Mark Scheme (Results)

January 2019

Pearson Edexcel International Advanced A Level In Geography (WGE03) Paper 01

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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	Using Figure 1, explain the possible causes **and** impacts of the trends in precipitation shown. (10) Answer
1	**AO1 (4 marks)/AO2 (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: AO1: • Precipitation is variable, there appear to be three distinctive phases but with variability even within these especially more recently. • The variability could be caused by natural climate factors including long term cycles, ENSO variation and even sun-spot cycles • It might be argued that the variability is linked to human induced climate change i.e. global warming. • At a basic level, the Sahel area and Africa more widely is the lowest income continent with people most dependent on farming / rain-fed agriculture and direct water supply from ponds, rivers and boreholes i.e. vulnerability to changes in rainfall. AO2: • Between 1950 and 1990 there are clear wet / dry phases which might be seen as naturally cyclical, whereas the variability post 1990 might be linked to global warming i.e. increased year to year variability and more frequent extremes. • A more variable situation with regard to the ICTZ and much more variability in seasonal rain – this could be linked to global warming. • Some might argue human actions such as over-grazing and deforestation has contributed to variability e.g. changing evaporation and transpiration rates. • Impacts include possibly expansion of farming in the 'wet' phase, which then could not be sustained in the 1970-1990 'dry' period: extensive droughts in the 80s

	and 90s and therefore human impacts such as crop failure, water shortages, health impacts • Recent variability might be seen as creating both drought and floods i.e. frequent hazards and difficulties for farmers in terms of which crops to plant; highly variable yields affecting incomes. • The post 1990 situation may be seen as positive in terms of impacts compared to 1970-1990 i.e. despite variability, improved rainfall levels and water supply and fewer drought disasters. Answers, especially in Level 3, should have a broad balance of causes and impacts. Level 2 less so, and Level 1 lacking clarity on cause and impact.	
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–4**	• Demonstrates isolated or generic elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding to geographical information inconsistently. Connections/relationships between stimulus material and the question may be irrelevant. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2)
Level 2	**5-7**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding to geographical information to find some relevant connections/relationships between stimulus material and the question. (AO2) • Applies knowledge and understanding of 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 and understanding throughout. (AO1) • Applies knowledge and understanding to geographical information logically to find fully relevant connections/relationships between stimulus material and the question. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)

Question number	Using Figure 2, suggest reasons for the differences in importance of ecosystem services at global and local scales. (10)
2 (a)	**AO1 (4 marks) /AO2 (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: AO1: • Ecosystems / biomes provide a wide range of services both locally and globally, usually divided into provisioning, cultural, regulating and supporting as in the 2005 MEA. • Regulating services are important both locally and globally such as flood control and atmospheric regulation (CO_2 levels) • Cultural services are more significant locally in terms of religious significance, tourism, local traditions • Provisioning services include food supply and other goods used directly by people from ecosystems and these are more significant locally AO2: • The most important service is global regulation (5) because of the role of biomes, especially forests, in

	carbon sequestration and balancing the level of $C0_2$ in the atmosphere; this is less important locally but the fairly high score (3) could be ascribed to flood control and the role of biomes in the water cycle. • Locally, provisioning services score 4: as the photo shows a forest village / indigenous settlement it could be argued that people depend on the ecosystem for food supply e.g. bushmeat, gathering food, building materials and fuel wood. • Globally, few people depend on provisioning services from intact biomes; although they do indirectly via the soil i.e. modern farming • The low score of 2 for cultural services globally might be seem to reflect the lack of connection between modern people and ecosystems – although tourism is important to many people; in local places the religious and cultural significance of places, flora and fauna is often higher especially in traditional societies. • Locally scores are all 3+, which might suggest local people have a more direct connection with and reliance upon ecosystem services especially if they are rural / indigenous / traditional: globally regulation is important but other services much less so for most people.	
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–4**	• Demonstrates isolated or generic elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding to geographical information inconsistently. Connections/relationships between stimulus material and the question may be irrelevant. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2)
Level 2	**5-7**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)

		• Applies knowledge and understanding to geographical information to find some relevant connections/relationships between stimulus material and the question. (AO2) • Applies knowledge and understanding of 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 and understanding throughout. (AO1) • Applies knowledge and understanding to geographical information logically to find fully relevant connections/relationships between stimulus material and the question. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)

Question number	Answer Evaluate the relative importance of local and global threats to biodiversity for a named terrestrial biome. (15)
2(b)	**AO1 (5 marks)/AO2 (10 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: • Local threats affect a small area, whereas global threats are much more widespread and likely to be more permanent and possibly harder to manage. • Local threats include degradation and destruction caused by farming and other activities.

	• Many types of pollution are local in scale, such as eutrophication, industrial water pollution and point-source air pollution. • Many ecosystems are affected by alien species / invasive species which are local in scale. • Global threats include global warming which risks widespread change to terrestrial biomes including shifts in climate belts and impacts on migration. • Trends in global population and resource demands risks exploitation of many biomes. AO2: • Local threats might be relatively minor in some cases often because they can be managed locally; for instance alien species are serious but in some cases can be managed e.g. by eradication (but not always e.g. Australia's cane toad) • Management can also reduce other local threats be creating sustainable reserves / biosphere reserves to manage illegal hunting and deforestation; on the other hand these can be severe because of their scale e.g. coltan mining in the DRC, conversion of forests for biofuels in Indonesia. • Global threats might be argued as very serious, especially global warming. Projected changes in temperature could lead to shifts in climate belts, threatening whole biomes as species are forced to migrate or fail to adapt to new conditions; widespread drought in some tropical forests such as the Amazon risking forest fires and long term degradation. • Climate belts shifts could see savanna grasslands shrinking in area and widespread changes to seasonal migrations disrupting food webs. • Biome exploitation is very widespread, linked to rising demand for resources and growing populations such that conversion to farmland and exploitation of resources might be seen as a global threat rather than a local one: this exploitation might contribute to the 'sixth mass extinction' and loss of numerous plant and animal species. • In some cases, even very serious threats could be seen as being successfully managed e.g. trade in endangered species being reduced by CITES or even, long-term, action to reduce the threat from global warming via mechanisms such as the COP21 emissions agreement in 2015.

		• Overall, a judgment should be made on which threats, local or global, are the most significant for the chosen terrestrial biome. NB Much will depend on the choice of biome, in terms of specific detail especially on local threats. Max Level 2 if not a terrestrial biome.
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–4**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding of geographical information/ideas, making limited and rarely logical connections/relationships, to produce an interpretation with limited relevance and/or support. (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	**5-8**	• 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 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	**9-12**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making some relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)

Level 4	**13-15**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)

Question number	Answer To what extent does being 'switched off' from globalisation increase people's risk from extreme weather hazards? (15)
3	**AO1 (5 marks)/AO2 (10 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: • Switched-off places includes locations with few / a low density of connections to other places. • This might include limited communications access (internet, mobile phones, TV) as well as limited transport connections such as roads and ports. • At a basic level it could mean being 'in the dark' due to lack of access to electricity, or other services such as healthcare or education. • Globalisation includes the benefits that come from increased trade and connections, including rising incomes and higher quality of life. • Extreme weather hazards include tropical cyclones, storms, droughts and floods i.e. hydro-met hazards. Risk of these is a function of the hazard risk equation (Risk = Hazard x vulnerability / capacity to cope) AO2: • It could be argued that the most switched off are the most at risk e.g. high levels of vulnerability as a result of poverty and poor education increasing risks from drought and cyclones on locations such as Bangladesh and the Sahel. • In such places, people might be either forced to respond to hazards on their own, or rely on aid and external help – this is often patchy, late to arrive and basic i.e. saving lives but offering less help in terms of recovery. Examples such as Typhoon Haiyan might be seen as evidence that major hazard events easily cause major disasters in switched-off places. • On the other hand, some switched off places have reduced risk effectively without the need to be

	'globalised' such as improved mobile, TV and radio warnings and cyclone shelters in Bangladesh. • Events such as Typhoon Haiyan might be explained better by magnitude rather than being switched off; contrasts might be made with events in the past e.g. the 1970 Bhola cyclone which had much larger impacts especially human ones i.e. death tolls. • It could be argued that being 'switched on' in no protection from high-magnitude events such as Superstorm Sandy or Hurricane Katrina, both of which had huge economic losses and major human losses despite occurring in the USA. • More sophisticated reasoning might argue that in the case of Hurricane Katrina, there were indeed switched off people (blacks, poor, and elderly) who suffered much more than the mobile, wealthier, younger and white population that successfully evacuated. • Tropical cyclones with variable impacts on different places e.g. 2017 Irma and Maria differential risk and impacts on the USA, Puerto Rico and Caribbean islands. • Stronger answers might contrast risk to property with risk to people in terms of deaths / injuries and argue that the risk is different in switched on versus switched off locations; globalisation might be seen as creating great wealth that is not protected from weather hazard risk although in switched off places it is unlikely to be insured.	
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–4**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding of geographical information/ideas, making limited and rarely logical connections/relationships, to produce an interpretation with limited relevance and/or support. (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	**5-8**	• 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 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	**9-12**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making some relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)
Level 4	**13-15**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)

Question number	Answer To what extent does the use of foreign energy sources and international energy pathways affect reduce security? (20)
4	**AO1 (5 marks)/AO2 (15 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. 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: 4–5 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: • Energy sources include renewable and non-renewable sources, including fossil fuels, biofuels and renewables used to generate electricity. • Fossil fuels in particular, are traded on international markets and there are numerous global and regional trade routes. • Pathways refers to the routes energy is traded along, including shipping routes, pipelines, road, rail and interconnector (electricity) links. • Energy sources can be domestic when found within a country, or foreign i.e. sources through trade. • Energy security is a function of supply reliability, affordability and access to energy resources. AO2: • Generally speaking the international market in energy, especially fossil fuels such as oil, operates as a global market and is open, making supply interruptions unusual. • On the other hand, the market especially in oil and gas is dominated by large TNCs (oil 'majors') and state-led enterprises, plus organisations such as OPEC; these players might be said to manipulate the market to some extent, so it is less open than might be expected and vulnerable to supply and / or price changes. • High prices for foreign energy sources can increase risk: oil price shocks in the early and late 1970s caused supply shortages and affected industry and people in developed countries. Conversely the development of domestic oil and gas resources increased security e.g.

	North Sea oil and has in the UK and Norway from the 1970s and more recently gas and oil fracking in the USA. • In some, relatively rare, cases specific pathways can be disrupted including oil refinery capacity in the aftermath of hurricanes Rita and Katrina in 2005, oil supply from Iran due to sanctions, and oil exports from Iraq / Kuwait due to the 1991 and 2003 Gulf Wars – in most cases alternative sources can be found. • EU gas supply from Russia via pipelines through Ukraine was interrupted in 2006 and 2009 due to Russian government action through Gazprom: this was an unusual situation but had dramatic impacts on energy security in Poland and the Czech Republic among others – perhaps proving that over reliance on one pathway / one energy sources is indeed a risk. • On the other hand some countries are energy secure because they have a good energy mix; not relying on one pathway / foreign source but many alternatives; in some cases countries have reduced energy security by promoting self-sufficiency e.g. nuclear power in France. • An overall judgement should be made in terms of the extent to which pathways and foreign sources increase risk; it might be argued a diversity of domestic sources does increase security and reduces the possibility that external shocks make energy supply more risky; events such as the Ukraine / Russia situation are anomalies – which good answers should recognise.

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	Answer To what extent are large engineering projects, such as dams and water transfers, successful ways of meeting the demand for water? (20)
5	**AO1 (5 marks)/AO2 (15 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. 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: 4–5 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: • Demand for water is rising, especially in developing and emerging countries – but much less so in the developed world. • Demand is driven by industrial use in emerging countries, and rising domestic / household use as people transition to the middle-class. • Large dams are a common solution, often being multi-use schemes i.e. water supply, HEP and flood control. • In some cases water transfers move water from areas of surplus to areas of deficit; large engineering schemes are multi-billion-dollar schemes implemented nationally in a top down way. • Water demand can be met in other ways, such as small scale schemes or improved management i.e. conservation, recycling or even desalination. AO2: • Benefits of large engineering projects include their scale; they have the ability to transform water supply for large areas by capturing a water source and making it available to millions of people – such as China's S-N water transfer or India's numerous dams. • On the other hand such schemes are very high cost, usually running to billions of dollars; they could increase debt levels and may lead to high water prices in order to recoup the capital costs. • Very large schemes may not be environmentally sustainable because they encourage overuse of a finite water supply, are subject to the vagaries of climate change and have wider environmental and social impacts. • While effective at coping with demand today, they may not be as effective long-term if water supply reduces and / or demand continues to rise; in addition many large schemes have political risks if dams are built on transboundary rivers such as China's dam building on the Mekong and Ethiopia's dam building on the Blue Nile.

	• Some might argue small scale schemes are better i.e. low cost, local, intermediate technology solutions such as pumps and pumpkin tanks – however, these are unlikely to meet the needs of industrialising, urban emerging economies in terms of demand. • There are other alternatives such as desalination but these are also high cost and not applicable everywhere i.e. a coastline is required; in addition they formalise supply and this can increase water costs for consumers. • Widespread water conservation, as in Singapore, might provide an alternative model by reusing grey water and making water use reflect the actual cost of supply; these types of more holistic water management do work but also require high capital investment so may not be applicable everywhere.	
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	Answer Using Figure 3, suggest why TNCs are important to the status of superpowers. (5)	Mark
6(a)	**AO1 (2 marks)/AO3 (3 marks)** Award **1** mark (AO1) for each relevant point and further expansion marks for reasons/explanations linked to the data shown (AO3), up to a maximum of 5 marks. • The USA has 27% of the world's 2000 largest TNCs which will generate large amounts of income / tax revenue (1) that can be invested in other forms of power e.g. military (1) • The data might be taken as evidence of US hyperpower (1) because it has so many more TNCs than other countries i.e. 10% more than the EU which is 27 countries (1) • Most superpowers / emerging powers have a large number of TNCs such as USA, EU and China (1) which suggests TNCs are quite universal as a source of economic / cultural power (1). • Many of the numerous US TNCs have considerable cultural influence such as Nike, McDonalds (1) which project US values around the world (1). • The data for Russia shows it has very few TNCs, but it is powerful militarily and economically (1) so it is possible to argue TNCs are not that important in terms of status i.e. only 1 aspect of power (1).	**(5)**

Question number	Answer Using named examples, assess the impacts of increasing middle class resource consumption in emerging superpowers.
6(b)	**AO1 (5 marks)/AO2 (10 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: • Resources include food, water, land for housing and farming as well as energy resources. • Middle class people are those with some disposable income meaning they can afford some luxuries. • Middle classes are growing in emerging superpowers e.g. India, Brazil and China and the growth is rapid. • As incomes grow, demand for resources grows especially in terms of a formal water supply, electricity, white goods and cars / motorbikes. • Impacts can be positive or negative, and include social, economic and environmental impacts. AO2: • On the one hand the impacts of resource consumption are positive; they reflect the fact that low income people move into the middle class and have a higher quality of life i.e. social and economic positives; including better health and longer lives; an example is the 100s of millions of Chinese lifted out of poverty since 1990. • Downsides include the demand for resources as a driver of processes such as deforestation e.g. farmland to meet growing food requirements, especially in terms of meat and dairy products (a more western diet). • There are some specific cases such as Chinese air pollution in cities; much of this is caused by the dramatic increase in car ownership in China, the growth of factories and power stations – all linked to the rise of the middle class there. • As resource demand rises, so does (so far) greenhouse gas emissions especially from transport and power stations; evidence includes the fact that China has overtaken the USA as the world's largest CO2 emitter; these emissions are linked to global warming and its environmental impacts. • Resource demand could create shortages in some areas, such as oil or some minerals e.g. rare earths increasing the price of resources worldwide and / or leading to genuine scarcity. • In some cases rising demand might not be easily met e.g. water supply in India, risking a crisis in the near

		future and an inability to supply people at a reasonable costs (political risks). • Stronger answers might recognise that as resource demands and environmental impacts rise, opinion in emerging superpowers might shift to become more environmentally conscious (as it has done in developed countries) perhaps off-setting some environmental negatives as conservation and efficiency begin to be more important priorities. • An overall judgement might recognise that the economic and social gains are perhaps reduced by the environmental downsides of resource consumption, but few people would want to return to poverty.
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–4**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding of geographical information/ideas, making limited and rarely logical connections/relationships, to produce an interpretation with limited relevance and/or support. (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	**5-8**	• 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 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	**9-12**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making some relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)
Level 4	**13-15**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)

Question number	Answer Using Figure 4, suggest reasons for the differences in monthly income between the three ethnic groups. (5)	Mark
7(a)	**AO1 (2 marks)/AO3 (3 marks)** Award **1** mark (AO1) for each relevant point and further expansion marks for reasons/explanations linked to the data shown (AO3), up to a maximum of 5 marks.	**(5)**

	• Indigenous people have the lowest incomes at less than 50% of white Brazilians (1) which could be because they are a more rural population with primary sector, low paid work i.e. farming (1) • Black Brazilian's have incomes of just more than 50% of white (1) possibly because of discrimination / prejudice in the work place so they have less well-paid jobs (1). • Education levels among white's might explain the differences (1) because with better education, tertiary jobs which are higher paid are more common among whites (1) • Ethnic disparities i.e. discrimination is likely to result in poorer access to education for black / indigenous Brazilian's (1) so resulting in worse opportunities especially in terms of jobs / incomes (1).	

Question number	Answer Using named examples, assess how far trade contributes to the size of the global development gap.(15)
7(b)	**AO1 (5 marks)/AO2 (10 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: • The global development gap is the difference, in terms of income, quality of life and human development levels between developed, emerging and developing countries. • The gap is often measured in terms of HDI, GDP per capita, inequality (Gini) and in other ways. • It can be thought of in terms North v South, core v periphery and other conceptual frameworks. • Trade – the exchange of goods and services – is a key part of economic growth and development and might be seen as explaining economic differences

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There are other aspects of the development gap including aid, debt, gender, political and governance aspects which might be seen as explanations for the gap.
AO2:

Trade can be seen as a key way the development gap has been narrowed by emerging economies: Chinese economic development has been driven by FDI, the use of FTZs/ EPZs in China and its ‘Open Door’ policy; since 1980 goods exports have contributed to economic development in many emerging countries.
On the other hand, poor terms of trade might explain lack of development in developing counties i.e. some are stuck in a neo-colonial model of exporting commodities and raw materials cheaply while importing goods and technology at high cost from developed economies.
TNCs might be seen as exploitative e.g. outsourcing low cost manufacturing and services to developing countries which does little in the way of genuine development; in some cases e.g. oil in Nigeria, TNCs might be seen as exploiting natural resources with the developing country gaining very little.
Stronger answers should recognise that trade can be used to explain the ‘gaps’ continued existence as well as the fact that it has narrowed in some cases.
There are other factors, such as physical constraints on development (landlocked) and harsh environmental conditions that might hinder development; in some developing countries poor governance, long term conflict, and corruption might be better explanations than trade.
Aid and global initiatives such as the MDGs and SDGs have in some cases been affective at reducing the development gap by focussing on health and education; alternatively aid has often been inappropriate (e.g. tied aid) or loans have led to unsustainable debt which has hindered progress.
Overall, answers should consider trade as well as other factors to judge the extent to which trade explains the ‘gap’.

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<tr><td>Level</td><td>Mark</td><td>Descriptor</td></tr>
<tr><td></td><td>0</td><td>No rewardable material.</td></tr>
<tr><td>Level 1</td><td>1–4</td><td>

Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)
Applies knowledge and understanding of geographical information/ideas, making limited and rarely logical connections/relationships, to

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		produce an interpretation with limited relevance and/or support. (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	**5-8**	• 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 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	**9-12**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making some relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)
Level 4	**13-15**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)

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