspects of study are fully developed with complete relevance. Analysis and evaluation are detailed and well supported with appropriate evidence. Level 2 (4–6 marks) AO1 – Demonstrates clear knowledge and understanding of concepts, processes, interactions and change. These are mostly relevant though there may be some minor inaccuracy. AO2 – Applies clear knowledge and understanding appropriately. Connections and relationships between different aspects of study are evident with some relevance. Analysis and evaluation are evident and supported with clear and appropriate evidence. Level 1 (1–3 marks) AO1 – Demonstrates basic knowledge and understanding of concepts, processes, interactions and change. This offers limited relevance with inaccuracy. AO2 – Applies limited knowledge and understanding. Connections and relationships between different aspects of study are basic with limited relevance. Analysis and evaluation are basic and supported with limited appropriate evidence. <u>Notes for answers</u> The question requires an understanding of the environmental impacts of major water supply scheme. The specification requires study of this in relation to a dam or barrage. This knowledge and understanding should be applied to the Alto Lindoso dam shown in Figure 10a and the Durgapur Barrage in Figure 10b. They can gain maximum credit for only referring to Figure 10a or Figure 10b. They can also gain AO1 credit for reference to a different dam or barrage.	9 AO1 = 4 AO2 = 5
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		AO1 • Sources of water; components of demand, water stress. • Environmental impacts of a major water supply scheme incorporating a major dam and/or barrage and associated distribution networks. • Alternative water futures and the relationship with a range of technological, economic, environmental and political developments. AO2 • Analysis of Figures 10a and 10b to assess visible environmental impacts. For example, in Figure 10a the area is rural and therefore habitats were flooded to construct the dam. The built environment such as a village may also have been destroyed to construct the dam. • There are also environmental impacts from road construction and deforestation near the roads seen in Figure 10a showing evidence of soil erosion. This could have happened due to forest clearance on steep slopes. • However, the dam may have brought environmental benefits. Figure 10a shows the dam near full capacity and this will have created new habitats and certainly there is extensive vegetation growth on one side of the dam. This also provides recreation opportunities. • Figure 10b shows the barrage appears to have disrupted normal flow conditions. There are large sand banks. These might provide new habitats to replace ones lost due to the construction of the barrage. • Barrages are designed to divert water and increase supplies in areas of need so the Durgapur barrage may disrupt the natural flow of water, affecting water security as well wildlife upstream and downstream. • The photo in Figure 10b shows visual pollution as the barrage looks out of place in the natural environment. There is a lot of vegetation in the water, which could impact oxygen levels in the water. • Students may compare the environmental impacts inferred from the images in Figure 10a and Figure 10b to their own examples. • Students should come to a conclusion using the evidence. Any conclusion is valid as long as it supports the content of the response. Credit any other valid assessment.	
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05	4	To what extent is there a link between the physical geography and energy mixes in contrasting areas you have studied? AO1 – Knowledge and understanding of the energy mix in contrasting areas. Knowledge and understanding of the relationship of energy supply (volume and quality) to key aspects of physical geography. AO2 – Application of knowledge and understanding to evaluate the extent to which there is a relationship between the physical geography and energy mix. <u>Mark scheme</u> Level 3 (7–9 marks) AO1 – Demonstrates detailed knowledge and understanding of concepts, processes, interactions and change. These underpin the response throughout. AO2 – Applies knowledge and understanding appropriately with detail. Connections and relationships between different aspects of study are fully developed with complete relevance. Analysis and evaluation are detailed and well supported with appropriate evidence. Level 2 (4–6 marks) AO1 – Demonstrates clear knowledge and understanding of concepts, processes, interactions and change. These are mostly relevant though there may be some minor inaccuracy. AO2 – Applies clear knowledge and understanding appropriately. Connections and relationships between different aspects of study are evident with some relevance. Analysis and evaluation are evident and supported with clear and appropriate evidence. Level 1 (1–3 marks) AO1 – Demonstrates basic knowledge and understanding of concepts, processes, interactions and change. This offers limited relevance with inaccuracy. AO2 – Applies limited knowledge and understanding. Connections and relationships between different aspects of study are basic with limited relevance. Analysis and evaluation are basic and supported with limited appropriate evidence. <u>Notes for answers</u> The question requires links to be made between two different parts of the Resource Security specification, the energy mix in contrasting settings and the relationship between energy supply and physical geography. They should consider contrasting settings, the contrast could be any sort of difference for example geographical location, size or socio-economic status.	9 AO1 = 4 AO2 = 5
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		AO1 • Sources of energy, both primary and secondary. • Components of demand and energy mixes in contrasting settings. • Relationship of energy supply (volume and quality) to key aspects of physical geography – climate, geology and drainage. • The geopolitics of energy. AO2 • Analysis of the factors affecting energy mix – geopolitics, availability of resources, physical geography, global demand etc. • Analysis of the how physical geography provides energy sources – climate, geology, relief etc. • Analysis of the factors impacting on energy mix in the contrasting settings, for example in the UK energy mix is dominated by fossil fuels – particularly gas and oil, whereas Norway's is dominated by HEP due to smaller demand but large amounts of space and precipitation. • Evaluation of the importance of different factors in determining energy mix in the contrasting settings. For example, demand is very important in the UK, but in Angola it is dominated by fuelwood due to the dominance of subsistence agriculture. • Evaluation of the extent to which there is a link between physical geography and energy supply. For example, physical geography plays a limited part in the UK, but is very important in Spain, which is reliant on wind generation. • The extent to which physical geography and energy mix have changed over time might be considered. In the UK, it was more important in the past when coal was the dominant use, due to its availability in the UK, alongside North Sea gas. • Students should come to a conclusion as to the extent to which there is a relationship between physical geography and energy mix in the contrasting settings. Any conclusion is valid as long as it is supported by the preceding content. Credit any other valid approach.	
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05	5	‘Resources can be considered to be infinite because of increased economic development and associated technological advancements.’ With reference to mineral and/or energy resources, assess the extent to which you agree with this statement. AO1 – Knowledge and understanding of alternative energy and / or mineral ore futures and their relationship with a range of technological developments. AO2 – Application of knowledge and understanding to assess the extent to which mineral ores and / or energy can be considered infinite as a result of technological advancements. <u>Notes for answers</u> The question links different parts of the resource futures section with energy and mineral ore security sections. The question is open-ended and responses can argue the statement in a number of ways. They do not have to cover both energy and mineral ore but may choose to do so. AO1 • Alternative energy, water and mineral ore futures and their relationship with a range of technological, economic, environmental and political developments. • Sources of the specified ore. Distribution of reserves/resources. End uses of the ore. Components of demand for ore. • Sources of energy, both primary and secondary. Components of demand and energy mixes in contrasting settings. • Concept of a resource. Resource classifications to include stock and flow resources. Stock resource evaluation: measured reserves, indicated reserves, inferred resources, possible resources. • Natural resource development over time: exploration, exploitation, development. • Concept of the resource frontier. Concept of resource peak. • Geopolitics of energy and mineral ore production, supply and distribution.	20 AO1 = 10 AO2 = 10
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	AO2 • Analysis of the factors leading to energy / mineral ore resource depletion. Consideration of demand and supply issues. • Evaluation of the extent to which strategies to increase energy / ore supply are successful in meeting demand. • Evaluation of the sustainability of schemes to increase resource production and strategies to increase supply and reduce consumption. • Analysis of the link between technological advancements and increase in resource supply. The extent to which inferred and probable reserves can be exploited using current technology may be considered. • The relationship between technological advancements and our ability to find new reserves. Global distribution of current reserves and probable reserves and the link between accessibility and demand. • Evaluation of the role played by geopolitics may be considered. This may mean that even with technological advancements we cannot access new reserves. • Temporal change might be considered looking at how technological advancements have helped us in the past to find new reserves. • Alternative futures may also be considered. For example, changes in demand, impact of climate change, new technologies all might be considered. • Responses should come to a conclusion as to the extent to which they agree with the statement. Any conclusion is valid as long as it is supported by the preceding content. Credit any other valid approach.	
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Marking grid for Question 5.5

Level/ Mark Range	Criteria/Descriptor
Level 4 (16–20 marks)	- Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question (AO2). - Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout (AO2). - Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout (AO1). - Full and accurate knowledge and understanding of key concepts and processes throughout (AO1). - Detailed awareness of scale and temporal change which is well integrated where appropriate (AO1).
Level 3 (11–15 marks)	- Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question (AO2). - Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding (AO2). - Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Generally clear and relevant knowledge and understanding of place(s) and environments (AO1). - Generally clear and accurate knowledge and understanding of key concepts and processes (AO1). - Generally clear awareness of scale and temporal change which is integrated where appropriate (AO1).
Level 2 (6–10 marks)	- Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question (AO2). - Some partially relevant analysis and evaluation in the application of knowledge and understanding (AO2). - Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Some relevant knowledge and understanding of place(s) and environments which is partially relevant (AO1). - Some knowledge and understanding of key concepts, processes and interactions and change (AO1). - Some awareness of scale and temporal change which is sometimes integrated where appropriate. There may be a few inaccuracies (AO1).
Level 1 (1–5 marks)	- Very limited and/or unsupported evaluative conclusion that is loosely based upon knowledge and understanding which is applied to the context of the question (AO2). - Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence (AO2). - Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Very limited relevant knowledge and understanding of place(s) and environments (AO1). - Isolated knowledge and understanding of key concepts and processes (AO1). - Very limited awareness of scale and temporal change which is rarely integrated where appropriate. There may be a number of inaccuracies (AO1).
Level 0 (0 marks)	Nothing worthy of credit.