

# Markscheme

November 2024

Geography

Higher level and standard level

Paper 2

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Paper 2 Section C markbands

Marks	Level descriptor		
	<b>AO1: Knowledge and understanding of specified content</b>  <b>AO2: Application and analysis of knowledge and understanding</b>	<b>AO3: Synthesis and evaluation</b>	<b>AO4: Selection, use and application of a variety of appropriate skills and techniques</b>
0	The work does not reach a standard described by the descriptors below.		
1–2	<b>The response is too brief, lists unconnected information, is not focused on the question and lacks structure.</b>		
	<ul style="list-style-type: none"> <li>• The response is very brief or descriptive, <b>listing</b> a series of unconnected comments or largely irrelevant information. The knowledge and understanding presented is very general with large gaps or errors in interpretation. Examples or case studies are not included or only <b>listed</b>.</li> <li>• There is no evidence of analysis.</li> <li>• Terminology is missing, not defined, irrelevant or used incorrectly.</li> </ul>	<ul style="list-style-type: none"> <li>• No evidence of evaluation or conclusion is expected at this level.</li> </ul>	<ul style="list-style-type: none"> <li>• Information presented is not grouped logically (in paragraphs or sections).</li> <li>• Maps, graphs or diagrams are not included, are irrelevant or difficult to decipher (only if appropriate to the question).</li> </ul>
3–4	<b>The response is too general, lacks detail, is not focused on the question and is largely unstructured.</b>		
	<ul style="list-style-type: none"> <li>• The response is <b>very general</b>. The knowledge and understanding presented outlines examples, statistics, and facts that are both relevant and irrelevant. Links to the question are listed.</li> <li>• The argument or analysis presented is <b>not relevant</b> to the question.</li> <li>• Basic terminology is defined and used but with errors in understanding or used inconsistently.</li> </ul>	<ul style="list-style-type: none"> <li>• If appropriate to the question, the conclusion is irrelevant.</li> <li>• There is no evidence of critical evaluation of evidence (examples, statistics and case studies).</li> </ul>	<ul style="list-style-type: none"> <li>• Most of the information is not grouped logically (in paragraphs or sections).</li> <li>• Maps, graphs or diagrams included lack detail, are incorrectly or only partially interpreted without explicit connections to the question (only if appropriate to the question).</li> </ul>
5–6	<b>The response partially addresses the question, but with a narrow argument, an unsubstantiated conclusion, and limited evaluation.</b>		
	<ul style="list-style-type: none"> <li>• The response <b>describes</b> relevant supporting evidence (information, examples, case studies et cetera), outlining appropriate link(s) to the question.</li> <li>• The argument or analysis <b>partially addresses the question or elaborates one point repeatedly</b>.</li> <li>• Relevant terminology is defined and used with only minor errors in understanding or is used inconsistently.</li> </ul>	<ul style="list-style-type: none"> <li>• If appropriate to the question, the conclusions are general, not aligned with the evidence presented and/or based on an incorrect interpretation of the evidence.</li> <li>• Other perspectives on evidence (examples, statistics and case studies) and/or strengths and weaknesses of evidence are listed.</li> </ul>	<ul style="list-style-type: none"> <li>• Logically related information is grouped together (in sections or paragraphs) but not consistently.</li> <li>• Maps, graphs or diagrams included do not follow conventions, and include relevant and irrelevant interpretations in the text (only if appropriate to the question).</li> </ul>

<p>7–8</p>	<p><b>The response addresses the whole question, the analysis is evaluated and the conclusion is relevant but lacks balance.</b></p> <ul style="list-style-type: none"> <li>• The response describes relevant supporting evidence correctly (information, examples and case studies) that <b>covers all the main points</b> of the question, describing appropriate links to the question.</li> <li>• The argument or <b>analysis is clear</b> and relevant to the question but one-sided or unbalanced.</li> <li>• Complex terminology is defined and used correctly but not consistently.</li> </ul> <ul style="list-style-type: none"> <li>• If appropriate to the question, <b>the conclusion is relevant to the question</b>, aligned with the evidence but unbalanced.</li> <li>• Other perspectives on evidence (examples, statistics and case studies) and/or strengths and weaknesses of evidence are described.</li> </ul> <ul style="list-style-type: none"> <li>• Logically related information is grouped together (in sections) consistently.</li> <li>• Maps, graphs or diagrams included contribute to/support the argument or analysis (only if appropriate to the question).</li> </ul>
<p>9–10</p>	<p><b>The response is in-depth and question-specific (topic and command term); analysis and conclusion are justified through well-developed evaluation of evidence and perspectives.</b></p> <ul style="list-style-type: none"> <li>• The response explains correct and relevant examples, statistics and details that are integrated in the response, explaining the appropriate link to the question.</li> <li>• The argument or analysis is balanced, presenting evidence that is discussed, <b>explaining complexity, exceptions and comparisons</b>.</li> <li>• Complex and relevant terminology is used correctly throughout the response.</li> </ul> <ul style="list-style-type: none"> <li>• If appropriate to the question, the conclusion is relevant to the question, balanced and aligned with the evidence.</li> <li>• Evaluation includes a systematic and detailed presentation of ideas, cause and effect relations, other perspectives; strengths and weaknesses of evidence are discussed; (if appropriate) includes <b>justification of the argument and conclusion</b>.</li> </ul> <ul style="list-style-type: none"> <li>• Response is logically structured with discussion (and if appropriate to the question, a conclusion) focusing on the argument or points made, making it easy to follow.</li> <li>• Maps, graphs or diagrams are annotated following conventions and their relevance is explained and support the argument or analysis (only if appropriate to the question).</li> </ul>

## Section A

### 1. Changing population

- (a) (i) Identify the country with the lowest life expectancy. [1]  
Kenya
- (ii) Estimate the life expectancy of Kyrgyzstan. [1]  
70 (accept 68-70)
- (b) Suggest **two** ways in which an ageing population can benefit a country. [2+2]

Award [1] for a valid benefit and [1] for development/exemplification of the benefit to a country

An ageing population can bring increased savings and investment as older individuals tend to have more disposable income [1]. This can drive economic growth/create jobs [1]

Other possibilities:

- An ageing population can lead to a more experienced and skilled workforce [1] improve productivity [1]
- May volunteer or provide mentorship and guidance, including cultural, to younger generation [1] improve the skill set of the younger population [1]
- Spending power of older people [1] pensioners have money and are active enjoying travel/social activities/hobbies [1]
- Can provide free/ low-cost childcare [1] so parents can work [1]
- An ageing population can also lead to increased demand for healthcare goods/services [1] which can drive innovation and advancements in the field [1].
- Reduce fertility rates [1] less strain on resources [1]
- Decrease in crime rate [1] less money required for policing [1]
- Reduction of spending on youthful population e.g. education [1] able to invest in other aspects of economy/society [1]

- (c) Explain **one** social consequence of voluntary internal migration in a source area **and one** social consequence in a destination area. [2+2]

Award [1] for a valid social consequence and [1] for development/exemplification of the social consequence on the source area

Award [1] for a valid social consequence and [1] for development/exemplification of the social consequence on the destination area

- (i) Closure of social amenities such as schools and hospitals [1] due to shortage of labour/brain drain [1]
- (ii) A voluntary internal migration could lead to an increase of informal settlements [1] as an influx of people puts pressure on housing [1]

Other possibilities:

Source areas:

- Weaken social ties/family break up [1] weakens cohesion within communities [1]

- Erosion of culture [1] as younger people leave traditions and customs lost as no-one to carry them on [1]
- Change to social norms/values [1] new ideas brought in from destination areas [1]
- Ageing populations [1] younger population are the ones that migrate [1]
- Gender imbalance [1] males more likely to migrate/issues of marriage [1]

Destination areas:

- Strain on services [1] education/healthcare cannot cope with increased population [1]
- Lack of suitable housing/housing shortage [1] cannot cope with increased population/dives up house prices/rent [1]
- Cultural diversity [1] introduction of new traditions/cuisine [1]
- Social innovation/influx of new ideas [1] stimulates social change [1]
- Counterbalance declining birthrates [1] provide population growth [1]
- Social conflicts [1] discrimination/crime/child labour [1]

*NB. Do not credit economic consequences or international examples.*

## 2. Global climate — vulnerability and resilience

- (a) Briefly outline **two** characteristics of the mortality rates shown in the table. [2]

Answers can refer to both age and gender. Must have quantification for two marks.

As the age group becomes higher, the overall percentage increase of mortality rises [1]; females have a higher percentage in all groups [1]; the biggest difference is in the 75-84 age group (a higher % of 14.9 for females).

- (b) Suggest **two** reasons why females in low-income countries are more at risk from the impacts of climate change. [2+2]

Award [1] for a valid reason why females are more at risk and [1] for a development relevant to climate change

The more traditional roles of women in some cultures make them more vulnerable (1), e.g., as climate change leads to droughts and desertification, they must travel further to find resources such as collecting water and firewood (1)

Other possibilities:

- Women in some societies have a lower socio-economic status than men [1] less access to money to combat risks [1].
- Less access to resources such as land/credit/technology [1] more difficult to adapt to impacts of climate change [1]
- Less involved in decision-making processes [1] limits ability to influence policies [1]
- Greater responsibility of caring for children and the elderly [1] - as climate change leads to crop failures, they may be more likely to suffer from food insecurity [1]
- Girls may drop out of school to help at home [1] lack education to give awareness of risks [1]
- Females are more likely to work in low paying jobs [1], increasing their vulnerability/ access to health care [1]
- Females less well educated [1] not have access to information on impacts [1]
- Less awareness of risks [1] do not have access to technology that gives warnings [1]
- Females more susceptible to waterborne/heat-related diseases [1] limited access to health care [1]

- (c) Explain **two** reasons why incoming solar radiation may vary. [2+2]

Award [1] for a valid reason why incoming radiation may vary and [1] for development that explains how it causes variations in incoming energy.

Variations in solar activity, such as sunspots/solar flares (1) increase the amount of energy that is received by the Earth (1).

Other possibilities:

- Milankovitch cycles [1] changes in axis tilt/orbital shape [1]
- Global dimming / volcanoes [1] gases/aerosols absorb/scatter sunlight [1]
- Geoengineering techniques [1] reflect energy [1]
- Daily variations [1] position of the sun in the sky [1]
- Seasonal variations [1] cloud cover varies absorbs sunlight/angle of incidence varies [1]
- Latitudinal variations [1] angle of incidence/duration of daylight [1]
- Ozone layer variations [1] ozone depletion increases UV radiation reaching surface/ozone recovery absorbs more UV [1]

### 3. Global resource consumption and security

- (a) Outline **one** interaction that occurs within the water–food–energy nexus. **[2]**

Award [1] for an understanding of an interaction within the nexus and [1] for development or exemplification of the interaction.

Interaction can cover one or more links within the nexus

The supply of water can have significant impacts on the availability of food (1) as crops will be unable to grow (1)

Other possibilities:

- Interaction between food and energy - energy essential for various agricultural activities [1] pumping water for irrigation/making fertilizers/food processing/transport [1] OR crops for biofuels [1] sugarcane processed to ethanol
- Interaction between water and energy – generating electricity [1] hydroelectricity requires water/thermal power plants require water for cooling [1] OR energy required for water management [1] e.g. industry/water treatment

- (b) Suggest **two** reasons why embedded water use has changed over time. **[2+2]**

Award [1] for a valid reason why embedded water use has changed and [1] for development/exemplification that explains change over time.

Embedded water use refers to the water used in the production processes of goods and services. Not just general consumption of water

Improved technology over time [1] has led to more sustainable methods in industry, using less water in products [1]

- Consumer behaviour (could increase or decrease the use). [1] consumption of water intensive products such as meat/dairy/cotton [1]
- Environmental concern for water security/water footprinting (decrease) [1] individuals understand the impacts of their water consumption [1]
- Rise in meat consumption (increase) [1] westernization of diets [1]
- Global trade (increase or decrease) [1] globalization has increased trade in goods with embedded water [1]
- Rise in plant-based diets (decrease) [1] less meat consumed [1]
- Income levels (increase or decrease) [1] changing diets with more meat [1]
- Government policy/regulation [1] governments recognize the importance of conservation [1]
- Population increase [1] provides more demand for goods that contain embedded water [1]



- (c) Explain **two** reasons why it can be difficult to implement a circular economy. **[2+2]**

Award [1] for a valid reason and [1] for development/exemplification that explains the difficulty of implementation.

Implementing circular economy principles can be expensive [1] and therefore unlikely to be utilised in LICs as much where they may have other priorities/upfront costs are high e.g. machinery/sustainable energy [1].

Other possibilities:

- It can be difficult to measure progress and success [1] the level/rate of implementation is not known [1].
- Lack of certain technologies [1], e.g. for recycling and repurposing materials, may not yet be advanced enough to fully support a circular economy. [1]
- Consumer behaviour [1] – difficult/reluctant to change as it requires behavioural change [1]
- Limited resources available [1] It may be difficult to source certain materials, such as rare earth metals, to support a circular economy. [1]
- Complexity of implementation [1]: The circular economy is a complex and requires coordination of many stakeholders [1]
- Government policies can create waste [1] – e.g. sell by dates [1]
- Governments may not practically support [1] focus on economic growth/lack of standardised approaches at national and local level [1]
- Lack of co-ordination within the product cycle [1] – people who design do not have the same priorities as waste managers [1]
- Lack of skills in labour force [1] – no expertise to run the processes of recycling etc [1]

## Section B

4. (a) Describe the trends in carbon offsetting between 2010 and 2021. [2]

Award [1] for each valid trend.

- Fluctuating
- Increasing 130/140 to 300
- Exponential increase 2016-2021/ 50 to 300
- Decreasing 2010 – 2016/130-140 to 50

Valid quantification required for full marks. Quantification can be extraction of one piece of data.

- (b) Outline **one** advantage **and one** disadvantage of using proportional symbols to display data on maps. [2]

Points can refer to construction or interpretation.

Advantages

- Useful for illustrating differences between many places
- Visually appealing
- Easy to read as each symbol is proportional to its value
- Data associated with a specific location
- Summarizes data in a visual form

Disadvantages

- Difficult to calculate actual value of a section of a car
- Time-consuming to construct
- Size may obscure location/mean less accurate positioning on maps/not show exact location
- Congestion of symbols can make them hard to read

- (c) To what extent does the evidence in the infographic support the view that it is possible to successfully mitigate against climate change? [6]

Award [1] for each valid point supported by evidence taken from the infographic and/or development of a valid point, up to a maximum of [5].

Award a maximum of [4] if only one side of the argument is given.

Award the final [1] for an overall appraisal, which weighs up the infographic as a whole.

For

- Growth of offsetting
- Use of electric cars/rapid growth in sales of electric vehicles
- Carbon offsetting has a variety of methods (renewable energy and tree planting)
- The growth of electric cars is mainly in areas in which car ownership is high

Against

- Growth of middle classes who produce 41% of global emissions
- Time taken for offset methods to capture carbon
- Electric car sales not evenly distributed
- Electric car numbers v global totals

For example: The information in the infographic partially supports the view that it is possible to mitigate against climate change. [1] The line graph shows that there has been an increase in the volume of carbon offsets between 2010 and 2021. [1] There has also been a rapid increase in the sales of electric vehicles from 2019-21 [1] this has involved a growth of 4.4m vehicles. [1] Offsetting by planting trees does however take a long time. [1] The rich and middle class produce a lot of CO<sup>2</sup> and these wealth groups are projected to have a large growth by 2030. [1]

## Section C

5. “Forced migration is always the result of political factors.” To what extent do you agree with this statement?

[10]

Marks should be allocated according to the mark bands.

Possible applied themes (AO2) demonstrating knowledge and understanding (AO1):

- Responses should have an understanding of what is meant by forced migration – a migratory movement in which an element of coercion exists, including threats to life and livelihood, whether arising from natural or man-made causes (e.g., movements of refugees and internally displaced persons as well as people displaced by natural or environmental disasters, chemical or nuclear disasters, famine or development projects. Can be internal or international.
- Responses should show an understanding of the political factors that result in forced migration - war and conflict are the most important political factors e.g. Rohingya in Myanmar, Syria’s civil war caused over 11 million forced migrants. Displacement is also caused by government discrimination against particular categories of its citizens or political opponents – Afghans to UK. Failure of political organizations such as UN Security Council to address drivers of migration
- Responses should show an understanding of the environmental factors that result in forced migration. Drought is a driver of migration in areas where lives depend on regular and successful harvests. Hunger can be connected to drought but also war and conflict. Flooding can devastate crops and also destroy homes which causes migration –e.g., Ida in Malawi. Tectonic events such as earthquakes and volcanoes drive people from their homes – e.g., Port au Prince
- Responses may show an understanding of the development factors that result in forced migration – forced migration as a result of the development of dams, roads and urban housing
- Responses may show an understanding of the social factors that may result in forced migration – religious persecution, LGBTQ+ persecution
- When considering the extent of agreement candidates could adopt a variety of approaches. Some may review the relative importance of political factors against other factors. Some may review the different types of political factors. Some may examine the combination of factors for named migrations. Some answers may examine changes in the causes of migration over time in a specific place.
- Good answers may be well-structured (AO4) and may additionally offer a critical evaluation (AO3) which focuses on the relative role of political factors. Responses may address relevant key concepts in their discussion.

For 5–6 marks expect a weakly-evidenced outlining of political and/or other factors in forced migration.

For 7–8 marks expect a well-structured account, which includes:

- either a well-evidenced synthesis which links together several themes from the guide and addresses both sides of the statement
- or a critical conclusion (or ongoing evaluation) informed by geographical concepts and/or perspectives.

For 9–10 marks expect both traits.

6. “The resource security of places depends on safe water.” To what extent do you agree with this statement? [10]

Marks should be allocated according to the mark bands.

Possible applied themes (AO2) demonstrating knowledge and understanding (AO1):

- Responses should have an understanding of what is meant by resource security - resource security is when an area or population has enough natural resources to meet its needs - conversely insecurity means that one or more natural resource is lacking or the demands/size of the population exceed supply.
- Responses should have an understanding of the concept of safe water that could comment on the quality of the water for drinking and other uses. Some answers may comment on (access to) safe water in the context of amount of water and seasonal distribution
- Responses should have an understanding of the links between safe water and resource security – some may examine the link between water and food security whilst others may deal with the link to energy supplies.
- Responses may show an understanding of political factors that affect resource security – geopolitical factors affecting energy, government policies associated with environmental degradation, political disputes and water extraction from river basins, political instability and transit routes
- Responses may show an understanding of the environmental risks that affect resource security – climate change and provision of water and food, normal changes in weather patterns and provision of food and water, extreme weather events and security – e.g., food, renewable energy
- Responses may show an understanding of the effect of population changes – rapid population growth, growth of the middle classes
- Responses may show an understanding of the effect of economic factors – changing demands for carbon-based energy
- Responses may show an understanding of the effect of changing technology – renewable energy, advances in food production
- When considering the extent of agreement candidates could adopt a variety of approaches. Some answers will focus on the importance of water by itself. An alternative approach would be to examine the pressures on different elements of resource security – water/food/energy. Some may review the relative importance of other factors that influence resource security with an examination of political versus other factors. Some may view security through the nexus and comment on the interdependence of the different elements. Some answers may examine the variation in pressures in different places.
- Good answers may be well-structured (AO4) and may additionally offer a critical evaluation (AO3) which focuses on the relative role political factors in resource security. Responses may address relevant key concepts in their discussion.

For 5–6 marks expect a weakly-evidenced outlining of one or more factors that influence resource security

For 7–8 marks expect a well-structured account, which includes:

- either a well-evidenced synthesis which links together several themes from the guide and addresses both sides of the statement
- or a critical conclusion (or ongoing evaluation) informed by geographical concepts and/or perspectives.

For 9–10 marks expect both traits.

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