OXFORD

INTERNATIONAL AQA EXAMINATIONS

INTERNATIONAL A-LEVEL
GEOGRAPHY
GG04

Paper 4 Human Geography 2

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.

Further copies of this mark scheme are available from oxfordaqaexams.org.uk

International A-level Geography mark scheme

How to mark

Aims

When you are marking your allocation of scripts your main aims should be to:

- recognise and identify the achievements of students
- place students in the appropriate mark band and in the appropriate part of that mark band (high, low, middle) for **each** Assessment Objective
- record your judgements with brief notes, annotations and comments that are relevant to the mark scheme and make it clear to other examiners how you have arrived at the numerical mark awarded for each Assessment Objective
- ensure comparability of assessment for all students, regardless of question or examiner.

Approach

It is important to be **open-minded** and **positive** when marking scripts.

The specification recognises the variety of experiences and knowledge that students will have. It encourages them to study geography in a way that is relevant to them. The questions have been designed to give them opportunities to discuss what they have found out about geography. It is important to assess the quality of **what the student offers**.

Do not mark scripts based on the answer **you** would have written. The mark schemes have been composed to assess **quality of response** and not to identify expected items of knowledge.

Assessment Objectives

This component requires students to:

AO1	Demonstrate knowledge and understanding of places, environments, concepts, processes, interactions and change, at a variety of scales.
AO2	Apply knowledge and understanding in different contexts to interpret, analyse and evaluate geographical information and issues.
AO3	Use a variety of relevant quantitative, qualitative and fieldwork skills to: • investigate geographical questions and issues • interpret, analyse and evaluate data and evidence • construct arguments and draw conclusions.

The marking grids

Do not think of levels equaling grade boundaries.

Depending on the part of the examination, the levels will have different mark ranges assigned to them. This will reflect the different weighting of Assessment Objectives in particular tasks and across the examination as a whole.

Using the grids

Having familiarised yourself with the descriptors and indicative content, read through the answer and annotate it (as instructed below) to identify the qualities that are being looked for and that it shows. You can now check the levels and award a mark.

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 descriptors for that level. The descriptors for the level indicate the different qualities that might be seen in the student's answer for that level. If it meets all the descriptors for 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 descriptors and the answer. With practice and familiarity you will find that for better answers you will be able to skip through the lower levels of the mark scheme quickly.

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.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark.

It is often best to start in the middle of the level's mark range and then check and adjust. If there is a lot of indicative content fully identifiable in the work you need to give the highest mark in the level. If only some is identifiable or it is only partially fulfilled, then give the lower mark.

The exemplar materials used during standardisation will also help. There will be an answer in the standardising materials that 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 of 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.

In addition to the levels descriptors, question specific indicative content is provided as a guide for examiners. This is not intended to be exhaustive and you must credit other valid points.

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

Annotating scripts

You should write a summative comment at the end for each Assessment Objective and indicate the marks for each Assessment Objective being tested at the end of the answer in the margin in sequence. It is vital that the way you arrive at a mark should be recorded on the script. This will help you with making accurate judgements and it will help any subsequent markers to identify how you are thinking. Please do not write negative comments about students' work or their alleged aptitudes.

Section A – Changing Places   **Total for this section: 40 marks**

Question	Part	Marking guidance	Total marks
01	1	**Which of the following are both exogenous factors contributing to the character of a place?** Key – A: Government investment for a local project **and** workers commuting to the place.	1 AO1=1

Question	Part	Marking guidance	Total marks
01	2	**Which of the following describes a person who has only experienced a place through media?** Key – B: They looked at a series of historical paintings by a range of artists **and** read a collection of poems about the place.	1 AO1=1

Question	Part	Marking guidance	Total marks
01	3	**Which of the following is a direct example of a flow of capital shaping a place?** Key – B: A government investing in a town to improve the access to green spaces.	1 AO1=1

Question	Part	Marking guidance	Total marks
01	4	**Which of the following describes an insider perspective on place?** Key – D: Someone who visits a place on holiday which has a similar culture to home, and they feel welcome.	1 AO1=1

Question	Part	Marking guidance	Total marks
01	5	**'In the past, a place used to have a thriving industrial area, but now is a popular tourist and leisure area.'** **This statement refers to:** Key – B: economic change.	1 AO1=1

Question	Part	Marking guidance	Total marks
02		**Figure 1a, Figure 1b** and **Figure 1c** show quantitative data for the city of Mumbai, India. **Figure 1a** shows a range of statistics for Mumbai. **Figure 1b** shows the religions of people in Mumbai. **Figure 1c** shows population change in Mumbai between 1950 and 2020. **Using Figure 1a, Figure 1b and Figure 1c, analyse how the data represents the characteristics of the place.**	**6** **AO3=6**

Level	Marks	Descriptor
2	4 – 6	**AO3** – Clear analysis of the evidence provided which makes appropriate use of data to support. Clear connections between different aspects of the data.
1	1 – 3	**AO3** – Basic analysis of the evidence provided which makes limited use of data to support. Basic or limited connections between different aspects of the data.
0	0	No creditable content.

Indicative Content

There are a variety of ways of approaching this unseen material.

This question requires students to analyse the way in which this place, Mumbai, is represented in the figures provided. Level 2 answers must refer to how the character is represented explicitly and use specific evidence from the figures. No credit for representation or knowledge not evident in the figures provided. Note that candidates do not need to categorise representations, this is just one possible approach.

AO3

- The sources represent both positive and negative aspects of Mumbai's character.
- Figure 1a shows Mumbai's environmental characteristics as being a reasonably large city having a total surface area of 603 km^2 (233 square miles). It shows it has a hot climate with average temperatures of 26.8 °C (80.2 °F) and a monsoon season between June and September; which would explain the high average rainfall of 2514 mm (99 inches) per year. Figure 1a also shows Mumbai has unhealthy air pollution levels that exceed WHO guidelines by more than 9 times; with it being the eighth most populated city in the world, this could have significant impacts on the health of a large number of people.
- Cultural character is shown as being diverse in Mumbai with 16 major languages being spoken in the city. Over 86% of the population practise just two religions; 66% of people practice Hinduism with a further 20.7% observing Islam. That said, there are four other religions listed in Figure 1b, again suggesting a diverse cultural community. The film industry is clearly a large aspect of culture in Mumbai with over 1000 films a year being produced. (This will also be evident in the economic character.)
- Both positive and negative aspects of Mumbai's socio-economic character are represented in the figures. Figure 1c shows that the city has seen significant population change since 1950 with its

population growing from 3 million to just over 20 million by 2020. Growth appears to have slowed between 2000 and 2020. This growth rate could explain why 60% of people in Mumbai live in informal settlements.
* There is clearly some polarisation in health and lifestyle in the city if 60% of people live in informal settlements with only 1–2 hours access a day to water whilst the city is also home to 72 billionaires. The wide range in life expectancy also supports this idea of polarisation; 39 years in some informal settlement areas vs an overall average urban life expectancy of 73.5 years. Despite the large informal settlement population and associated health implications, literacy rates are at nearly 90% with 80.1% of the population receiving at least a primary education. This suggests that education is a priority in the city.
* Some could argue that the source of the figures is unknown and therefore reliability and bias need to be considered; there could be an issue in being able to use this data to fully understand the character of Mumbai.
* Some may suggest that quantitative data on its own doesn't provide a true reflection of character on places; qualitative data is also needed.

Question	Part	Marking guidance	Total marks
03		**Assess the extent to which external agencies are successful in influencing or creating place-meanings.** **Use examples of <u>one or more</u> places you have studied to support your answer.** **AO1** – Knowledge and understanding of place-meaning. Knowledge and understanding of how external agencies including government, corporate bodies and community or local groups can influence or create specific place-meanings. **AO2** – Application of knowledge and understanding to evaluate the success of attempts by external agencies in influencing or creating place-meaning.	**9** **AO1=4** **AO2=5**

Level	Marks	Descriptor
3	7 – 9	**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.
2	4 – 6	**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.
1	1 – 3	**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.
0	0	No creditable content.

Indicative Content

This question requires an awareness of the ways in which external agencies including government, corporate bodies and community or local groups can influence or create specific place-meanings. They should assess the success of one or more attempts. Students should refer to examples they have studied to support their argument. These are likely to be wide ranging and dependent on the places studied throughout the topic.

AO1

• Knowledge and understanding of the concept of place-meaning when investigating place.
• Knowledge and understanding of sense of place and therefore that different people will attach different meanings to the same places.
• Knowledge and understanding of the impacts of external forces on places.
• Knowledge and understanding that some groups will try to influence people's sense of place or even create new meanings so that they can change people's behaviour and attitudes towards those places; this can be the behaviour of individuals, groups, businesses and institutions. Eg Amsterdam's "I Amsterdam" strategy.
• Knowledge and understanding of place marketing strategies in influencing or creating specific place-meaning. Often used to 'sell' a place to people who may potentially visit or perhaps invest money in a place. The 2020 Thailand tourism campaign aims to market the country with a 'plan to refresh the country's image to a trusted destination where tourists will have peace of mind' with a health certification system for hotels and restaurants to reassure tourists. This campaign is 'aimed at young affluent travellers from places that are considered low-risk such as China, South Korea and Taiwan'.
• Knowledge and understanding of re-imaging strategies in influencing or creating specific place-meaning which is often used to change existing negative perceptions of places. This has commonly been used in changing place-meanings of areas that have been affected by industrial decline which resulted in landscapes of urban decay, abandoned factories and high unemployment. Many UK cities have had re-imaging strategies such as Birmingham where previously industrial areas have been re-purposed into shops, bars and restaurants and therefore re-imaged. Re-imaging may be used prior to or as a result of rebranding.
• Knowledge and understanding of rebranding strategies in influencing or creating specific place-meaning. These strategies aim to give places a new identity that appeals to people and/or investors. Logos and slogans are often used as part of this strategy designed to create positive associations, eg Coachella, a city in California (USA) has the slogan of "City of eternal sunshine" and Hong Kong (China) uses the brand slogan "Asia's world city".
• Knowledge and understanding that strategies are often used in conjunction with each other or alongside regeneration or redevelopment projects.

AO2

• Analysis of the different strategies used when making attempts to influence to create specific place-meanings.
• Evaluation of the success of strategies used; sometimes these will be successful but sometimes strategies have the opposite effect and further damage a place's image, eg the 2012 Skegness (UK) tourism campaign that chose to attempt to increase tourist numbers from elsewhere through a series of negative images of other tourist destinations.
• Evaluation that the strategies chosen when influencing or creating place-meanings have to appeal to both the target audience such as international tourists as well as satisfy insiders such as local communities, industries and businesses. Hamburg's (Germany) 2009 marketing campaign attracted negativity from local people when it attempted to communicate an image of the city as a "city on the

waterfront," with 'rich' and 'creative' residents, offering a various range of cultural programs like 'musicals' to its visitors.

- Evaluation that different strategies will be used for different purposes aimed towards the target audience.
- Evaluation that often several strategies will be used in conjunction with each other and/or alongside large development projects.
- Evaluation that strategies will also need sufficient funding and direction; although investment does not always result in success.
- Evaluation that strategies may take time before successful results are realised; the 2004 "I Amsterdam" campaign took several years to yield results but is now seen as one of the most successful destination brands on social media.
- Evaluation that places are dynamic and therefore ever-changing. Strategies may only have success for a limited time scale.
- Overall conclusion of the success of the chosen strategies in influencing or creating specific place-meanings.

Question	Part	Marking guidance	Total marks
04		**'Economic change always has a positive impact on the developing character of places.'** **With reference to places you have studied, to what extent do you agree with this statement?** **AO1** – Knowledge and understanding of how economic change affects the developing character of places over time. Knowledge and understanding of other factors that affect and change places. Knowledge and understanding of places studied. **AO2** – Application of knowledge and understanding to evaluate the role of economic change and how this affects the character of places.	**20** **AO1=10** **AO2=10**

Level	Marks	Descriptor
4	16 – 20	**AO2** – 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. **AO1** – 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.
3	11 – 15	**AO2** – 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. **AO1** – 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.
2	**6 – 10**	**AO2** – 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.
		AO1 – 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.
1	**1 – 5**	**AO2** – 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.
		AO1 – 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.
0	**0**	No creditable content.

Indicative Content

This question links several elements of 'changing places', namely the 'relationships and connections' element and place studies sections of the specification. The question requires an assessment of the relative role of economic change on developing character and reach a conclusion. Students should refer to places they have studied to support their argument. These are likely to be wide ranging and responses will be dependent on the places studied throughout the topic. Some candidates may refer to themes within the Global Systems and Global Governance topic; relevant responses to be credited.

AO1
- Knowledge and understanding of the concept of place and that places are dynamic, with developing character.
- Knowledge and understanding of economic change and how this affects the developing character of places.
- Knowledge and understanding that other factors are also important when assessing developing character such as cultural and demographic changes.
- Awareness of the specific reasons behind the developing character of the places studied.
- Knowledge and understanding of the impact of relationships and connections on places.
- Knowledge and understanding that the character of a place is bound in endogenous and exogenous factors.
- Awareness that people may have different views on the developing character of places; there may be a difference in view between insiders and outsiders or even within community groups.
- Awareness of the influence of shifting flows of people and capital on the developing character of places. Some may refer to the role of TNCs or governmental policy change in the developing character of places.

AO2

- Analysis that economic change will have a range of consequences on the character of places.
- Analysis of the relative importance of economic change over time and that change may be influenced by external forces such as TNCs or government legislation.
- Assessment of the extent to which other factors also affect developing character such as cultural and demographic change and that these may well have stronger influence.
- Awareness that many factors are entwined and therefore several factors could affect developing character simultaneously.
- Evaluation that economic change could be both positive and negative on the developing character of places. Areas that have undergone a period of deindustrialisation and economic decline may have experienced high levels of dereliction and industrial pollution such as Sheffield (UK) in the 1970s and 1980s. This therefore negatively affects the developing character; although some may argue that community cohesion in times of adversity is a positive aspect of place character.
- Economic change may well be positive if significant investment in a place results in positivity; employment opportunities, environmental clean-up and improvement in quality of life. Foreign Direct Investment (FDI) could drive economic growth as could the investment by TNCs. However, an increase in investment could have potential downsides; such as inequality, poor safety standards for workers and environmental degradation. Shell have invested heavily in Nigeria and although this has provided jobs for local people, the Ogoni people in the Niger Delta have seen their environment damaged and very little in financial reward.
- Analysis that changing demographics could be a catalyst for economic change; both positively and negatively. Processes such as gentrification in places can in turn stimulate economic growth such as the creation of shops and cafes as well as an improved environment over time. However, this can

often displace original residents and break up communities; this would be seen as being a negative impact on the changing character of a place.

- Economic growth could result in demographic change with the lure of job opportunities. In developing countries, this can result in a flow of young migrant workers to cities; affecting the character of some areas. This is sometimes negative in terms of the environmental character but in many places can provide a rich culture and sense of community.
- Awareness that economic change may result in inequality within places, eg Mumbai (India) where there is significant increased wealth for businesses yet substantial numbers of people live in poverty in slums.
- Analysis of the varying temporal and spatial scales associated with economic change and how these affect the developing character of places.
- Awareness that places are dynamic and change is inevitable.
- Some may suggest that different groups of people may view changes differently; some with positive viewpoints and others more negative.
- Conclusion may indicate that the factors affecting developing character are complex and each place is unique.

Section B – People and Contemporary Urban Environments   Total for this section: 40 marks

Question	Part	Marking guidance	Total marks
05	1	**Businesses relocating beyond the CBD or inner city and towards the rural-urban fringe is a process known as:** Key – B: decentralisation.	1 AO1=1

Question	Part	Marking guidance	Total marks
05	2	**Which of the following describes the characteristics of a world city?** Key – C: It is an interconnected global centre with significant influence on the world economy.	1 AO1=1

Question	Part	Marking guidance	Total marks
05	3	**Which of the following is a human factor in shaping urban form?** Key – D: The development of sewage systems to cope with population change.	1 AO1=1

Question	Part	Marking guidance	Total marks
05	4	**Which of the following is a typical characteristic of a post-modern city?** Key – A: A city of fragmented urban form with multiple centres for different purposes.	1 AO1=1

Question	Part	Marking guidance	Total marks
05	5	**Which of the following describes the distribution of malaria?** Key – C: Prevalent in tropical, wet climates which contain abundant pools and ponds all year round.	1 AO1=1

Question	Part	Marking guidance	Total marks
06		**Figure 2a** shows the amount of waste generation in 2016 and projected waste generation for 2030 and 2050 by global region. **Figure 2b** shows the amount of waste generation per person in 2016 and projected waste generation per person for 2030 and 2050, by global region. **Analyse the data shown in Figure 2a and Figure 2b.**	**6** **AO3=6**

Level	Marks	Descriptor
2	4 – 6	**AO3** – Clear analysis of the evidence provided which makes appropriate use of data to support. Clear connections between different aspects of the data.
1	1 – 3	**AO3** – Basic analysis of the evidence provided which makes limited use of data to support. Basic or limited connections between different aspects of the data.
0	0	No creditable content.

Indicative Content

There are a variety of ways of approaching this unseen material.

This question requires the analysis of the projected waste generation by global region as well as projected waste generation per person in each region. For maximum marks there should be use of specific data.

AO3

- Both Figure 2a and Figure 2b show a clear trend of a projected increase in waste generation over time.
- Overall, the region with the highest projected million tonnes of waste is consistently East Asia and Pacific in all three years shown.
- The region with the highest rate of growth is Sub-Saharan Africa who is projected to have an increase of a further 342 million tonnes of waste between 2016 and 2050; particularly significant considering it has the second lowest waste figure in 2016 at 174 million tonnes. The region sees a greater increase between 2030 and 2050 with an increase of 247 million tonnes yet only an increase of 95 million tonnes between 2016 and 2010.
- Europe and Central Asia has the second highest waste figures in 2016 with 392 million tonnes but sees the lowest projected increase between 2016 and 2050 with a further 98 million tonnes of waste being generated. The rate of increase in waste generated is similar between 2016 and 2030 as it is between 2030 and 2050 (+48 million tonnes and +50 million tonnes respectively).
- Although North America is not projected to generate the highest overall tonnes of waste, it is clear as a region it generates the highest projected figures per person, per day in all three years shown; being just over 1 kg per person, per day more in each year compared to the next highest region of Europe and Central Asia. It is the only region with an average of over 2 kg per day in each year shown.
- The highest rate of projected waste generation per person between 2016 and 2050 is shown to be in Latin America and Caribbean with a projected figure of an increase of 0.31 kg per person, per day.

This is closely followed by North America with a projected figure of an increase of 0.29 kg per person, per day in the same time frame.
- Despite having the highest overall waste projections in million tonnes between 2016 and 2050, Sub-Saharan Africa has the lowest rate of projected waste generation per person between 2016 and 2050 with a projected figure of 0.17 kg per person, per day. This is 0.08 kg per person, per day less than the next lowest regions of the Middle East & North Africa and East Asia & Pacific with a projected increase of 0.25 kg per person, per day.

Question	Part	Marking guidance	Total marks
07		**Evaluate the success of management and mitigation strategies for a non-communicable disease that you have studied.** **AO1** – Knowledge and understanding of the non-communicable disease studied. Knowledge and understanding of management and mitigation strategies for the non-communicable disease. **AO2** – Application of knowledge and understanding to analyse and evaluate the effectiveness of management and mitigation strategies for the non-communicable disease studied.	**9** **AO1=4** **AO2=5**

Level	Marks	Descriptor
3	7 – 9	**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.
2	4 – 6	**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.
1	1 – 3	**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.
0	0	No creditable content.

Indicative Content

This question requires an awareness of the ways in which non-communicable disease can be managed and impacts could be mitigated. They should evaluate the success of one or more attempts for a named non-communicable disease and should refer to examples they have studied to support their argument. Answers are likely to be wide ranging and dependent on examples studied throughout the topic. Specification lists cancer, coronary heart disease (CHD) and asthma but accept reference to any non-communicable disease.

Max Level 1 if chosen disease is biologically transmitted.

AO1

- Knowledge and understanding of the nature of the non-communicable disease studied and typical distribution. High morbidity of non-communicable disease is typical of developed countries as many are associated with lifestyle factors as well as ageing populations. Eg there is a positive correlation between increased affluence and incidence of asthma.
- Awareness of the role of the physical environment, lifestyle and level of economic development on the prevalence of the non-communicable disease. Eg the positive correlation between the consumption of high levels of fast food and childhood asthma and eczema found by the International Study of Asthma and Allergies in Childhood.
- Awareness of the impact of non-communicable disease on health and well-being. Impact on relationships, mental health and possible economic impact due to being unable to work.
- Knowledge and understanding of strategies to manage and mitigate the impact or manage the symptoms of the non-communicable disease. Examples could include support for ceasing smoking such as the UK's NHS Stop Smoking service; high taxation of some items, eg tax on soft drinks in France; medication for reducing blood pressure or cholesterol.
- Awareness of the role of health education in the management and mitigation of some non-communicable diseases. Awareness of the role of NGOs in education such as the Global Initiative for Asthma (GINA) annual World Asthma Day.
- Awareness that strategies can be implemented at a range of scales, both spatial and temporal.

AO2

- Evaluation of the extent to which policies and strategies are successful in the management and mitigation of the non-communicable disease.
- With increasing economic development across the world, there are increased cases of some non-communicable diseases in developing countries and emerging economies.
- Awareness that the mortality rate in less developed countries could be comparatively high due to poorer health care systems and/or limited health education. The WHO reported in 2013 that most asthma cases now occur in low- and lower-middle income countries. Each year, 15 million people die from a non-communicable disease between the ages of 30 and 69; over 85% occur in low- and middle-income countries.
- Some countries, or people within some countries, may not be able to afford necessary medications needed to manage the disease. Asthma can often be managed well with preventative medication for example.
- Governments may have different agendas for development; some will place higher importance on health care systems and education whereas others may choose economic growth as a priority.
- Awareness that some people will be unwilling or unable to change habits such as changes to their diet to manage the impact of coronary heart disease. Others may need additional support and funding such as to cease smoking tobacco.

- Some people may not be able to afford the necessary lifestyle changes needed to manage or mitigate the impact of non-communicable disease such as coronary heart disease. In some cases, unhealthy foods may be more affordable for some. In some cases, fuel poverty may result in poorer ventilation in order to conserve heat, increasing humidity and damp issues; factors associated with respiratory diseases.
- Awareness that some management strategies are preventative rather than reactionary to treat or manage symptoms. Preventative management strategies may be expensive in the short term, but save some burden on health care systems in the long term.
- Management of the physical environment such as air pollution is often challenging in urban areas therefore the role of the socio-economic is key.
- Some of the most vulnerable populations live in the informal areas of cities – these people may not be able to access the same preventative measures or medical treatments.
- Health education will play a key role in the management of some non-communicable diseases such as coronary heart disease and associated risk factors. This may be a particular issue for developing countries and emerging economies.
- Overall, the extent to which policies are successful is often dependent on a wide range of factors and bound by social and economic pressures.

Question	Part	Marking guidance	Total marks
08		**'Urban climates create positive living conditions for the populations of large urban areas.'** **To what extent do you agree with this statement?** **AO1** – Knowledge and understanding of urban climate. Knowledge and understanding of the impact of urban forms and human actions on urban climate. Knowledge and understanding on the effect of urban climates on living conditions of populations living in urban areas. **AO2** – Application of knowledge and understanding to analyse and evaluate the impact of urban form and human actions on the weather and climate of urban areas. Application of knowledge and understanding of the resulting effect on living conditions of populations living in urban areas.	**20** **AO1=10** **AO2=10**

Level	Marks	Descriptor
4	16 – 20	**AO2** – 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. **AO1** – 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.
3	11 – 15	**AO2** – 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. **AO1** – 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.
2	**6 – 10**	**AO2** – 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.
		AO1 – 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.
1	**1 – 5**	**AO2** – 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.
		AO1 – 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.
0	**0**	No creditable content.

Indicative Content

This question requires an awareness of the extent to which urban form and human actions affect the weather and climate of urban areas and the living conditions as a result. They should draw on knowledge and understanding from other areas of the 'People and Contemporary Urban Environments topic' when considering living conditions. They should evaluate and assess the statement provided and reach a conclusion. Answers may be wide ranging depending on the factors addressed.

AO1

- Knowledge and understanding of the impact of urban form and processes on local climate and weather.
- Knowledge and understanding of the urban heat island effect (UHI) and the main causes of the UHI effect; absorption by urban surfaces, heat from human activity, air pollution and lower incidence of evapotranspiration. The role of human activity in the UHI effect. The overall warmer climates often result in fewer incidences of snow in some urban areas and faster melting when it does occur.
- Awareness of the seasonality of the UHI effect as well as diurnal differences.
- Awareness of how increased temperatures affect living conditions for urban populations.
- Knowledge and understanding of precipitation in urban areas often being higher and more intense and some of the reasons behind this; UHI effect and convectional uplift being generated as a result and the role of particulates in the urban atmosphere from human activity.
- Thunderstorms are more frequent due to UHI as well as increased precipitation. The increase in condensation nuclei also often generates fog.
- Knowledge and understanding of the role of air quality in urban climate; particulates as well as photo-chemical pollution and how this affects living conditions for populations, eg Beijing (China) and New Delhi (India) are cities affected by fog due to high concentrations of particulates in the atmosphere.
- Knowledge and understanding of the role of the built environment on urban winds. Average wind speed is lower due to friction generated by tall buildings. Some buildings create shelter as a result, but turbulence is caused in some areas creating vortices. Winds are sometimes channelled by tall buildings; the venturi effect, forcing winds through networks of buildings, eg Chicago (USA).
- Awareness of the role of human development on urban climates.
- Some may show an awareness of strategies to overcome some of these issues.

AO2

- Analysis that human activity generates many of the negative living conditions associated with urban climates.
- Analysis that the UHI effect may have a greater effect on urban areas in developing countries as the populations may not have the ability to mitigate the heat through technology such as air conditioning. However, the increased use of air conditioning in turn generates heat emissions creating a positive feedback loop.
- Analysis that where cities are affected by the UHI effect in conjunction to warmer or tropical geographic locations there has been an increase in heat-related deaths in recent years, eg such as Mumbai (India).
- Analysis of the role of climate change in increasing global temperatures; many cities are getting hotter in addition to increases in UHI effect due to continued development. Arguably both caused by human actions.
- Consideration that many urban areas in developing countries attract high levels of rural to urban migration and have large areas of informal settlements as a result. People in these settlements are more likely to cook using wood stoves therefore adding to the particulates in the urban atmosphere. However, some of the most vulnerable populations live in informal settlements with poorer living

conditions. These are the people more likely to be affected by intense heat and precipitation in urban areas and least likely to have adequate shelter from the elements.

- Analysis that urban populations could be affected by thermal stress created both by the increased temperatures but also by the chilling effect of increased winds in some areas. This could affect some activities such as social interactions outside and urban planning will play an increasingly important role.
- Analysis that large populations often result in large numbers of vehicles; in turn generating high levels of air pollution. This human activity fuels the UHI effect as well as increased incidences of smog, eg Lahore (Pakistan) has a high volume of road traffic which contributes to high levels of smog.
- Analysis that other human activity associated with development such as heavy industry in cities also increases particulates in the atmosphere. Ahwaz (Iran) is ranked as one of the worst cities in the world for smog due to the use of oil and natural gas in production processes. This will negatively affect the living conditions for the population.
- Analysis that in some cities, tall buildings can in some cases create increased shade from intense sunshine; however, in areas with a lack of wind, this may not be as positive as it could be.
- A lack of frost and snow could be a positive benefit for urban populations; having a reduced impact on urban transport systems and allowing economic activity to continue in colder months.
- In developed cities, a focus on green space and associated well-being will play a role in the mitigation of some negative aspect of urban climates; often increasing evapotranspiration and therefore decreasing temperatures, albeit sometimes this is a more local than city-wide effect. However, in developing countries the focus may be more on economic development.
- Relative humidity in urban areas can sometimes be lower than surrounding areas; air is warmer meaning it can hold more moisture. This could make the living conditions more pleasant than more rural areas.
- Evaluation of the impact of levels of development and how this will play a key role in the mitigation of negative aspects of urban climate on populations. Awareness that there is an element of temporal scale to consider – developed countries have already undergone several stages of development and now can focus more on sustainability.
- Analysis that overall, more developed countries will have the economic ability to mitigate against the negative effects of urban climates; if they choose to.
- Conclusion is likely to disagree with the statement, but any conclusion is valid as long as it is supported.

Assessment Objective grid

	AO1	AO2	AO3	Total
Section A				
01.1	1			1
01.2	1			1
01.3	1			1
01.4	1			1
01.5	1			1
02			6	6
03	4	5		9
04	10	10		20
Section B				
05.1	1			1
05.2	1			1
05.3	1			1
05.4	1			1
05.5	1			1
06			6	6
07	4	5		9
08	10	10		20
Unit total	38	30	12	80