Mark Scheme (Results)

January 2021

Pearson Edexcel International A Level
In Geography (WGE03)
Paper 1: Contested Planet

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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.

How to award marks when level descriptions are used

1. Finding the right level

The first stage is to decide into which level the answer should be placed in. To do this, use a 'best-fit' approach, deciding which level most closely describes the quality of the answer. Answers can display characteristics from more than one level, and where this happens markers must use the guidance below and their professional judgement to decide which level is most appropriate.

For example, one stronger passage at L4 would not by itself merit a L4 mark, but it might be evidence to support a high L3 mark, unless there are substantial weaknesses in other areas. Similarly, an answer that fits best in L3 but which has some characteristics of L2 might be placed at the bottom of L3. An answer displaying some characteristics of L3 and some of L1 might be placed in L2.

2. Finding a mark within a level

After a level has been decided on, the next stage is to decide on the mark within the level. The instructions below tell you how to reward responses within a level. However, where a level has specific guidance about how to place an answer within a level, always follow that guidance.

Levels containing 2 marks only

Start with the presumption that the work will be at the top of the level. Move down to the lower mark if the work only just meets the requirements of the level.

Levels containing 3 or more marks

Markers should be prepared to use the full range of marks available in a level and not restrict marks to the middle. Markers should start at the middle of the level (or the upper-middle mark if there is an even number of marks) and then move the mark up or down to find the best mark. To do this, they should take into account how far the answer meets the requirements of the level:

- If it meets the requirements *fully*, markers should be prepared to award full marks within the level. The top mark in the level is used for answers that are as good as can realistically be expected within that level
- If it only *barely* meets the requirements of the level, markers should consider awarding marks at the bottom of the level. The bottom mark in the level is used for answers that are the weakest that can be expected within that level
- The middle marks of the level are used for answers that have a *reasonable* match to the descriptor. This might represent a balance between some characteristics of the level that are fully met and others that are only barely met.

Question number: **1**	Using Figure 1, explain the changes in the track and intensity of hurricane Irma. (10) Answer:

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:

- The Cyclone forms in the east as a tropical depression at about 15°N and moves west over a period of 14 days
- It intensifies as it approaches the Caribbean, but intensity then falls as it turns north and moves over land north of Cuba.
- The track is fairly smooth (and typical), other than a sharp deviation north between Florida and Cuba, where intensity is also variable.
- Irma is high intensity, at Cat 4-5 for about 1 week, and during that time represents a significant hazard.

AO2:

- Formation takes places close to Cape Verde in warm equatorial waters of the west African coast: sea temperatures 26.5°C +, high rates of evaporation and convection lead to the formation of tropical storms, which coalesce into a tropical depression.
- The Coriolis force imparts the characteristic spin of a tropical depression / cyclones, and the trade winds move the system west: intensity increases over a period of 5-6 days as the tropical warm waters add energy to the growing weather system, so it intensifies from a tropical depression to a Cat 5 tropical cyclones (hurricane).
- Intensity is maintained in the Caribbean by the warm, shallow waters; despite passing over land (Bahamas, Cuba) the system regains energy from the warm water once over the sea again.
- Trade winds keep moving the WNW, until about 80°W, when it is influenced by the dominant westerlies so its track shifts northwards over the continental USA.
- The intensity rapidly drops once over land (Florida) because the energy source (warm ocean) is no longer present, so the hurricane quickly degrades to a tropical depression then dissipates as a mid-latitude depression over a period of 3 days.

NB: answers should not focus on the impacts of Irma.

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 **2(a)**	Using Figure 2, explain the physical factors that influence of the pattern of biodiversity shown. (10) Answer:

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:

- Biodiversity is a measure of species variation (genetic, species, ecological), in the case of Figure 2 plants – but this could be a proxy for animals / ecosystems.
- Biodiversity ranges from over 4000 species per sq. km. to under 500, broadly with increasing latitude, but with other more complex patterns.
- Physical factors determine the natural level of biodiversity, especially climate limiting factors but there are others; humans alter the natural pattern.

- Highlands, islands, some coasts and equatorial areas all have high levels on Figure 2, with high latitudes and interiors having lower levels.

AO2:

- Highest levels of 3000+ species are close to the equator and up to 35°N/S due to climate: high temperatures (solar insolation) and abundant rainfall (ITCZ/ equatorial low) allow season round growth, high NPP and constant reproduction increasing biomass and species richness.
- Coastal areas often receive more rain than continental interiors, so climate is better for growth and reproduction so biodiversity is higher e.g. the Australian coast.
- Areas affected by a seasonal monsoon (NE India) have generally higher biodiversity than non-monsoon areas (Thar desert) because of the greater rainfall and better growing conditions.
- In high latitude areas (Russia) climate limits growth (cold, seasonal, low photosynthesis) and demands special adaptations so biodiversity is lower; central China and Australia have low rainfall, a limiting factor in productivity.
- Islands (Indonesia, Philippines) encourage endemism / unique species through evolutionary processes, meaning higher levels of biodiversity in these places.
- Highland areas (Himalaya, Borneo) have wide altitudinal range, so many species in numerous ecological niches in a small geographical area as climate factors change with altitude.

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 **2 (b)**	Evaluate the success of global approaches to managing biodiversity and the conservation of ecosystems. (15) Answer:

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:

- Global approaches include schemes such as CITES, Biodiversity Action Plans, global models e.g. UNESCO biosphere reserves, REDD and others.
- These are usually promoted by IGOs such as the UN, but implemented or monitored nationally.
- Climate change treaties are relevant, but indirectly, as their main aim is not conservation.
- There are a wide range of national and local strategies such as NPs, sustainable reserves - although these often operate in the context of global approaches.

AO2:

- CITES is well-known and seeks to conserve over 30,000 species by banning illegal international trade; it has had some success especially in terms of ivory, and raising awareness – but requires national funding and policing, which may not be present: it only protects species already under threat and does not protect ecosystems.
- BAPs and Biosphere Reserves provide countries with a model / template for conservation but depend on national funding and action, ore the work of NGOs – so success will depend largely on economic and political will.
- Schemes such as REDD – where developed Governments / TNCs pay for protection of forests in developing / emerging countries have had some success but limited scale so far – and are more about carbon emission than conservation per se.
- In developing/ emerging countries conservation efforts can be undermined by corruption, illegal hunting and deforestation and prioritising economic development over conservation: this can happen in the developed world e.g. Canada's tar sands.
- It could be argued that national approaches e.g. UK / USA NPs or game reserves in Kenya are more successful as they are tailored to local needs; sustainable reserves work local people to provide alternative livelihoods to ecosystem destruction and this approach may work best – often it is tied to education.
- International agreements and strategies are hard to fund, monitor and police so in many cases are not much more than a set of principles which have to be implemented nationally and locally.
- Global NGOs such as WWF and Greenpeace could be argued to play a positive role, especially in terms of raising awareness of issues and fund raising – although these

	organisations rarely manage biodiversity directly so their impact may be small overall.	
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 **3**	To what extent is international migration a solution for people facing increased threats from weather hazards and global warming? (15) Answer:

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:

- Migration is a permanent movement (1 year or more), in the sense of the question over an international border.
- Threats include short-term hazards such as flooding and cyclones, longer term drought and permanent climate change – the latter could make farming impossible, or flood low-lying coastal areas and islands.
- There are other 'solutions' including mitigation to prevent global warming, better management of weather hazards, adaptation of farming to cope and building defences.
- The people involved could be in developed countries (coastal) or more likely vulnerable farmers in developing countries that rely directly on food production.

AO2:

- In most cases international migration is not a viable option, because moving between countries is not easy: there may be cases (Maldives, Tuvalu) were agreements to relocate people might be made; in some cases migration as environmental refugees is likely to be illegal rather than legal e.g. from SSA to Europe.
- Potential destination countries are unlikely to willingly accept large numbers of peopled displaced by the impacts of GW and weather hazards, further reducing migration as an option.
- To some extent the solution might depend on the context i.e. a permanent climate change (drier, higher temperatures), versus a long-term drought or a short-term cyclone – longer / permanent impacts are likely to encourage migration.
- While international migration may not be an option, internal migration may be: global warming and hazards such as drought may encourage rural-urban migration and / or migration between regions within a country: this might be seen as an option for many (if not a 'solution') especially 'environmental refugees'.
- It could be argued that adaptation is a better solution where possible: climate resistant crops, improved water management, flood and sea defences – although this may not be possible for the poorest and most vulnerable.
- An alterative is to try and mitigate against global warming (this does not prevent weather hazards) by emissions reductions which would reduce the risk of creating environmental refugees in the future e.g. the Paris COP21 agreement.

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 **4**	To what extent are the local environmental impacts of using renewable energy worse than the global impacts of using fossil fuels? (20) Answer:

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:

- Renewable energy included wind turbines, solar PV and thermal, HEP: biofuels could also be considered as an alternative to fossil fuels.
- Fossil fuels include coal, oil and gas – plus unconventional sources such as tar sands and oil shales.
- Fossil fuels are responsible for most carbon emissions, which have increased the level of CO_2 in the atmosphere – which is causing global warming and others issues e.g. ocean acidification.
- Fossil fuel extraction has local environmental impacts (mining, waste, water pollution) as do renewables (visual pollution, noise, landscape change and others).

AO2:

- Fossil fuel burning might be seen as much worse than renewable impacts because of the global nature of the change to the carbon cycle; it's likely all places will suffer some impacts of future climate change and in some cases (coasts, Arctic) the impacts could be very severe.
- Coal could be considered much worse than gas, because of the higher CO_2 emissions per unit of useful energy; gas is considered the 'greenest' fossil fuel.
- Renewable energy emits no / much less CO2 but has local environmental impacts and frequent 'NIMBY' issues associated with visual pollution and noise (wind), large landscape changes (solar and HEP), and loss of ecosystems and homes in the case of HEP reservoirs – in some cases these are very significant and widespread (HEP: Three Gorges Dam).
- Biofuels in locations such as Indonesia have been blamed for widespread deforestation for palm oil plantations, and this does have an impact on the carbon cycle as primary forests are destroyed usually by burning – so not all fossil fuel alternatives are free from carbon cycle impacts.
- In addition fossil fuel extraction can have very large local environmental impacts e.g. oil spills in the Niger Delta and forests destruction in the Athabasca tar sands region: it

could be argued fossil fuels are the 'worst of both world's' having major impacts both globally and locally.

- Some renewable might be considered to have only minor local impacts, such as offshore wind turbines or small solar installations in which case they could be considered the 'best' option in terms of overall impact. In some cases it may be possible to reduce the impacts by careful planning, whereas reducing the impacts of fossil fuel use on the carbon cycle is much more of a challenge – requiring global action.

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 **5**	To what extent are human factors more important than physical factors in determining the quality and quantity of water available to people? (20) Answer:

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:

- Water quantity refers to the amount of water available to people, and determines metrics such as water stress / water scarcity; availability is also influenced by water cost (economic scarcity)
- Water quality depends on factors such as pollution: water can be available but not safe to use.
- Physical factors are largely climatic: rainfall levels, seasonal river flows plus groundwater stores.
- Human factors are about water management and supply systems, and managing demand to ensure sustainable water supplies.
- Storage and other management methods can increase available supply.

AO2:

- The physical factor of climate is important, as globally areas of water shortage correlate with areas of low rainfall e.g. North Africa and the Middle East; low rainfall restricts

supply which has to be managed seasonally. Areas of high precipitation (Canada, Scandinavia) have abundant water supplies.

- The physical factor of geology largely determines the existence of groundwater supplies which are relied in extensively in some parts of the world; seasonally high temperatures can reduce water availability by evaporation and very low temperatures by freezing available water.
- Climate change / GW could be argued as either a physical factor (natural processes working more powerfully) or human (pollution as the root cause), reducing water availability in areas that rely in seasonal rains e.g. SSA and parts of S Asia.
- However, even in areas of high rainfall close to the equator water availability can be low especially for low income, urban people: lack of water supply systems and expensive water vendors create economic water scarcity despite abundant supplies from natural sources (they are just not accessible)
- Water availability can be severely reduced if quality is poor e.g. the polluted Ganges in India, river and groundwater pollution in China, saltwater incursion in coastal aquifers: poor water quality is almost always the result of human factors i.e. poor water management.
- Human factors are responsible for providing large quantities of high-quality water through complex supply systems: reservoirs construction, distribution systems – and examples such as Singapore and the UAE show that desalination and water conservation can provide good water supplies to people even when the physical geography of an area is very unfavourable.

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	Using Figure 3, suggest the types of data that could have been used to produce the superpower ranking shown. (5) Answer:	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. • Economic data such as total GDP / number of TNCs headquartered in the country / annual patent applications for the USA (1) which are measures of economic power and influence (1).		**(5)**

• Military data such as total military spending / % of budget spent on military fore the USA / China (1) as this would measure hard power / global military reach or capability (1) • Cultural data such as global brands / number of movies or TV stations / speakers of the home language e.g. UK (1) which indicates soft power / ideological attractiveness (1). • Data on resources which could be demographic such as total population (China, India in 2020) / domestic energy resources (USA) (1) which indicate a human or physical resource bases to support the countries economy (1). NB answers must focus on types of data, not whether the ranking is 'correct' or explaining the rank order.	

Question number **6(b)**	Assess the extent to which the world is now multi-polar in terms of superpower status. (15) Answer:

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:

- Multipolar means a number (3+) of broadly equal superpowers in terms of capacities, in contrast to unipolar (1) and bipolar (2).
- Status can be measured in terms of economic, military, resources, geopolitical influence and cultural power.
- It is generally accepted that the world was unipolar, dominated by the USA from 1990 onwards, but the situation may be more complex today.
- In the past, other situations have existed e.g. the bipolar Cold World 1945-1990 (USSR and USA)

AO2:

- It could be argued the world in 2020 is still a unipolar one as the USA dominates in terms of economics (total GDP, TNCs, patents, reserve currency) and military influence (ICBMs, aircraft carriers, level of military spending); plus it has a key role in IGOs like the WB and IMF.
- It could be argued that no other country comes close to the USA in terms of global military reach / influence given the geographical distribution of its armed forces, military alliances (NATO, ANZUS) and capacity.

- However, China has clearly caught up especially in terms of economic power and GDP (especially on a PPP basis) and its economy is similar in size to that of the USA; a case could be made for a bi-polar world at least in terms of economics.
- On some other measures, such as cultural influence China is perhaps less strong in terms of global media, global brands and the attractiveness of that country's ideology and political system; however China is a much more global country than a few decades ago as it has expanded its influence in Africa and with the New Silk Road economic plan.
- The case for a multi-polar world relies on the inclusion of some of the BRICs and / or the EU in the equation: Russia has military power, India economic power and potential. The EU is a very large economic and cultural bloc: to some extent the argument depends on the weightings given to different aspects of status.
- Overall, it might be argued that bipolar (USA and China) fits the current geopolitical situation better than multipolar, at least for the present; some will argue emerging India could be a global player in a few decades.

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 **7(a)**	Using Figure 4, suggest how Ethiopia's low governance scores restrict its development progress. (5) Answer:	Mark
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. • Ethiopia's 30% government effectiveness score suggests poor governance in areas such as public services like water, education or health (1) which waste human resources by restricting potential. (1) • The poor control of corruption at 40% means money is wasted (1) that could have been spent on development / investment (1) • Very low (10%) freedom of speech and democracy scores means people lack a voice (1) and are unable to hold the government to account / force change for the better (1) • Low political stability will deter investors (1) so Ethiopia probably misses out on FDI that could create jobs (1).		**(5)**

Question number **7(b)**	Assess the costs and benefits of large scale, top-down development projects. (15) Answer:
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: • Top-down development projects are large scale, often funded by governments or IGOs e.g. the World Bank; economic costs are usually measured in $ millions. • They often focus on infrastructure such as transport, large scale energy and water supply or commercial development (mining, free trade zones, commercial farming). • They often aim to kick-start the development process, rather than slowly improving development metrics	

- There alternatives, namely bottom-up development which is smaller in scale, cost and level of technology.

AO2:

- Top-down development can be seen as beneficial economically as it often invests in new transport, energy or water supply infrastructure which increases overall economic capacity and can be used by large numbers of people – although these are often urban (with rural people potentially not benefiting).
- Major HEP dams (Ethiopia, Egypt, China) can provide much needed electricity to boost industry, improve water supply from people, farms and businesses and increase connectivity (Ethiopia's railways) and trade; TB development fist the Rostow 'Take Off' model of modernisation theory.
- The large economic costs can lead to debt, as money is often borrowed e.g. from the World Bank or commercial banks; there is a risk of 'white elephant' projects and spiralling costs.
- Critics point to large scale environmental impacts of large dams, forced resettlement of local people and a general lack of environmental and social sustainability.
- Often NGO funded, community led schemes are put forward as being better; they cost less, can be locally managed, have lower environmental impacts and meet people's basic needs – often in rural as well as urban areas – and so directly improve lives and development.
- On the other hand BU schemes often lack reach, so only benefit small numbers of people and don't increase wealth, at least not directly – education and health improvements do increase economic opportunity.
- Overall, it might be argued that a range of development projects are needed to ensure basic needs are met and economic potential is realised i.e. a mix of TD and BU.

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		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)
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