OXFORD AQA
INTERNATIONAL QUALIFICATIONS

INTERNATIONAL AS

GEOGRAPHY

GG02

Paper 2 Human Geography 1

Mark scheme

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Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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International AS Geography mark scheme

How to mark

Aims

When you are marking your allocation of scripts your main aims should be to:

- recognise and identify the achievements of students
- place students in the appropriate mark band and in the appropriate part of that mark band (high, low, middle) for **each** Assessment Objective
- record your judgements with brief notes, annotations and comments that are relevant to the mark scheme and make it clear to other examiners how you have arrived at the numerical mark awarded for each Assessment Objective
- ensure comparability of assessment for all students, regardless of question or examiner.

Approach

It is important to be **open-minded** and **positive** when marking scripts.

The specification recognises the variety of experiences and knowledge that students will have. It encourages them to study geography in a way that is relevant to them. The questions have been designed to give them opportunities to discuss what they have found out about geography. It is important to assess the quality of **what the student offers**.

Do not mark scripts based on the answer **you** would have written. The mark schemes have been composed to assess **quality of response** and not to identify expected items of knowledge.

Assessment Objectives

This component requires students to:

AO1	Demonstrate knowledge and understanding of places, environments, concepts, processes, interactions and change, at a variety of scales.
AO2	Apply knowledge and understanding in different contexts to interpret, analyse and evaluate geographical information and issues.
AO3	Use a variety of relevant quantitative, qualitative and fieldwork skills to: • investigate geographical questions and issues • interpret, analyse and evaluate data and evidence • construct arguments and draw conclusions.

The marking grids

Do not think of levels equalling grade boundaries.

Depending on the part of the examination, the levels will have different mark ranges assigned to them. This will reflect the different weighting of Assessment Objectives in particular tasks and across the examination as a whole.

Using the grids

Having familiarised yourself with the descriptors and indicative content, read through the answer and annotate it (as instructed below) to identify the qualities that are being looked for and that it shows. You can now check the levels and award a mark.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptors for that level. The descriptors for the level indicate the different qualities that might be seen in the student's answer for that level. If it meets all the descriptors for the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptors and the answer. With practice and familiarity you will find that for better answers you will be able to skip through the lower levels of the mark scheme quickly.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best-fit approach for defining the level and then use the variability of the response to help decide the mark within the level.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark.

It is often best to start in the middle of the level's mark range and then check and adjust. If there is a lot of indicative content fully identifiable in the work you need to give the highest mark in the level. If only some is identifiable or it is only partially fulfilled, then give the lower mark.

The exemplar materials used during standardisation will also help. There will be an answer in the standardising materials that will correspond with each level of the mark scheme. This answer will have been awarded a mark by the lead examiner. You can compare the student's answer with the example to determine if it is of the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the lead examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

In addition to the levels descriptors, question specific indicative content is provided as a guide for examiners. This is not intended to be exhaustive and you must credit other valid points.

An answer that contains nothing of relevance to the question must be awarded no marks.

Annotating scripts

You should write a summative comment at the end for each Assessment Objective and indicate the marks for each Assessment Objective being tested at the end of the answer in the margin in sequence. It is vital that the way you arrive at a mark should be recorded on the script. This will help you with making accurate judgements and it will help any subsequent markers to identify how you are thinking. Please do not write negative comments about students' work or their alleged aptitudes.

Section A – Global systems and governance **Total for this section: 20 marks**

Question	Part	Marking guidance	Total marks
01	**1**	**Which of the following is a key feature of global governance?** Key – B: The development of international norms, laws and institutions to help regulate global systems	**1** **AO1=1**
01	**2**	**Which of the following is a negative environmental issue caused by trading between Highly Developed Economies (HDEs) and Less Developed Economies (LDEs)?** Key – C: HDEs requiring resources which leads to habitat loss from increased mining in LDEs	**1** **AO1=1**
01	**3**	**Which of the following are BOTH threats to the world's oceans caused by fishing?** Key – A: A decline in ecosystem biodiversity from overfishing **and** boats causing oil spills	**1** **AO1=1**
01	**4**	**'The sea floor, usually between 4000 and 6000 metres deep, which is always dark.'** **Which of the following ocean zones does this statement define?** Key – A: Abyssopelagic	**1** **AO1=1**
01	**5**	**Which of the following is an example of an international flow of labour?** Key – C: People travelling from India to the United Arab Emirates for jobs in construction	**1** **AO1=1**

Question	Part	Marking guidance	Total marks
02		**Analyse the data shown in FIGURE 1.**	**6** **AO3=6**

Level	Marks	Descriptor
2	**4–6**	**AO3** – Clear selection and analysis of the evidence that has been provided which makes appropriate use of data to support. Clear connections between different aspects of the data.
1	**1–3**	**AO3** – Some basic selection and analysis of the evidence that has been provided which makes limited use of data to support. Basic or limited connections between different aspects of the data.
0	**0**	No creditable content.

Indicative Content

This question requires analysis of a comparison line graph showing the share that services make up of total exports for selected countries from 1985 to 2020. Analysis could include comparison of the data trends, high and low amounts, key differences and anomalies. There should be specific application of the data from the axis.

AO3

- Ethiopia started off as the having the largest percentage in 1985 with 47% and has maintained this high level, increasing to 58% in 2020 with only one year when another country was higher which was Turkey in 1998.
- Although Saudi Arabia was joint lowest in 1985 with Malaysia at 11%, Malaysia has risen to peaks of 18% since then and never dropped below 10%, whilst Saudi Arabia has dropped to lows of 3% and only twice been above 10%.
- In 1985 the percentage range was 36% (from 11 to 47%) but this increased to 53% in 2020 (from 5 to 58%).
- The country that has shown the biggest increase over the whole time period is the United Kingdom, going from 25% in 1985 to 49% in 2020, nearly doubling in this time period.
- The country that has shown the biggest decrease over the whole time period is Turkey, going from 27% in 1985 to 18% in 2020, a decline of a third.
- Most countries increased their service share over the whole time period (4 of the 7 countries).
- A key anomaly is a large drop in Turkey's percentage in 1996 which was 29% compared to 40% the year before.
- Ethiopia has some large and potentially anomalous increases of over 10%, one in 1989 and another in 2020. It also has an anomalous drop of 14% in 1993.
- Ethiopia had the largest range of percentages (30%) over the whole time period, going from 34% at the lowest in 1986, to a high of 64% in 2018.
- Malaysia and Saudi Arabia have been the most consistent over the whole time period, with only a 9% range from their highest to lowest percentages.
- Most countries, similarly to the world average, have a sudden drop from 2019 to 2020, although Singapore, India and the United Kingdom are still increasing based on their ongoing trend.

Question	Part	Marking guidance	Total marks
03		**Assess the impacts of international trade on people across the globe.** **AO1** – Knowledge and understanding of the geographical consequences of global systems to specifically consider how international trade impacts on people across the globe. Knowledge and understanding of the features and trends in the volume and pattern of international trade. **AO2** – Application of knowledge and understanding to explain the impacts on people caused by international trade in different parts of the world. Application of knowledge and understanding to consider a range of impacts and overall assessment.	**9** **AO1=4** **AO2=5**

Level	Marks	Descriptor
3	**7–9**	**AO1** – Demonstrates detailed knowledge and understanding of the impacts on people caused by international trade across the globe. **AO2** – Applies knowledge and understanding to the novel situation, offering detailed analysis and evaluation, drawn appropriately from the context provided. Connections and relationships between different aspects of study are thorough and relevant.
2	**4–6**	**AO1** – Demonstrates clear knowledge and understanding of the impacts on people caused by international trade across the globe. **AO2** – Applies knowledge and understanding to the novel situation, offering clear analysis and evaluation, drawn appropriately from the context provided. Connections and relationships between different aspects of study are evident and relevant.
1	**1–3**	**AO1** – Demonstrates basic knowledge and understanding of the impacts on people caused by international trade across the globe. **AO2** – Applies limited knowledge and understanding to the novel situation, offering some basic analysis and evaluation. Connections and relationships between different aspects of study are basic with limited relevance. Analysis and evaluation are basic and of limited relevance.
0	**0**	No creditable content.

<u>Indicative Content</u>

This question requires links to be made between different parts of the specification content on Global Systems and Governance. Specific focus needs to be on international trade and its impacts on people across the globe. Links may be made to the features and trends in the volume and pattern of international trade within this syllabus section.

AO1

- Knowledge and understanding of the geographical consequences of global systems to specifically consider how international trade impacts on people across the globe.
- Knowledge and understanding of the features and trends in the volume and pattern of international trade.

AO2

- Assessment of the positive impacts on people caused by international trade eg improved economic development and employment opportunities created in Vietnam due to trade liberalisation policies and export-orientated industrialisation. In cities like Ho Chi Minh this has helped to create industrial parks and manufacturing clusters, providing jobs for millions of workers and contributing to poverty reduction. In Australia the increased access to international markets and trade has reduced geographical isolation, broadened consumer choices and improved affordability of goods. This has been based on access to a wide variety of goods and services and competitive pricing from around the world due to improving trade links over time. Morocco's improving access to international markets based on its developing international infrastructure has facilitated interest in its rich cultural heritage, leading to increased tourism and greater appreciation and demand for Moroccan handicrafts, textiles, and culinary specialties. This has boosted the economy and infrastructure within the country, alongside valuing and helping to protect Moroccan culture.
- Assessment of the negative impacts on people caused by international trade eg farmers in India have been restricted by limited access to international markets and trade barriers linked to costs, import restrictions and subsidies based in developed countries. This has led to reduced incomes and investment in farming, with knock-on impacts on food access and nutrition. Access to markets and international trade in Brazil has resulted in income inequality as regions like the south-east, with better access to international markets due to their infrastructure, have developed more while more remote areas have struggled. This has created social and infrastructure inequalities within the country. In the United States competition from lower-cost imports, particularly from countries with lower labour costs, has led to factory closures, job losses and urban decline, leading to social decline and the spiral of crime and increased school dropout rates in cities like Detroit.
- Assessment of the overall impacts, or of the most significant impacts.

Question	Part	Marking guidance	Total marks
04		**'Unequal power relations have a negative influence on geopolitical events.'** **To what extent do you agree with this statement?** **AO1** – Knowledge and understanding of issues associated with interdependence. Knowledge and understanding of unequal power relations and its influence on geopolitical events. **AO2** – Application of knowledge and understanding to assess the influence that unequal power relations have on geopolitical events. Application of knowledge and understanding to assess the extent to which there is agreement with the statement.	**20** **AO1=10** **AO2=10**

Level	Marks	Descriptor
4	**16–20**	**AO2** – Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question. **AO2** – Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout. **AO2** – Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts. **AO1** – Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout. **AO1** – Full and accurate knowledge and understanding of key concepts and processes throughout. **AO1** – Detailed awareness of scale and temporal change which is well integrated where appropriate.
3	**11–15**	**AO2** – Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question. **AO2** – Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding. **AO2** – Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts. **AO1** – Generally clear and relevant knowledge and understanding of place(s) and environments. **AO1** – Generally clear and accurate knowledge and understanding of key concepts and processes.

		AO1 – Generally clear awareness of scale and temporal change which is integrated where appropriate.
2	**6–10**	**AO2** – Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question. **AO2** – Some partially relevant analysis and evaluation in the application of knowledge and understanding. **AO2** – Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts. **AO1** – Some relevant knowledge and understanding of place(s) and environments which is partially relevant. **AO1** – Some knowledge and understanding of key concepts, processes and interactions and change. **AO1** – Some awareness of scale and temporal change which is sometimes integrated where appropriate. There may be a few inaccuracies.
1	**1–5**	**AO2** – Very limited and/or unsupported evaluative conclusion that is loosely based upon knowledge and understanding which is applied to the context of the question. **AO2** – Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence. **AO2** – Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts. **AO1** – Very limited relevant knowledge and understanding of place(s) and environments. **AO1** – Isolated knowledge and understanding of key concepts and processes. **AO1** – Very limited awareness of scale and temporal change which is rarely integrated where appropriate. There may be a number of inaccuracies.
0	**0**	No creditable content.

Indicative Content

The question links different parts of the Global Systems and Governance part of the specification. The main focus is the global systems section, especially the issues associated with interdependence which includes unequal power relations. The question requires candidates to decide on the extent to which there is agreement with the statement or not. Answers should consider the different ways that unequal power relations influence geopolitical events. A clear judgement of the extent to which there is agreement with the statement or not should be made.

AO1

- Knowledge and understanding of issues associated with interdependence.
- Knowledge and understanding of unequal power relations and its influence on geopolitical events.

AO2

- Discussion of examples of unequal power relations that influence geopolitical events in a negative way eg many powerful European nations have exploited resources in African countries and influenced geopolitics there in the past. Neo-colonialism is a growing trend where this is happening again in Africa and South America due to influence of emerging powers. In Eastern Europe Russia's influence over countries due to its energy resource control and economic reach has destabilised political situations in a number of countries, in particular Ukraine. Unequal power relations in the Arctic, especially as ice is melting leading to more accessibility, is creating geopolitical tension over ownership of land and key resources, especially minerals and energy.
- Discussion of examples of unequal power relations that influence geopolitical events in a positive way eg China's Belt and Road initiative and where support in the development of infrastructure in less developed nations is encouraging geopolitical discussions where countries would normally have been sidelined. The European Union has been a key player in peacekeeping and regional stability within Europe, even with countries not in the EU. Peacekeeping activities in the Balkans and Middle East have been key examples of this. Support by powerful nations in global agreements for key issues, such as climate change and the refugee crises have also been key to geopolitical and global stability.
- Clear extent to which there is agreement with the statement.

Section B – Resource security **Total for this section: 20 marks**

Question	Part	Marking guidance	Total marks
05	1	**A new coal power station is built due to a growing population within a region.** **This is an example of which of the following strategies?** Key – C: Increasing energy supply	**1** **AO1=1**
05	2	**What is the definition of 'energy mix'?** Key – A: A range of different sources is used to supply energy for consumption in an area.	**1** **AO1=1**
05	3	**What does desalination aim to do?** Key – B: Create drinking water by removing salt and contaminants from impure sources	**1** **AO1=1**
05	4	**Which of the following describes the process of development at a resource frontier?** Key – B: Drilling sites and pipelines are set up to access and transfer oil.	**1** **AO1=1**
05	5	**Which of the following is an example of a national water conflict?** Key – B: Fighting takes place in three regions within a country as part of a civil war over water access.	**1** **AO1=1**

Question	Part	Marking guidance	Total marks
06		**Analyse the data shown in FIGURE 2.**	**6** **AO3=6**

Level	Marks	Descriptor
2	**4–6**	**AO3** – Clear selection and analysis of the evidence that has been provided which makes appropriate use of data to support. Clear connections between different aspects of the data.
1	**1–3**	**AO3** – Some basic selection and analysis of the evidence that has been provided which makes limited use of data to support. Basic or limited connections between different aspects of the data.
0	**0**	No creditable content.

Indicative Content

This question requires analysis of a compound bar graph showing the breakdown of energy consumption in different global regions in 2019. Analysis could include comparison of the data trends, high and low amounts, key differences and anomalies. There should be specific application of the data from the axis.

AO3

- The Middle East had the largest percentage of oil consumption in 2019, with it making up nearly half of all consumption. There is more than double the consumption of the Commonwealth of Independent States.
- The Commonwealth of Independent States had the largest consumption of natural gas, with it making up over half of all consumption in that region and this is the biggest single consumption source of any region in the whole graph.
- Coal is the energy source with the biggest range in the graph, from over 45% in Asia Pacific to only 1% in the Middle East.
- Nuclear energy has the lowest range,from 10% in Europe to 1% in the Middle East.
- Oil and natural gas make up the majority consumption (over 60%) in all regions apart from Asia Pacific, where it makes up 40%.
- The Middle East has the least diversity, with two sources (oil and natural gas) making up over 95% of consumption.
- North America seems to have the most even spread of different sources for consumption, with no single source making up more than 40% of consumption and all making up at least 5%.
- Renewables are the only source that does not appear in every region, with it not featuring as a consumption source in the Commonwealth of Independent States.

Question	Part	Marking guidance	Total marks
07		**Use your case study of EITHER a water resource OR an energy resource.** **Assess the effects of its management on resource security.** **AO1** – Knowledge and understanding of a case study of either water or energy resource issues at a global or specified regional setting to illustrate and analyse resource security themes, their implications for the location including the relationship between resource security and human welfare and attempts to manage the resource. Knowledge and understanding of water resource issues or of energy security issues. **AO2** – Application of knowledge and understanding to assess the effects of resource management on resource security.	**9** **AO1=4** **AO2=5**

Level	Marks	Descriptor
3	**7–9**	**AO1** – Demonstrates detailed knowledge and understanding of a case study of either water or energy resource issues at a global or specified regional setting to illustrate and analyse security themes, their implications for the setting including the relationship between resource security and human welfare and attempts to manage the resource. **AO2** – Applies knowledge and understanding to the novel situation, offering detailed analysis and evaluation, drawn appropriately from the context provided. Connections and relationships between different aspects of study are thorough and relevant.
2	**4–6**	**AO1** – Demonstrates clear knowledge and understanding of a case study of either water or energy resource issues at a global or specified regional setting to illustrate and analyse security themes, their implications for the setting including the relationship between resource security and human welfare and attempts to manage the resource. **AO2** – Applies knowledge and understanding to the novel situation, offering clear analysis and evaluation, drawn appropriately from the context provided. Connections and relationships between different aspects of study are evident with and relevant.
1	**1–3**	**AO1** – Demonstrates basic knowledge and understanding of a case study of either water or energy resource issues at a global or specified regional setting to illustrate and analyse security themes, their implications for the setting including the relationship between resource security and human welfare and attempts to manage the resource. **AO2** – Applies limited knowledge and understanding to the novel situation, offering some basic analysis and evaluation. Connections and relationships between different aspects of study are basic with limited relevance. Analysis and evaluation are basic and of limited relevance.

0	**0**	No creditable content.

Indicative Content

This question requires links to be made between different parts of the specification content on resource security, specifically the case studies section, with particular reference to water security or energy security. Knowledge and understanding must be applied to assess the effects of management of either a water or energy resource on resource security. A judgement of overall effects should be made.

AO1

- Knowledge and understanding of a case study of either water or energy resource issues at a global or specified regional setting to illustrate and analyse security themes, their implications for the location including the relationship between resource security and human welfare and attempts to manage the resource.
- Knowledge and understanding of either water security issues or energy security issues.

AO2

- Assessment of the effects of management of a water resource on resource security eg the Colorado River basin management has had a huge impact on water allocation and supply. With increasing demands from growing populations, agriculture, and industry, the river basin faces water scarcity concerns. Over-allocation of water rights and the mismatch between water supply and demand have resulted in decreased water security. This has led to conflicts over water allocation among different stakeholders, including states, tribes, and environmental organisations. The area is also experiencing prolonged drought and the impacts of climate change, which further exacerbate water resource security challenges. Reduced snowpack, earlier snowmelt, and higher temperatures have diminished water availability, impacting agricultural productivity, hydroelectric power generation, and ecosystem health. The management of the basin needs to adapt to these changing conditions and consider sustainable water management practices to enhance resource security. Alongside this, large-scale dam construction, water diversions, and channel modifications have disrupted natural flow patterns within the river, resulting in habitat fragmentation and loss of biodiversity. These alterations have had adverse effects on native fish populations, riparian vegetation and wetland ecosystems, affecting the long-term sustainability of the basin's ecological resources and consequently human well-being.
- Assessment of the effects of management of an energy resource on resource security eg the management of Nigeria’s oil and gas industry has led to a heavy reliance on these resources for national revenue generation. The country heavily depends on oil exports, making it susceptible to fluctuations in global oil prices and market demand. This overreliance on a single resource has made Nigeria vulnerable to economic volatility and resource insecurity, as the sustainability of revenue streams is tied to external factors beyond its control. The extraction, production, and transportation of oil and gas in Nigeria has also caused significant environmental degradation and pollution. Oil spills, gas flaring, and improper waste disposal have contaminated water sources, farmlands, and ecosystems, threatening biodiversity and public health. The inadequate management of environmental risks associated with the industry has impacted the sustainability and security of natural resources, as well as the livelihoods of communities reliant on agriculture and fishing. The management of Nigeria’s oil and gas industry has also had implications for energy transition and diversification. As the world shifts towards cleaner and renewable energy sources, Nigeria faces the challenge of reducing its dependency on fossil fuels and diversifying its energy mix. The slow progress in transitioning to sustainable energy alternatives and the lack of investment in renewable

technologies jeopardize long-term energy security and sustainability. Managing this transition effectively is essential to ensure a secure and sustainable energy future for the country.

Question	Part	Marking guidance	Total marks
08		**Critically evaluate aspects of physical geography (climate, geology and drainage) in relation to water supply.** **AO1** – Knowledge and understanding of the influence of physical geography on water supply. Knowledge and understanding of global patterns of water availability and demand. Knowledge and understanding from other areas of the specification relevant to the question. **AO2** – Application of knowledge and understanding to critically evaluate aspects of physical geography in relation to water supply.	**20** **AO1=10** **AO2=10**

Level	Marks	Descriptor
4	**16–20**	**AO2** – Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question. **AO2** – Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout. **AO2** – Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts. **AO1** – Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout. **AO1** – Full and accurate knowledge and understanding of key concepts and processes throughout. **AO1** – Detailed awareness of scale and temporal change which is well integrated where appropriate.
3	**11–15**	**AO2** – Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question. **AO2** – Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding. **AO2** – Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts. **AO1** – Generally clear and relevant knowledge and understanding of place(s) and environments. **AO1** – Generally clear and accurate knowledge and understanding of key concepts and processes. **AO1** – Generally clear awareness of scale and temporal change which is integrated where appropriate.

2	**6–10**	**AO2** – Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question. **AO2** – Some partially relevant analysis and evaluation in the application of knowledge and understanding. **AO2** – Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts. **AO1** – Some relevant knowledge and understanding of place(s) and environments which is partially relevant. **AO1** – Some knowledge and understanding of key concepts, processes and interactions and change. **AO1** – Some awareness of scale and temporal change which is sometimes integrated where appropriate. There may be a few inaccuracies.
1	**1–5**	**AO2** – Very limited and/or unsupported evaluative conclusion that is loosely based upon knowledge and understanding which is applied to the context of the question. **AO2** – Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence. **AO2** – Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts. **AO1** – Very limited relevant knowledge and understanding of place(s) and environments. **AO1** – Isolated knowledge and understanding of key concepts and processes. **AO1** – Very limited awareness of scale and temporal change which is rarely integrated where appropriate. There may be a number of inaccuracies.
0	**0**	No creditable content.

Indicative Content

The question links different parts of the resource security part of the specification, with specific reference to the relationship between water supply (volume and quality) and key aspects of physical geography. Candidates need to use evidence to critically evaluate the significance of aspects of physical geography in relation to water supply.

AO1

- Knowledge and understanding of the relationship between water supply (volume and quality) and key aspects of physical geography.
- Knowledge and understanding of global patterns of water availability and demand.
- Knowledge and understanding from other areas of the specification where relevant to the question.

AO2

- Critical evaluation of climate in relation to water supply eg regions with high precipitation levels and well-distributed rainfall tend to have ample water resources, while arid and semi-arid regions experience water scarcity. Changing seasons, such as monsoon climates, or yearly temperate climate seasons can create resource peaks and troughs that may then need to link to water management. In some areas high temperatures create more evaporation than low temperatures, often leading to more scarcity. Also, wind directions can mean that water is brought to areas from oceans or other large bodies of water which will help to provide more precipitation.
- Critical evaluation of geology in relation to water supply eg the type of rocks and soil present in an area affects the availability and quality of groundwater. Permeable rock formations, such as sandstone or limestone allow water to flow through and accumulate in underground aquifers, providing a reliable source of water. Impermeable rocks, such as clay or shale, hinder the movement of water, reducing groundwater recharge and potentially causing water shortages. This can also be affected by slope and relief.
- Critical evaluation of drainage in relation to water supply eg the size and shape of a drainage basin can affect the amount of water that is received, flows through and can be stored for accessible water supply. Within the drainage basin aspects of relief and vegetation will also affect the speed that water flows and can reach water storage areas or groundwater aquifers. Rock type within the drainage basin will also affect speed of water movement within the system and whether groundwater aquifers can form or not.
- Possible critical evaluation of other aspects of physical geography in relation to water supply eg the slope and topography of the land affect the drainage patterns, influencing the flow of water and its accessibility. Vegetation can intercept rainfall and have an impact on the accessibility of water within an area. Volume of vegetation can also influence evaporation and rainfall (especially in warmer climates) leading to more reliable rainfall and water supply.
- Critical evaluation of these aspects will need to consider how significant they are individually and relatively. A conclusion should be made in relation to the relative importance of different physical aspects or how they combine to influence water supply.

Assessment Objective grid

	AO1	AO2	AO3	Total
Section A				
01.1	1			1
01.2	1			1
01.3	1			1
01.4	1			1
01.5	1			1
02			6	6
03	4	5		9
04	10	10		20
Section B				
05.1	1			1
05.2	1			1
05.3	1			1
05.4	1			1
05.5	1			1
06			6	6
07	4	5		9
08	10	10		20
Unit total	38	30	12	80