Mark Scheme (Results)

Summer 2021

Pearson Edexcel International A Level
In Geography (WGE01 01)
Paper 1: Global Challenges

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Question Number	Name the type of plate boundary shown.	Mark
1 a (i)	AO1 (1 mark) • Conservative / Transform (1)	**(1)**

Question Number	Explain **one** cause of earthquakes at plate boundaries.	Mark
1 a (ii)	AO1 (2 marks) Award 1 mark for identifying an explanation and a further expansion mark, up to a maximum of 2 marks. • Subduction of the oceanic crust beneath the continental crust at a destructive plate boundary (1) results in increased friction and pressure resulting in (high magnitude) earthquakes (1) • Convergence of two continental plates creates a collision boundary (1) resulting in earthquakes due to constant friction as the plates try to override each other (1) • At conservative plate boundaries plates slide alongside each other (1) resulting in friction building up and energy is released as an earthquake (1) Accept other correct explanations.	**(2)**

Question Number	Explain **one** reason why it is difficult to manage risk in places experiencing earthquakes.	Mark
1 a (iii)	AO1 (2 marks) Award 1 mark for identifying an explanation and a further expansion mark up to a maximum of 2 marks. • Risk is constantly changing as people move into more vulnerable areas (1) this increases population density so the management challenge increases / areas with rapid change present a particular management challenge. (1) • Prediction of earthquakes is not possible (1) as current methods do not give the precise location or time of an event so preparation is challenging. (1)	**(2)**

	• Tourism/coastal development attract people to areas experiencing earthquake hazards (1) meaning incomers are unaware of the risks. (1) • Long gap between earthquakes (1) means loss of collective memory so people are unaware of risks (1) • Risk can be reduced by government actions and management plans (1) however this is difficult in developing countries which lack the economic capacity (1) Accept other correct explanations.	

Question Number	Explain how a country's level of development can affect the scale of natural disasters.	Mark
1 b	AO1 (4 marks) Award 1 mark for a basic explanation and a further mark for a development of the explanation. • Countries will low economic development have a reduced capacity to cope as they have been unable to spend money on strengthening infrastructure (1) which increases the potential loss of life and building destruction (1) • Developing countries may have increasing numbers of people living in risky areas such as steep slopes (1) which increases the chance of secondary hazards such as landslides as the slope stability has been reduced (1) • High birth rates in developing countries (1) leads to a large vulnerable/dependent young population at high risk (1) • Developed countries can spend money on early warning systems/enforcement of building regulations/ hazard resistant building design (1) which reduces the potential loss of life and building destruction (1) • Developed countries are likely to invest more in educating their population resulting in better preparation (1) and therefore fewer deaths from the natural hazard (1) • In some cases the magnitude of the natural disaster overwhelms the level of development of a country e.g. Japan 2011 (1) resulting in high amounts of deaths/economic losses despite the preparation (1) Accept other correct explanations.	**(4)**

Question number	Explain why mega-disasters need different management responses compared to other natural disasters.	Mark
1 (c)	**AO1 (6 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: • Mega-disasters are those events that affect more than one country with unusually large human and economic impacts. • The economic disruption to global supply chains (2011 Tsunami, Icelandic 2010 eruption) requires TNCs and distributors to quickly adapt. • Mega-disasters often require different management due to the scale and number of countries impacted at the same time. • Some countries will be unable to prepare for the impacts of mega-disasters due to the rapid onset of the event i.e. Asian Tsunami 2004 or due to their level of development. • The aftermath of the mega-disaster will often mean more people are impacted due to homelessness etc. and therefore effective support systems need to be in place, or a country will need to rely on aid. • International aid response may need to be larger and better coordinated because of the scale of impacts and number of people needing aid. • Regional droughts can be considered a mega-disaster due to their spatial and temporal scale. Droughts are difficult to manage as it depends on the ability to forecast precipitation and temperature which is variable. • The implementation of different management strategies will depend on the level of development of a country, governance, resilience of communities and level of vulnerability. Accept other correct explanations.	**(6)**

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1-2**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Understanding addresses a narrow range of geographical ideas which lack detail. (AO1)
Level 2	**3-4**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Understanding addresses a range of geographical ideas which are not fully detailed and/or developed. (AO1)
Level 3	**5-6**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Understanding addresses a broad range of geographical ideas which are detailed and fully developed. (AO1)

Question Number	Define the term 'adaptation'.	Mark
2 a (i)	AO1 (1 mark) • Communities/countries adjust their behaviour to be able to cope with future events better (1) • Individuals change the way that they live to cope with the new normal (1) • When people accept a risk, and change their behaviour to try and cope with it (1) Do not credit responses that are linked to modifying the cause i.e. mitigation Credit other valid definitions	**(1)**

Question Number	Describe **one** way in which farmers could be impacted economically by global warming in the future.	Mark
2 a (ii)	AO1 (2 marks) Award 1 mark for correct description of how farmers can be affected in **economic ways** by global warming and a further extension mark, up to a maximum of 2 marks • Warmer air temperatures could increase the length of growing season (1) so farmers can grow two crops per season resulting in greater profit (1) • Warmer temperatures could allow new crops to be grown (1) so there is greater diversity of farmers income (1) • Due to changes in temperature invasive weeds and pests could spread (1) so there is an increased need for pesticides which increase costs for farmers (1) • Increased temperatures could lead to higher rates of evapotranspiration (1) so higher levels of irrigation are needed resulting in increased costs for farmers.(1) Credit other valid descriptions.	**(2)**

Question Number	Suggest how **one** of the methods shown in Figure 2 could help farmers manage the impacts of global warming.	Mark
2 a (iii)	AO1 (1 mark) / A02 (1 mark) Award 1 mark for correct identification of how the adaptation strategy shown works and a further extension mark for how it will help to manage the impacts of global warming. • Heat/drought tolerant plants will be able to withstand the increased temperatures (1) meaning that farmers yields will be maintained (1) • Water shortages caused by rising temperatures are replaced by irrigation (1) so crops can continue to be grown (1) • Having crops and animals means farmers diversify (1) so they have more of a source of income/spread the risks (1) • Investment in technology allows them to breed new types of animals/crops (1) so they are more able to cope with challenges of global warming (1) Accept other correct explanations.	**(2)**

Question Number	Explain how **two** global actions have attempted to reduce carbon emissions.	Mark
2 (b)	AO1 (4 marks) Award 1 mark for a basic explanation of a global action and a further mark for a development of how that action has attempted to reduce carbon emissions. • Montreal Protocol (1987) aimed to regulate the production and use of chemicals such as CFCs and HFCs (1) to ensure that the depletion of the Earth's ozone layer was prevented (1). • Kyoto Protocol (1997) aimed to reduce carbon by an average of 5.2% by 2012 compared to 1990 levels. (1) This would reduce the volume of greenhouse gases and therefore limit the enhanced greenhouse effect (1) • The Paris agreement (2015) aimed to keep the global average of warming below 2°, above pre-industrial levels (1) This would reduce the volume of greenhouse gases and therefore limit the enhanced greenhouse effect (1) • Global campaigns e.g. the "Greta movement"/School Strike for Climate Change look to raise awareness of emissions (1) and encourage lifestyle and attitude changes (1)	**(4)**

	• Global shift towards renewable energy to reduce fossil fuel consumption (1) such as a shift towards wind/solar power or electric vehicles (1) Do not accept explanations focussed purely on local or national actions. Accept other correct explanations.	

Question number	Explain how long-term climate change is reconstructed using evidence from the past.	Mark
2 (c)	**AO1 (6 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive, and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: • Tree rings - trees add a growth layer annually which can be analysed to determine past temperatures. Wider rings refer to a warmer climate, indicating more favourable growing conditions. • Ice cores - air trapped in bubbles in the ice core hold information about past climates. It is possible to analyse the concentration of gases, e.g. carbon dioxide, to determine the atmospheric concentration in past atmospheres. • Ocean sediments - ocean sediment cores contain calcium carbonate shells that will have lived near the surface in the past. Oxygen isotope analysis in oceans – show that as O16 evaporates more readily in warm weather – there will be a relative abundance of O18 in oceans during this period. • Pollen analysis – pollen extracted from peat bogs and lakes can be used to reconstruct past climates and can indicate historical vegetation patterns. Credit reference to timescales and the accuracy/completeness of different types of evidence. Accept any other valid responses.	**(6)**

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Level 3	**5-6**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Understanding addresses a broad range of geographical ideas which are detailed and fully developed. (AO1)

Question Number	Identify the type of country that has banned Huawei.	Mark
3 a (i)	AO2 (1 mark) • C- Developed countries (1)	**(1)**

Question Number	Compare the distribution of countries which have banned Huawei to those who have a positive attitude to Huawei.	Mark
a (ii)	AO2 (3 mark) Award 1 mark per comparative point • Countries with a positive attitude to Huawei tend to be concentrated in the northern hemisphere particularly Russia and China (whereas countries with a ban in place tend to be focused in North America (1) • Countries with positive attitude tend to be concentrated in the east whereas there is no dominance of Huawei products in North America (1) • Some countries do not fit the distribution such as Australia/New Zealand/ Brazil/South Africa /Spain/Portugal (1) Accept other correct explanations.	**(3)**

Question Number	Suggest **one** reason why Huawei, a Chinese telecom TNC, is trading in new international markets.	Mark
3 a (iii)	AO1 (2 marks) Award 1 mark for identifying a reason why Huawei is looking to trade in new international markets and a further expansion mark, up to a maximum of 2 marks. • Access to greater numbers of customers (1) therefore increasing company profits (1) • Increased dominance of Chinese companies (1) to allow them to compete with USA TNCs (1) • To improve access to raw resources (1) allowing them to continue to expand production (1) Accept other correct explanations.	**(2)**

Question Number	Explain **one** way the World Trade Organisation (WTO) has promoted globalisation.	Mark
3 (b)	AO1 (3 marks) Award 1 mark for identifying a way that the WTO promotes globalisation and a further 2 expansion marks, up to the maximum of 3 marks. • WTO is a global IGO in existence since 1948 which promotes free trade (1). It encourages the removal of tariffs so that countries increase the level of trade between them (1) This is a key component of the increase in economic activity as part of globalisation (1) • Successive WTO trade 'rounds' have gradually reduced tariffs and barriers to free trade (1) reducing protectionism and opening up countries to foreign direct investment (1). The increased level of FDI has allowed growth of internal markets (1) • The WTO has a key role in settling trade disputes (1) which could be barriers to trade and limit globalisation (1) This ensures that trade continues undisrupted (1). Accept other correct explanations.	**(3)**

Question number	Explain why economic liberalisation has benefited TNCs.	Mark
3 (c)	**AO1 (6 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive, and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: • Economic liberalisation refers to a country opening up to the rest of the world with regards to trade, regulations and taxation. • Economic liberalisation has led to the spread of globalisation and has allowed TNCs to reach greater numbers of customers in a variety of markets. Increasing glocalisation of products to adapt to global markets. Outsourcing	**(6)**

	• Has allowed TNCs to contract another company to produce the goods and services they need rather than to do it themselves. This allows TNCs to forge business partnerships with existing companies in other countries and increased their global presence. • Allows TNCs to access lower wages for the labour intensive stages of production and thereby increase their profit margins. • Creates comparative advantage opportunities as production can be concentrated in the most efficient locations. Offshoring • Has allowed TNCs to move parts of their own production process to other countries to access lower manufacturing costs particularly in emerging markets. • Allows access to potentially better skilled and high-quality supply • Can take advantage of free trade areas and avoid protectionism • Makes it easier to supply target international markets Accept other correct explanations.	

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Question Number	Name the type of graph shown	Mark
4 a (i)	AO2 (1 mark) Population pyramid (1) Pyramid (1) Do not accept other graph types.	**(1)**

Question Number	Which of the following statements is correct?	Mark
4 a (ii)	AO2 (1 mark) B - In 1950 the largest age group was 10 to 15 years	**(1)**

Question Number	Suggest **two** reasons for the changes in the population structure of Germany between 1950 and 2015.	Mark
4 a (iii)	AO1 (2 marks) / A02 (2 marks) Award 1 mark for identifying a change in the population pyramid and a further mark for a correct suggestion for the change. • The number of people aged 0-15 has declined (1) because birth rates have declined due to women getting married later/reduced fertile window for having children (1) • Elderly dependants have increased (1) due to improved healthcare provision leading to an increased life expectancy (1) • Number of males have increased from 1950 to 2015 (1) due to increased numbers of male migrants seeking work in Germany (1) • Increased numbers of 45-60-year olds (1) as they have aged up the pyramid from 1950 (1) Accept other correct explanations. Mark as 2+2	**(4)**

Question Number	Explain one way that globalisation has encouraged rural-urban migration.	Mark
4 (b)	AO1 (3 marks) Award 1 mark for identifying a way that globalisation has encouraged rural-urban migration and a further 2 expansion marks, up to a maximum of 3 marks. • Presence of TNCs in urban areas (1) has meant people are attracted to employment opportunities (1) which are higher paid than in rural areas (1) • Increased foreign direct investment in urban areas (1) means quality of life improves (1) so people are attracted to the improved healthcare and education provision (1) • Improved transport links from rural to urban areas (1) means that the urban areas are more accessible (1) so people are more likely to travel to the urban areas for jobs/education (1)	**(3)**

Question number	Explain why countries have different policies for managing international migration.	Mark
4 (c)	**AO1 (6 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: • Migration refers to the movement of people from one place to another. • Migration policies can be defined as rules that countries put in place to affect the volume, origin and composition of migration. • The ability of western liberal democracies to restrict immigration is limited by human rights. • Australia has established a point-based system since 1973 which allocates points based on occupations, age and education. Australia adapts this policy by working with industry leaders to determine which migrant skill sets would benefit the Australian economy. • Australia also has a humanitarian programme which accepts refugees and asylum seekers as part of its commitment to upholding human rights.	**(6)**

	• Germany has encouraged migration in 2000 by awarding dual citizenship to people born in Germany even if neither of their parents were German. This aimed to offset their ageing population in which their population was expected to decline 10 million by 2050. • Germany also accepted 1.1 million refugees from the Syrian civil war in 2015 as part of its commitment to human rights. • More recently Germany has seen a change in its national policy due to the rise of anti-immigration political parties such as AfD which won seats in the German 2018 elections. • The UAE appears to have an open door policy for migration because of the benefits it gains from low cost labour. • In Hungary, policies pursued by Orban have generally been largely anti-immigration justified on cultural grounds. • In future countries may look to change their migration policies to encourage migrants due to the impact of the Covid pandemic. Which has caused the loss of specific skills e.g. tourism/hospitality losses. • Honouring past commitments e.g. dual-nationals in Hong Kong, or Ugandan Asians – in both cases moving to the UK. • Candidates may comment on the changing nature of the UK national policy in light of post-Brexit with a move towards an Australian points-based system. Accept any valid responses.	

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	0	No rewardable material.
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Level 2	**3-4**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Understanding addresses a range of geographical ideas which are not fully detailed and/or developed. (AO1)
Level 3	**5-6**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Understanding addresses a broad range of geographical ideas which are detailed and fully developed. (AO1)

Question number	Suggest physical and human reasons for the global distribution of landslides.
5 (a)	**AO1 (5 marks)/AO2 (5 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1: • Landslides are defined as the movement of rock, earth and debris down a sloped section of a land. • Landslide distribution shows most of the continents are affected by this hazard. Concentration in Asia and along the South American coastline. • Physical causes of landslides include intense rainfall, earthquakes, ENSO events, rock type. • Human causes of landslides include deforestation, changes in land cover, construction of buildings and roads. AO2: • Precipitation can trigger landslides because it alters the pressure within the slope leading to slope instability. This means slope material becomes saturated and therefore will collapse under the force of gravity. • Landslide risk is higher in locations with high relief/mountains because steep slopes are more prone to landslides during rainfall events. • Landslides can be triggered by weather events such as intense rainfall from heavy storms which may be triggered due to El Nino/La Nina as a consequence of the saturation of bedding planes/joints • Coastal areas may be at high risk because of coastal erosion (undermining cliffs leading to collapse due to weathering and erosion • Sedimentary geology can trigger landslides especially areas underlined by clay/impermeable surfaces are prone to slip.

	• Tectonic activity in steep sided areas causes the ground to shake resulting in increased slope instability. • Areas at risk from tropical storms can face landslides as secondary hazards due to the excessive amount of rainfall saturating the ground, leading to movement/failure of the slope. • Inappropriate land use management such as oversteepening of slopes by undercutting the bottom and loading the top can exceed the strength of the slope resulting in landslides. • Unregulated building on steep slopes particularly in developing countries can increase the weight acting on the slope resulting in a landslide • Inappropriate farming techniques can lead to removal of vegetation and an increased risk of slope failure. • Deforestation of slopes can increase landslide risk as trees can bind the soil together increasing the stability of the slope. NB: Stronger answers will have a balance of physical and human explanations. Accept other appropriate responses	
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1-4**	• Demonstrates isolated elements of geographical knowledge. (AO1) • Demonstrates isolated elements of geographical understanding, some of which may be inaccurate. (AO1) • Applies knowledge and understanding to geographical information / ideas, making limited logical connections / relationships. (AO2) • Applies knowledge and understanding to geographical information / ideas to produce an interpretation that is not relevant and / or supported by evidence. (AO2)
Level 2	**5-7**	• Demonstrates geographical knowledge, which is mostly relevant and may include some inaccuracies. (AO1) • Demonstrates geographical understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding to geographical information / ideas logically, making some relevant connections / relationships. (AO2) • Applies knowledge and understanding to geographical information / ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)

Level 3	**8-10**	• Demonstrates accurate and relevant geographical knowledge throughout. (AO1) • Demonstrates accurate and relevant geographical understanding throughout. (AO1) • Applies knowledge and understanding to geographical information / ideas logically, making relevant connections / relationships. (AO2) • Applies knowledge and understanding to geographical information / ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)

Question number	Assess the extent to which the level of risk from hydrometeorological hazards is mainly caused by human factors.
5 (b)	**AO1 (5 marks)/AO2 (15 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance (page 3) and the qualities outlined in the levels-based mark scheme below. Responses that demonstrate only AO1 without any AO2 should be awarded marks as follows: • Level 1 AO1 performance: 1 mark • Level 2 AO1 performance: 2 marks • Level 3 AO1 performance: 3 marks • Level 4 AO1 performance: 4 marks **Indicative content guidance** The indicative content below is not prescriptive, and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1 • Hydrometerological hazards can be defined as 'an atmospheric, hydrological or oceanographic event that may cause loss of life, social and economic disruption' • Hydrometeorological hazards include floods, droughts, cyclones, landslides, avalanches and heat waves. • Indication of the human factors which may lead to them such as the vulnerability of a population, level of government intervention and level of awareness of the risk. • Summary of the different physical factors which contribute to hydrometerological hazards such as ocean temperature, latitude, ITCZ, El Nino, physical landscape. AO2 • Vulnerability of a population can be key to determining the level of risk facing a population. Vulnerability can be determined by age of

	population, those with an ageing or youthful population often rely on others to keep them safe, increasing their level of risk. • Level of education can reduce the level of risk facing a population by increasing the awareness of the risk and therefore the population is aware of how to keep themselves safe. • Level of government intervention can reduce risk through increasing preparation levels i.e. emergency responders, hazard planning. Candidates may argue that physical factors are more important in determining the level of risk faced: • Tropical cyclones have a very specific hazard geography, because of physical conditions required e.g. 27°c sea surface temperature, low pressure systems, role of the Coriolis effect. • Tropical cyclone disasters can occur in any of these locations i.e. developed world (Katrina) and developing / emerging world – but the disaster impacts tend to be greater in the developing world (could contrast economic losses with human ones) • Flood hazards are much more widespread because they can have many different causes, and disasters can occur in almost any location – but again the nature of the disaster is related to human vulnerability as much as physical factors (governance, preparation) • Drought could be argued as more of a developing world 'disaster' as it tends to be managed more effectively in developed countries. • Overall candidates might argue that human factors are key to determining the level of risk faced by countries, with developed countries more able to prepare and respond to hydrometerological hazards. • Level 3 and Level 4 answers should address 'to what extent' i.e. how far is the level of risk determined mainly by human factors. Accept other appropriate responses

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1-5**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding of geographical ideas, making limited and rarely logical connections / relationships. (AO2) • Applies knowledge and understanding of geographical information / ideas to produce an interpretation with limited coherence and support from evidence. (AO2) • Applies knowledge and understanding of geographical information / ideas to produce an unsupported or generic

		conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2)
Level 2	**6-10**	• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information / ideas with limited but logical connections / relationships. (AO2) • Applies knowledge and understanding of geographical ideas in order to produce a partial interpretation that is supported by some evidence but has limited coherence. (AO2) • Applies knowledge and understanding of geographical information / ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2)
Level 3	**11-15**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and accurate. (AO1) • Applies knowledge and understanding of geographical information / ideas to find some logical and relevant connections / relationships. (AO2) • Applies knowledge and understanding of geographical ideas in order to produce a partial but coherent interpretation that is supported by some evidence. (AO2) • Applies knowledge and understanding of geographical information / ideas to come to a conclusion, largely supported by an argument that may be unbalanced or partially coherent. (AO2)
Level 4	**16-20**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information / ideas to find fully logical and relevant connections / relationships. (AO2) • Applies knowledge and understanding of geographical information / ideas to produce a full and coherent interpretation that is supported by evidence. (AO2) • Applies knowledge and understanding of geographical information / ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2)

Question number	Suggest reasons for the distribution and growth rate of megacities by 2025.
6 (a)	**AO1 (5 marks)/AO2 (5 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1 • Figure 6 shows that of the top 15 megacities, 9 are concentrated in Asia, particularly in India and China. • India has the greatest number of megacities in the top 15 and these are experiencing the fastest growth rates e.g. Karachi at 43% • Africa has no megacities in the top 15. • The USA and Japan are the only developed nations to appear in the top 15 megacities. • Historical megacities such as Tokyo are experiencing the slowest rates of growth. AO2 • Tokyo is experiencing slow growth rates (5%) due to an ageing population resulting in low birth rates, combined with a reliance on immigration levels. • Rapid growth rates remain in China due to the rapid development associated with special economic zones which has allowed for the rapid growth of the eastern coast cities in China and the major urban centre in India – as a consequence of global shift. • Rapid population growth rates/high fertility combined with high rates of rural-urban migration in India/Bangladesh/Pakistan, so there is both internal and external growth in megacities. • Rapid investment in infrastructure and foreign direct investment has contributed to rapid rural to urban migration leading to a sharp rise in rates of urbanisation. • Global hubs such as New York and Los Angeles are expected to experience rapid growth in population due to their global status i.e. Trade markets, film industry. • Lack of / reduced controls on planning, particularly in China has enabled the rapid development of urban development. • Global distribution of urban megacities still largely focused on port cities which acts as global hubs for trade – which are increasingly significant centres – hence focus of growth in these locations. NB: Stronger answers will have a balanced focus on distribution and growth rates.

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Level 1	**1-4**	• Demonstrates isolated elements of geographical knowledge. (AO1) • Demonstrates isolated elements of geographical understanding, some of which may be inaccurate. (AO1) • Applies knowledge and understanding to geographical information / ideas, making limited logical connections/relationships. (AO2) • Applies knowledge and understanding to geographical information / ideas to produce an interpretation that is not relevant and/or supported by evidence. (AO2)
Level 2	**5-7**	• Demonstrates geographical knowledge, which is mostly relevant and may include some inaccuracies. (AO1) • Demonstrates geographical understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding to geographical information / ideas logically, making some relevant connections / relationships. (AO2) • Applies knowledge and understanding to geographical information / ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)
Level 3	**8-10**	• Demonstrates accurate and relevant geographical knowledge throughout. (AO1) • Demonstrates accurate and relevant geographical understanding throughout. (AO1) • Applies knowledge and understanding to geographical information / ideas logically, making relevant connections/relationships. (AO2) • Applies knowledge and understanding to geographical information / ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)

Question number	Assess the extent to which the benefits of a youthful population outweigh the costs of an increasingly ageing population.
6 (b)	**AO1 (5 marks)/AO2 (15 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance (page 3) and the qualities outlined in the levels-based mark scheme below. Responses that demonstrate only AO1 without any AO2 should be awarded marks as follows: • Level 1 AO1 performance: 1 mark • Level 2 AO1 performance: 2 marks • Level 3 AO1 performance: 3 marks • Level 4 AO1 performance: 4 marks **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1 • A youthful population is a key feature of many developing countries because of high birth rates leading to rapid population growth. • Youthful populations may be temporary features and may change in the future due to an increase in life expectancy driven by improvements in medical care, diet and sanitation. • Main benefits of a youthful population include; large and cheap future workforce, growing market for manufactured products and providing a large tax base for the country. • Main issues associated with an ageing population include: increased strain on healthcare provision, cost of healthcare provision (versus other services or health care), a pension crisis (not enough money to maintain pension levels, increased social care bills, difficulty maintaining dignity in later life and the impact on the economy of shrinking tax base. • Ageing populations in the future can provide a range of benefits: new markets for business e.g. tourism for elderly, option for people to work longer (and pay tax), improved voluntary services, fulfilling role of childcare to reduce financial burden on parents. AO2 • The benefits of a youthful population mean that the country has access to a large and cheap future workforce which is attractive for investment by TNCs. This can increase the country's GDP allowing for greater spending on education and healthcare. • A youthful population provides a growing market for manufactured products, especially as disposable incomes increase. • An increasing tax base for the country allows for greater domestic investment in infrastructure, education, and healthcare.

	• Youthful populations can have temporary costs e.g. schooling, housing demand, youth unemployment – before the demographic dividend of a large working population is attained. • An ageing population in the future will lead to greater dependency. This can have the impact of reduced number of workers to support the growing number of elderly dependents, which will have a strain on provision for the elderly, for example healthcare provision will face cuts as the government receives reduced tax income at the same time as the demand for elderly healthcare rises (older people need more healthcare). Therefore this could result in certain treatments requiring payment or face cuts to current day research in combating other illnesses such as cancer, HIV. • Retirement ages may need to increase to account for the shortfall in income tax – this has already started to happen in the UK with retirement age increasing to 67 in 2026. • Governments will have to plan for the future (and consider this today) rather than dealing with problems as they arise. Failure to do so will see a continued rise in chronic conditions and mental (cognitive) impairments such as dementia. • Elderly population has a number of benefits, including experience, willingness to work and in some cases ability to spend. • Immigration could be used to offset an ageing population, but this could create cultural and social tension in countries with no history of immigration e.g. Japan; therefore policies are challenging to implement. • Failure to plan for future demographic change (housing, healthcare and service provision) could undermine the benefits of living longer. Accept other appropriate responses

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1-5**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding of geographical ideas, making limited and rarely logical connections / relationships. (AO2) • Applies knowledge and understanding of geographical information / ideas to produce an interpretation with limited coherence and support from evidence. (AO2) • Applies knowledge and understanding of geographical information / ideas to produce an unsupported or generic

		conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2)
Level 2	**6-10**	• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information / ideas with limited but logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical ideas in order to produce a partial interpretation that is supported by some evidence but has limited coherence. (AO2) • Applies knowledge and understanding of geographical information / ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2)
Level 3	**11-15**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and accurate. (AO1) • Applies knowledge and understanding of geographical information / ideas to find some logical and relevant connections / relationships. (AO2) • Applies knowledge and understanding of geographical ideas in order to produce a partial but coherent interpretation that is supported by some evidence. (AO2) • Applies knowledge and understanding of geographical information / ideas to come to a conclusion, largely supported by an argument that may be unbalanced or partially coherent. (AO2)
Level 4	**16-20**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information / ideas to find fully logical and relevant connections / relationships. (AO2) • Applies knowledge and understanding of geographical information / ideas to produce a full and coherent interpretation that is supported by evidence. (AO2) • Applies knowledge and understanding of geographical information / ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2)

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