



# Mark Scheme (Results)

Summer 2022

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

## **Edexcel and BTEC Qualifications**

Edexcel and BTEC qualifications are awarded by Pearson, the UK's largest awarding body. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at [www.edexcel.com](http://www.edexcel.com) or [www.btec.co.uk](http://www.btec.co.uk). Alternatively, you can get in touch with us using the details on our contact us page at [www.edexcel.com/contactus](http://www.edexcel.com/contactus).

## **Pearson: helping people progress, everywhere**

Pearson aspires to be the world's leading learning company. Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: [www.pearson.com/uk](http://www.pearson.com/uk)

Summer 2022

Question Paper Log Number P66606A

Publications Code WGE01\_01\_2206\_MS

All the material in this publication is copyright

© Pearson Education Ltd 2022

## 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	Answer Describe the distribution of avalanche hazard risk	Mark
<b>1 a (i)</b>	<p style="text-align: center;">AO2 (2 marks)</p> <p style="text-align: center;">Award 1 mark for each description of avalanche risk. Maximum 2 marks.</p> <ul style="list-style-type: none"> <li>• Avalanche risk is concentrated in areas of high attitude (1)</li> <li>• Risk is found in mountainous regions such as the Alps/Highlands (1)</li> <li>• Avalanche risk tends to be in concentrated in southern/northern Europe (1)</li> <li>• Avalanche risk is high in countries such as Norway/Sweden/Scotland (1)</li> <li>• There is low avalanche risk in central Europe (1)</li> </ul>	<b>(2)</b>

Question Number	Answer - Explain two factors that may trigger avalanches in the areas shown.	Mark
<b>1 a (ii)</b>	<p style="text-align: center;">AO1 (4 marks)</p> <p>Award 1 mark for identifying a factor that can lead to avalanches and a further expansion mark explaining how, up to a maximum of 2 marks each.</p> <ul style="list-style-type: none"> <li>• An increase in temperature can loosen the bonds between the snow (1), leading to the formation of a weak layer in the snow. (1)</li> <li>• Heavy loose snowfall which falls onto a wet snow (1), leading to the formation of a weak layer which is overcome by the weight of the added snowfall (1).</li> <li>• Earthquakes/tremors (1), can create cracks in the snowpack reducing the stability and causing it to move downslope (1)</li> <li>• Removal of trees (1), removes stability from the snow particularly in the winter months (1)</li> <li>• Increased global warming/temperatures (1), causes more melt-freeze cycles allowing the snow layers to slide over each other.</li> <li>• Winter sports such as skiing/hiking (1), can increase the pressure placed on the slab layer causing it to slide (1).</li> <li>• Strong winds/wind loading (1) results in a build-up of snow adding weight to the snow pack (1).</li> </ul> <p>Accept other correct explanations. Mark as 2+2</p>	<b>(4)</b>

Question Number	Answer- Explain one way that the magnitude of a hazard event can be measured	Mark
<b>1 (b)</b>	<p style="text-align: center;"><b>AO1 (4 marks)</b></p> <p>Award 1 mark for a correct identification of a measurement of magnitude and a further two marks of how the measurement measures the magnitude of a hazard event.</p> <ul style="list-style-type: none"> <li>• The Moment magnitude/Richter Scale (1), is based on the total movement/energy release of the earthquake (1); measured on a logarithmic scale (1)</li> <li>• Saffir-Simpson (1), is based upon sustained wind speed and storm surge height (1); the scale is used to give an estimate of potential property damage and flooding expected/ measured on a scale between 1-5 (1).</li> <li>• Volcanic Explosivity Index (VEI) (1), is based upon a logarithmic scale (1); It includes how much volcanic material is ejected/height of the material ejected and how long the eruption lasts for/ measured on a scale from 0-8 (1).</li> <li>• Flood magnitude is a measure of how severe a flood is (1). This measures the total runoff volumes and awards a value from 0-10 (1). A value of 8 indicates that the flood runoff volume is .8 that of the flood of record (1)</li> </ul> <p>Accept other correct explanations.</p>	<b>(3)</b>

Question number	Answer Explain why hydro-meteorological hazards have different economic and social impacts.	Mark
<b>1 (c)</b>	<p style="text-align: center;"><b>AO1 (6 marks)</b></p> <p style="text-align: center;"><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not</p>	<b>(6)</b>

	<p>suggested below must also be credited. Relevant points may include:</p> <ul style="list-style-type: none"> <li>• The magnitude of the hazard can result in varying impacts.</li> <li>• Type of hazard can result in varying impacts i.e. tropical cyclones can travel past multiple countries causing devastating impacts, compared with avalanches which tend to be more localised.</li> <li>• Level of development of the country impacted can cause variations in the economic and social impacts depending upon their level of preparation and the vulnerability of the population.</li> <li>• Less developed countries tend to experience higher social costs due to poor warning systems, combined with weak infrastructure and building regulations.</li> <li>• More developed countries tend to experience higher economic costs due to high cost infrastructure and insurance claims.</li> </ul> <p>Accept other correct explanations.</p>	
--	--	--

Level	Mark	Descriptor
	<b>0</b>	No rewardable material.
<b>Level 1</b>	<b>1-2</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Understanding addresses a narrow range of geographical ideas which lack detail. (AO1)</li> </ul>
<b>Level 2</b>	<b>3-4</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Understanding addresses a range of geographical ideas which are not fully detailed and/or developed. (AO1)</li> </ul>
<b>Level 3</b>	<b>5-6</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Understanding addresses a broad range of geographical ideas which are detailed and fully developed. (AO1)</li> </ul>

Question Number	Answer	Mark
	State the typical number of years in a sunspot cycle	
<b>2 ai</b>	<p style="text-align: center;">AO1 (1 mark)</p> <ul style="list-style-type: none"> <li>• 11 years (1)</li> </ul>	<b>(1)</b>

Question Number	Answer	Mark
	Describe the trend in sunspot activity between 1750 and 1850	
<b>2 aii</b>	<p style="text-align: center;">AO2 (2 marks)</p> <p>Award 1 mark for each description of the trend of sunspot activity and a 2<sup>nd</sup> mark for an extension of the description.</p> <p style="text-align: center;">Maximum 2 marks.</p> <ul style="list-style-type: none"> <li>• Sunspot activity has fluctuated since 1750 (1) but declined in the 1800s (1)</li> <li>• Sunspot activity has increased overall from 1750-1800 (1) but declined from 1810 (1)</li> <li>• Sunspot activity peaked by 1790 (1) and fell dramatically until 1820 before rising again (1)</li> </ul> <p>Credit other valid descriptions.</p>	<b>(2)</b>

Question Number	Answer	Mark
	Suggest one impact of sunspot numbers between 1650 and 1700 on Earth's climate.	
<b>2 a iii</b>	<p style="text-align: center;">AO1 (2 marks)</p> <p>Award 1 mark for correct suggestion of an impact of the reduced sunspot activity and a further extension mark of why this impact has taken place.</p> <ul style="list-style-type: none"> <li>• Reduced solar radiation (1), so increased risk of cold/extreme weather (1).</li> <li>• Increased snowfall/frosts (1), so reducing the ability of people to farm (1)</li> <li>• Increased wind/rainfall in mid-latitudes (1), impacting of flood risk/farming (1).</li> <li>• Lower average temperatures (1), therefore extended period of cooling/ Little Ice Age/glaciers/ice sheets expanding (1).</li> </ul> <p>Accept other correct explanations.</p>	<b>(2)</b>

Question Number	Answer Explain why the evidenced used to reconstruct past climate records may be unreliable.	Mark
<b>2 (b)</b>	<p style="text-align: center;"><b>AO1 (4 marks)</b></p> <p>Award 1 mark for a basic explanation of why past climate records may be unreliable and a further extension point</p> <ul style="list-style-type: none"> <li>• Pre 1850 records are pre-instrumental compared to post 1850 when climate recording equipment was first used.</li> <li>• Accuracy of past climate records is disputed because earlier records are often based on proxies such as diaries/paintings/grape harvests etc. (1) which may be interpreted differently (1)</li> <li>• Pollen and tree ring data is questioned because it may be contaminated by disease or insect attack(1) as well as being very localised (1)</li> <li>• IT technology and precision are improving over time (1) so comparison with past records cannot be made with confidence (1)</li> <li>• Siting of weather stations has not always been appropriate (1) which undermines confidence in the validity of the data collected (1)</li> </ul> <p>Accept other correct explanations.</p>	<b>(4)</b>

Question number	Answer Explain how shifts in the location of climate belts may impact farmers in the future	Mark
<b>2 (c)</b>	<p style="text-align: center;"><b>AO1 (6 marks)</b></p> <p style="text-align: center;"><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive, and candidates are not required to include all of it. Other relevant material not</p>	<b>(6)</b>



	<p>suggested below must also be credited. Relevant points may include:</p> <ul style="list-style-type: none"> <li>• Climate belts are latitudinal zones with similar annual climates.</li> <li>• Global warming could lead to northward / southward movement of belts, changing annual temperature and precipitation levels (shifts in the ICTZ / rainfall areas).</li> <li>• In the future, global warming is likely to result in worsening impacts over time.</li> <li>• Climate change could lead to increased climatic extremes e.g. heatwaves, floods, cyclones in new areas - damaging and destroying crops; more unpredictable climate making planning harder.</li> <li>• Increased pests and disease associated with increased temperatures or decreased rainfall, which could lead to reduced crop production / greater food insecurity in some areas.</li> <li>• A greater need for the use of fertilizer to combat the impacts of changing environmental conditions – so higher costs to farmers.</li> <li>• A need for changes in the pattern and use of irrigation to match the shortfall in precipitation in some areas.</li> <li>• Forced conversion of other areas to farmland, which may result in the loss of forest resources (fuelwood) and the subsequent impact on the water cycle.</li> <li>• Ability to grow new crops due to changes in climate (higher incomes, new opportunities), or farmers being forced to abandon existing crops for new ones (additional costs).</li> <li>• In the worst cases: forced migration / environmental refugees.</li> <li>• The impact on farmers may be a decline in mental health leading to depression and increased suicide rates.</li> </ul> <p>NB Level 3 answers are likely to explicitly link to shifting climate belts.</p> <p>Accept any other valid responses.</p>	
--	---	--

Level	Mark	Descriptor
	<b>0</b>	No rewardable material.
<b>Level 1</b>	<b>1-2</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Understanding addresses a narrow range of geographical ideas which lack detail. (AO1)</li> </ul>

<b>Level 2</b>	<b>3-4</b>	<ul style="list-style-type: none"><li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li><li>• Understanding addresses a range of geographical ideas which are not fully detailed and/or developed. (AO1)</li></ul>
<b>Level 3</b>	<b>5-6</b>	<ul style="list-style-type: none"><li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li><li>• Understanding addresses a broad range of geographical ideas which are detailed and fully developed. (AO1)</li></ul>

Question Number	Answer	Mark
	Identify the approximate percentage (%) of countries that had formally approved the African Continental Free Trade Area (AfCFTA) by 2019	
<b>3 a (i)</b>	AO1 (1 mark) <ul style="list-style-type: none"> <li>B – 40%</li> </ul>	<b>(1)</b>

Question Number	Answer	Mark
	Explain <b>one</b> reason why African nations may benefit from joining free trade blocs such as AfCFTA	
<b>3 a (ii)</b>	AO2 (2 marks)  Award 1 mark for a plausible benefit of the AfCFTA with a 2 <sup>nd</sup> mark for extension  <ul style="list-style-type: none"> <li>The AfCFTA would eliminate tariffs/taxes on intra-Africa trade (1) making it easier for businesses to trade within Africa accessing a growing market (1)</li> <li>Allows African businesses access to new markets (1) increasing their customer base and profits (1)</li> <li>Increase foreign direct investment (1) as companies look to invest in order to avoid tariffs on goods (1)</li> <li>Increased diversification of export goods away from primary industries (1) to allow for value-added commodities to be manufactured (1).</li> <li>Could allow for free movement of people (1) leading to improving jobs/improved quality of life (1).</li> </ul> <p>Accept other correct descriptions.</p>	<b>(2)</b>

Question Number	Answer	Mark
	Explain one way in which these international organisations have each promoted globalisation	
<b>3 b</b>	AO1 (4 mark)  Award 1 mark for identifying one way that international economic organisations have promoted globalisation and a second mark for explaining how this has been achieved.  <ul style="list-style-type: none"> <li>WTO set free trade rules (1), often acting as arbitrators in trade disputes between countries to ensure trade continues (1)</li> <li>WTO promotes free trade by persuading countries to abolish import tariffs and other trade barriers (1) this allows countries to trade more effectively and increases the volume of global trade (1).</li> <li>The WTO have promoted global free trade agreements (1), encouraging increased global trade between countries (1).</li> <li>The IMF looks to promote international trade by making funds available to those in financial difficulty (1), this allows</li> </ul>	<b>(4)</b>

	<p>countries to invest in production and increases the volume of global trade (1)</p> <ul style="list-style-type: none"> <li>• The IMF provides loans to developing countries allowing them to stimulate their economy (1) by moving markets away from government control towards privatisation (1).</li> </ul> <p>Mark as 2+2 Accept other correct explanations.</p>	
--	---	--

Question Number	Answer Explain one way in which the degree of globalisation of a country can be measured	Mark
<b>3 (c)</b>	<p style="text-align: center;">AO1 (2 marks)</p> <p>Award 1 mark for identifying a way that the globalisation level of a country can be measured and a further expansion mark.</p> <ul style="list-style-type: none"> <li>• The KOF index (1) measures economic globalisation through the amount of trades/foreign direct investment/money flows (1).</li> <li>• The KOF index(1) measures social globalisation through the numbers of tourist flows/international telephone calls/presence of TNC outlets (1)</li> <li>• The KOF index (1) measures political globalisation through membership of international organisations/ trade agreements/number of foreign embassies (1)</li> <li>• AT Kearney Index (1) measures a country's level of economic integration through trade/foreign direct investment flows (1).</li> <li>• A country's level of technological (1) through the number of internet users/hosts and secure servers (1).</li> <li>• A country's level of political engagement (1) through their membership of international organisations and treaties/contribution to UN peacekeeping/aid (1).</li> <li>• A country's level of personal contact (1) through their levels of international travel and tourism/international telephone traffic/cross border financial transfers i.e. remittances (1).</li> </ul> <p>Accept other correct explanations.</p>	<b>(2)</b>



Question number	Answer Explain the costs and benefits of TNC outsourcing production to emerging countries	Mark
3 (d)	<p style="text-align: center;"><b>AO1 (6 marks)</b></p> <p><b>Marking instructions</b> Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b> 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:</p> <p>Costs:</p> <ul style="list-style-type: none"> <li>• Many emerging countries have less rigorous pollution laws than the developed world; increased industrialisation and factory emissions combined with emissions from the transport of goods, has resulted in a dramatic increase in the emission of pollutants in the air and water.</li> <li>• TNCs outsourcing manufacturing to hotspots such as China has led to more localised issues such as smog, acid rain and groundwater pollution.</li> <li>• Air pollution-related deaths have increased rapidly with 65% of these deaths occurring in Asia, the centre of the global shift.</li> <li>• The factories are often footloose meaning that TNCs can move production to cheaper areas resulting in job insecurity.</li> <li>• As TNCs do not operate with the national autonomy, they may pose a threat to the economic and political sovereignty of countries.</li> <li>• TNCs can damage the domestic industry by monopolising the host country's market and flood it with cheaper goods.</li> </ul> <p>Benefits:</p> <ul style="list-style-type: none"> <li>• TNCs have created reliable, regular work which has higher pay compared with rural farming incomes.</li> <li>• The rise in incomes has led to people being lifted out of poverty e.g. 600 million Chinese between 1992 and 2015.</li> <li>• TNCs invest in training and skills development to improve workforce productivity and some of these skills are transferrable.</li> <li>• Economic growth generated by global shift in manufacturing used to finance investment in education and training</li> </ul>	(6)

	<ul style="list-style-type: none"> <li>Attracting TNCs has often required initial investment in basic infrastructure e.g. ports, water supply etc.</li> </ul> <p><b>NB: Max L2 for candidates who only consider the costs and benefits for TNCs</b></p> <p>Accept other correct explanations.</p>	
--	---	--

Level	Mark	Descriptor
	<b>0</b>	No rewardable material.
<b>Level 1</b>	<b>1-2</b>	<ul style="list-style-type: none"> <li>Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>Understanding addresses a narrow range of geographical ideas which lack detail. (AO1)</li> </ul>
<b>Level 2</b>	<b>3-4</b>	<ul style="list-style-type: none"> <li>Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>Understanding addresses a range of geographical ideas which are not fully detailed and/or developed. (AO1)</li> </ul>
<b>Level 3</b>	<b>5-6</b>	<ul style="list-style-type: none"> <li>Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>Understanding addresses a broad range of geographical ideas which are detailed and fully developed. (AO1)</li> </ul>





Question Number	Answer	Mark
	Identify the type of country that has the highest number of pollution-related deaths per year in 2019	
<b>4 a (i)</b>	AO2 (1 mark) C - Emerging (1)	<b>(1)</b>

Question Number	Answer	Mark
	Suggest <b>one</b> reason why the number of pollution-related deaths is:	
<b>4 a (ii)</b>	AO1 (2 marks) A02 (2 marks)  Award 1 mark for a reason for the high death rates from air pollution and further mark for an extended explanation up a maximum of 2 marks.  China <ul style="list-style-type: none"> <li>• High levels of air pollution caused by large numbers of manufacturing industries (1) resulting in increased levels of NOx and particulate matter (1)</li> <li>• High levels of air pollution caused by increased car ownership (1) driven by the rise in middle class incomes (1)</li> <li>• High levels of water pollution due to industrial factories (1) which have relocated their due to the lack of environmental regulations (1)</li> <li>• Heavy levels of pollution due to China's use of coal-fired power (1) which has been used to fuel China's economic growth (1)</li> </ul> USA <ul style="list-style-type: none"> <li>• Higher levels of environmental regulation (1) mean industries are legally bound to dispose of waste</li> <li>• Due to the global shift many of the manufacturing industries have moved to Asia (1) resulting in declining air and water pollution (1)</li> <li>• Lower levels of deaths due to better healthcare (1) which reduces the likelihood that people will die before they should (1)</li> </ul> Mark as 2+2  Accept other correct descriptions.	<b>(4)</b>

Question Number	Answer Explain the benefits of immigration for host countries	Mark
<b>4 (b)</b>	<p style="text-align: center;">AO1 (4 marks)</p> <p>Award 1 mark for identifying a way immigration can benefit host countries and a further mark for extended explanation.</p> <ul style="list-style-type: none"> <li>• Immigration can boost the working-age population (1) resulting in increased tax contributions (1) which can be used by the government to support services such as education and healthcare (1) and help combat issues of an ageing population (1).</li> <li>• Migrants fill important skills gaps (1) in both fast-growing economies such as service based employment (1) and also declining sectors of the economy such as agriculture (1) which result in increased taxes being paid into the economy (1).</li> <li>• Immigrants may bring school aged children which require access to education (1) however, they may not speak the native language of the host country (1) meaning more resources/staff need to be allocated (1) resulting in greater cost/pressure on the education services (1).</li> <li>• Increased levels of immigration can result in the creation of multi-ethnic societies (1) which increases understanding and tolerance of other cultures (1)</li> <li>• Increased levels of anti-immigrant sentiment (1) can result in calls for increased control on immigration (1) and the rise of national parties such as BNP (1) and a rise in crime against immigrants (1)</li> </ul> <p><b>NB: Do not credit reference to source countries</b></p>	<b>(4)</b>



Question number	Answer Explain why managing international migration is a challenge for many countries	Mark
-----------------	---	------

<b>4 (c)</b>	<b>AO1 (6 marks)</b> <b>Marking instructions</b> Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. <b>Indicative content guidance</b> 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: <ul style="list-style-type: none"> <li>• “Borderless” Europe has enabled migrants to cross internal borders without passport control meaning countries struggle controlling/monitoring migrants at the borders. There is however, no common policy developed in Europe on what conditions should be created for those appealing for refugee. This has led to variations in quality of care in countries such as Germany and Italy, compared to good care received in Germany and Austria.</li> <li>• The numbers of migrants are not always accurate i.e. illegal immigration, so countries are unaware of the potential demand for services e.g. education and healthcare.</li> <li>• The volume of migrants from conflict zones has increased in the last few years due to civil war conflicts in Syria, Afghanistan, Iraq and Ukraine.</li> <li>• Countries that host disproportionate numbers of refugees without adequate support can be destabilised causing economic and security strains.</li> <li>• Unable to accurately predict future wars and the impacts they will have on migrant numbers in the future. This means</li> </ul>	<b>(6)</b>
--------------	--	------------

Level	Mark	Descriptor
	<b>0</b>	<ul style="list-style-type: none"> <li>• No rewardable material.</li> </ul>
<b>Level 1</b>	<b>1-2</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Understanding addresses a narrow range of geographical ideas which lack detail. (AO1)</li> </ul>
<b>Level 2</b>	<b>3-4</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Understanding addresses a range of geographical ideas which are not fully detailed and/or developed. (AO1)</li> </ul>
<b>Level 3</b>	<b>5-6</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> </ul>

		<ul style="list-style-type: none"><li>• Understanding addresses a broad range of geographical ideas which are detailed and fully developed. (AO1)</li></ul>
--	--	---

Question number	Suggest reasons for the trends in recorded flood and drought disasters
5 (a)	<p style="text-align: center;"><b>AO1 (5 marks)/AO2 (5 marks)</b></p> <p><b>Marking instructions</b> Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b> 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:</p> <p>AO1:</p> <ul style="list-style-type: none"> <li>• Droughts are defined as 'extended periods of precipitation shortage resulting in water deficiency'.</li> <li>• Recorded flood events have seen an increase since the 1960s, peaking in 2006 with 226 events. The pattern has fluctuated yearly, with lows in 2018 of 109 events.</li> <li>• Droughts tend to show a more varied pattern, fluctuating from 1900 to 2019. Droughts occur with less frequency than flood events, with the highest recorded in 1983 with 32 incidents of drought.</li> <li>• Reasons for changing disaster trends can be physical i.e. increased global warming, as well as human factors such as changing land use and over-cultivation.</li> <li>• Disaster recording has developed over time, with possible under-reporting before 1960s.</li> </ul> <p>AO2:</p> <p><b>Floods:</b></p> <ul style="list-style-type: none"> <li>• Global warming is shifting rainfall patterns, making heavy rain more frequent. Rising global temperatures due to increased heat-trapping emissions is resulting in more water evaporating from the land and oceans. The warmer atmosphere can hold more water vapor, resulting in a higher potential for heavy rainfall.</li> <li>• Increased sea surface temperatures have led to increased tropical storm activities which led to flooding of coastal areas due to storm surges.</li> <li>• Human alteration of the land such as engineering of rivers, destruction of natural protective systems and increased construction on flood plains has changed natural river systems meaning they are flooding more regularly and to a greater magnitude.</li> <li>• Increased development on floodplains result in higher levels of impermeable surfaces which increase the surface runoff and reduce lag-time into river systems.</li> <li>• Increased destruction of natural areas mean a river's natural flood protection has been reduced, resulting in excess water leaving the river channel.</li> </ul> <p><b>Droughts:</b></p>

- Droughts are increasing due to rainfall deficiency caused by extremely high temperatures and changes in wind patterns that can lead to lower than normal rainfall in an area.
- El Nino events are linked to droughts in USA, Central America and parts of Africa. These events appear to be becoming more intense as more heat is being trapped by the oceans.
- Human activities can impact the water cycle through deforestation and agriculture.
- Deforestation increases rates of evaporation and lessens the ability of soil to hold water leading to an increased chance of desertification.
- Human actions have also contributed to more emission of greenhouse gases resulting in the continued rise of the earth's average temperature. Evaporation and evapotranspiration levels have risen and the higher temperatures have extended dry spell conditions.

Accept other appropriate responses

**NB: Max L2 if the candidate only covers droughts or floods**

Level	Mark	Descriptor
	<b>0</b>	No rewardable material.
<b>Level 1</b>	<b>1-4</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge. (AO1)</li> <li>• Demonstrates isolated elements of geographical understanding, some of which may be inaccurate. (AO1)</li> <li>• Applies knowledge and understanding to geographical information / ideas, making limited logical connections / relationships. (AO2)</li> <li>• Applies knowledge and understanding to geographical information / ideas to produce an interpretation that is not relevant and / or supported by evidence. (AO2)</li> </ul>
<b>Level 2</b>	<b>5-7</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Demonstrates geographical understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Applies knowledge and understanding to geographical information / ideas logically, making some relevant connections / relationships. (AO2)</li> <li>• Applies knowledge and understanding to geographical information / ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)</li> </ul>
<b>Level 3</b>	<b>8-10</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge throughout. (AO1)</li> <li>• Demonstrates accurate and relevant geographical understanding throughout. (AO1)</li> <li>• Applies knowledge and understanding to geographical information / ideas logically, making relevant connections / relationships. (AO2)</li> <li>• Applies knowledge and understanding to geographical information / ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)</li> </ul>



Question number	Assess the extent to which global warming threatens developing countries more than others
5 (b)	<p style="text-align: center;"><b>AO1 (5 marks)/AO2 (15 marks)</b></p> <p><b>Marking instructions</b>  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:</p> <ul style="list-style-type: none"> <li>• Level 1 AO1 performance: 1 mark</li> <li>• Level 2 AO1 performance: 2 marks</li> <li>• Level 3 AO1 performance: 3 marks</li> <li>• Level 4 AO1 performance: 4 marks</li> </ul> <p><b>Indicative content guidance</b>  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:</p> <p>AO1</p> <ul style="list-style-type: none"> <li>• Global warming is the unusually rapid increase in Earth’s average surface temperature over the past century primarily due to the greenhouse gases released by human activities.</li> <li>• Global average surface temperatures rose 0.6 to 0.9°C between 1906 and 2005 and the rate of temperature increase has nearly doubled in the past 50 years.</li> <li>• Benefits of global warming include increased growing seasons for agriculture, improved shipping transport and increased development of renewable energies.</li> <li>• Negatives of global warming include sea level rise resulting in flooding of low-lying areas, changing patterns of rainfall, more frequent extreme weather events, changing patterns of agricultural and crop yields and spreading of diseases such as malaria.</li> </ul> <p>AO2</p> <ul style="list-style-type: none"> <li>• Developing countries with widespread poverty, and countries with ineffective governments are likely to face the greatest impacts of global warming. These are poorly equipped to find ways to prepare for and prevent the threats.</li> <li>• Developing countries are particularly vulnerable as their livelihoods depend upon natural resources, particularly agriculture. Agriculture is likely to be impacted by global warming, meaning people will be less able to feed their families or make a living.</li> <li>• Coastal cities such as Lagos, Nigeria, could be threatened by sea level rise. This will increase coastal erosion and contaminate fresh water. This could harm local agriculture and damage the fishing industry for example.</li> <li>• Small islands such as Kiribati may well be submerged completely by rising sea-levels. These countries will rely upon other countries in the future as they become environmental refugees.</li> </ul>

- Areas are risk from hurricanes such as Haiti are likely to see an increase frequency in hurricane frequency and intensity resulting in disaster fatigue. Since Haiti is a very poor country, recovering from natural disasters and preparation is partly inefficient.
- Areas already effected by drought, such as Australia and the Sahel in Africa will likely experience reductions in water available for irrigation resulting in reductions in crop yields and livestock productivity.
- Global warming is likely to increase the inequality between countries with African countries and tropical latitudes hardest hit. Colder countries will benefit economically from greater crop production, whilst the warmest countries will see increased droughts and declines in agricultural yields.
- Developed countries such as the USA and UK are still likely to be impacted by changing agricultural patterns, increased water stress and rising sea levels. However, they have a greater capacity to cope with the potential changes due to their economic status.
- Farmers in some regions may benefit from the earlier onset of spring and from a longer warm season that enables them to crop two crop rotations. However, invasive plant species, and insect pests will thrive in the warmer temperatures, meaning that large-scale agricultural companies will be able to afford the increased costs of pesticides and fertilizer use.

Assessment:

- Developing countries are likely to be threatened by global warming to a greater extent due to their location and the lack of ability to adapt effectively.
- Candidates may discuss that the impacts will depend upon the level of warming experienced. With IPCC reports suggesting that a warming of up to 1.5°C will bring benefits to people and natural ecosystems, but at 2°C adverse impacts outweigh the benefits.



Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	<b>1-5</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Applies knowledge and understanding of geographical ideas, making limited and rarely logical connections / relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information / ideas to produce an interpretation with limited coherence and support from evidence. (AO2)</li> <li>• 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)</li> </ul>
<b>Level 2</b>	<b>6-10</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1)</li> <li>• Applies knowledge and understanding of geographical information / ideas with limited but logical connections / relationships. (AO2)</li> <li>• 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)</li> <li>• Applies knowledge and understanding of geographical information / ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2)</li> </ul>
<b>Level 3</b>	<b>11-15</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and accurate. (AO1)</li> <li>• Applies knowledge and understanding of geographical information / ideas to find some logical and relevant connections / relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical ideas in order to produce a partial but coherent interpretation that is supported by some evidence. (AO2)</li> <li>• 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)</li> </ul>
<b>Level 4</b>	<b>16-20</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Applies knowledge and understanding of geographical information / ideas to find fully logical and relevant connections / relationships. (AO2)</li> </ul>

		<ul style="list-style-type: none"><li>• Applies knowledge and understanding of geographical information / ideas to produce a full and coherent interpretation that is supported by evidence. (AO2)</li><li>• 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)</li></ul>
--	--	---

Question number	Suggest reasons for the contrasting urbanisation trends
6 (a)	<p style="text-align: center;"><b>AO1 (5 marks)/AO2 (5 marks)</b></p> <p><b>Marking instructions</b> Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b> 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:</p> <p>AO1</p> <ul style="list-style-type: none"> <li>• Urbanisation is the increase in the proportion of people living in towns and cities.</li> <li>• Urbanisation occurs due to rural-urban migration and natural increase.</li> <li>• Natural increase of population occurs when the number of births exceeds the number of deaths.</li> <li>• Rural-urban migration has many reasons; better standard of living, escaping frequent crop failures and famines, better education, improved healthcare facilities.</li> <li>• Greatest levels of urbanisation since 1950 have been experienced in Asia and Africa. With lowest levels in Europe.</li> </ul> <p>AO2</p> <p>Asia:</p> <ul style="list-style-type: none"> <li>• Asia is experiencing rapid urbanisation due to the region's large population. It has five countries with more than 100 million people – China, India, Bangladesh, Pakistan and Indonesia.</li> <li>• China's pace of urbanisation has been encouraged by the Chinese government due to the large of urban construction along the coastal regions in order to encourage migration for jobs created by TNCs.</li> </ul> <p>Africa:</p> <ul style="list-style-type: none"> <li>• Natural increase has resulted as births are exceeding deaths in urbanised areas. Total fertility rates on a whole have remained virtually unchanged for the past 25 years. High fertility rates are influenced by factors such as marriage, level of education and cultural factors. The high natural increase also results in a high proportion of child-bearing age in the future.</li> <li>• However, as birth rates decline over time, the role of natural increase in determining the pace of urban population growth becomes less important in comparison to migration.</li> <li>• In developing regions in Africa, urbanisation usually occurs when people move from villages to settle in cities i.e. rural-urban migration. This is driven by families wish to improve their quality of life and the draw of increased investment from TNCs and other national governments in urban areas.</li> </ul> <p>Europe:</p>

	<ul style="list-style-type: none"> <li>• Europe's population trends have seen a decline in birth rates and the ageing of the population. This has led to increased levels of counter-urbanisation as the older generation move away from urban areas to coastal or more rural areas.</li> <li>• More recently urbanisation levels in Europe have stagnated due to increased rates of counter-urbanisation particularly in North-west and Central Europe.</li> </ul> <p><b>NB: For L3 two of the three regions should have been discussed</b></p>
--	--

Level	Mark	Descriptor
	<b>0</b>	No rewardable material.
<b>Level 1</b>	<b>1-4</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge. (AO1)</li> <li>• Demonstrates isolated elements of geographical understanding, some of which may be inaccurate. (AO1)</li> <li>• Applies knowledge and understanding to geographical information / ideas, making limited logical connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding to geographical information / ideas to produce an interpretation that is not relevant and/or supported by evidence. (AO2)</li> </ul>
<b>Level 2</b>	<b>5-7</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Demonstrates geographical understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Applies knowledge and understanding to geographical information / ideas logically, making some relevant connections / relationships. (AO2)</li> <li>• Applies knowledge and understanding to geographical information / ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)</li> </ul>
<b>Level 3</b>	<b>8-10</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge throughout. (AO1)</li> <li>• Demonstrates accurate and relevant geographical understanding throughout. (AO1)</li> <li>• Applies knowledge and understanding to geographical information / ideas logically, making relevant connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding to geographical information / ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)</li> </ul>





Question number	Assess the extent to which globalisation has benefitted emerging countries more than others
6 (b)	<p style="text-align: center;"><b>AO1 (5 marks)/AO2 (15 marks)</b></p> <p><b>Marking instructions</b></p> <p>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.</p> <p>Responses that demonstrate only AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> <li>• Level 1 AO1 performance: 1 mark</li> <li>• Level 2 AO1 performance: 2 marks</li> <li>• Level 3 AO1 performance: 3 marks</li> <li>• Level 4 AO1 performance: 4 marks</li> </ul> <p><b>Indicative content guidance</b></p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> <li>• Globalisation involves widening and deepening connections between countries and economies, making the world more interdependent and interconnected; it has economic, cultural and technological facets.</li> <li>• In emerging countries / NICs there has been a large gain in terms of employment as a result of outsourcing whereas in the developed world workers once worked in manufacturing, and in some cases service industries, which have moved abroad due to outsourcing.</li> </ul> <p>AO2</p> <ul style="list-style-type: none"> <li>• Globally, the emerging economies of the BRICs have benefited as they have become fully immersed in global trade, investment and knowledge networks. Employment levels have increased and incomes have risen in outsourced factories and offices in China, India and elsewhere, so the overall impact of outsourcing could be viewed as positive.</li> <li>• There are arguments that the outsourced work in some cases is low paid, with poor working conditions, long hours; child labour and sweatshop conditions could be raised as issues.</li> <li>• On the other hand, outsourcing has helped lift millions out of poverty and many people have moved into the middle class and seen improvements in quality of life.</li> <li>• The economic elite could be argued to receive the greatest benefit from globalisation as they can benefit from features such as tax havens and are able to move between countries with ease.</li> <li>• Developed nations have also benefitted from globalisation due to increase cost efficiency and variety of products and access to cheaper raw materials.</li> <li>• However, deindustrialisation in developed regions such as Detroit and Sheffield has resulted in mass unemployment, declining quality of life and increased levels of deprivation.</li> </ul>

- Globalisation has brought the potential of rapid growth to developing countries in Africa through FDI. However, investment tends to be focused in countries with oil and related industries and this has led to widening existing inequalities.

Assessment:

- Although emerging countries have benefitted in terms of economic growth, candidates may argue that developed countries have still benefitted the most due to cheaper goods, reduction in production pollution and increased availability of a wide range of goods.
- Despite developed nations benefiting from globalisation, there are still those who are the 'losers' due to loss of jobs caused by deindustrialisation. Therefore the benefits are not equally felt within countries.

Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	<b>1-5</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Applies knowledge and understanding of geographical ideas, making limited and rarely logical connections / relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information / ideas to produce an interpretation with limited coherence and support from evidence. (AO2)</li> <li>• 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)</li> </ul>
<b>Level 2</b>	<b>6-10</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1)</li> <li>• Applies knowledge and understanding of geographical information / ideas with limited but logical connections/relationships. (AO2)</li> <li>• 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)</li> <li>• Applies knowledge and understanding of geographical information / ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2)</li> </ul>
<b>Level 3</b>	<b>11-15</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and accurate. (AO1)</li> <li>• Applies knowledge and understanding of geographical information / ideas to find some logical and relevant connections / relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical ideas in order to produce a partial but coherent interpretation that is supported by some evidence. (AO2)</li> <li>• 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)</li> </ul>
<b>Level 4</b>	<b>16-20</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Applies knowledge and understanding of geographical information / ideas to find fully logical and relevant connections / relationships. (AO2)</li> </ul>

		<ul style="list-style-type: none"><li>• Applies knowledge and understanding of geographical information / ideas to produce a full and coherent interpretation that is supported by evidence. (AO2)</li><li>• 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)</li></ul>
--	--	---