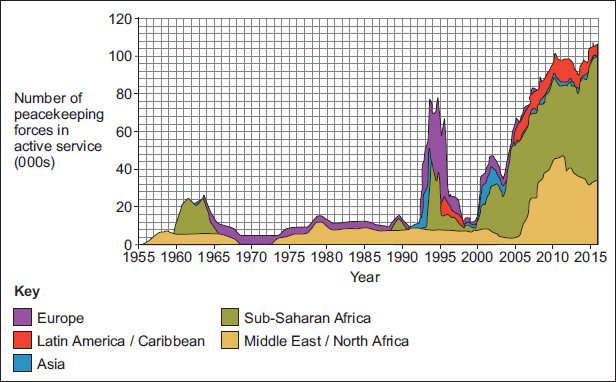
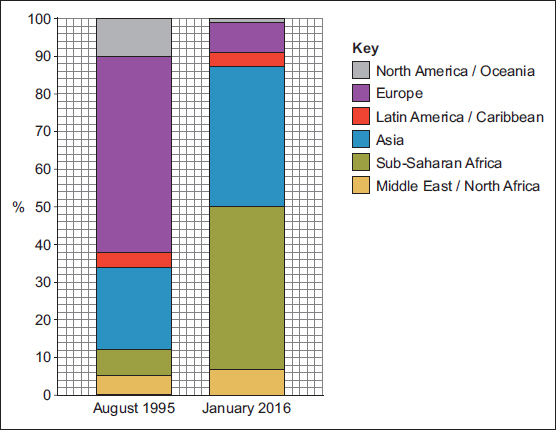
**Q1. Figure 1** shows UN peacekeeping forces involved in active service in different regions between 1955 and 2016.

**Figure 1**

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**Figure 2** shows the origin of UN peacekeeper forces in 1995 and 2016.

**Figure 2**

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Analyse the data shown in **Figure 1** and **Figure 2**.

**[6 marks]**

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**Q2.** Explain the concept of the ‘global commons’.

**[4 marks]**

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**Q3.** To what extent do you agree that global governance is necessary to ensure food security?

**[9 marks]**

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**Q5.**

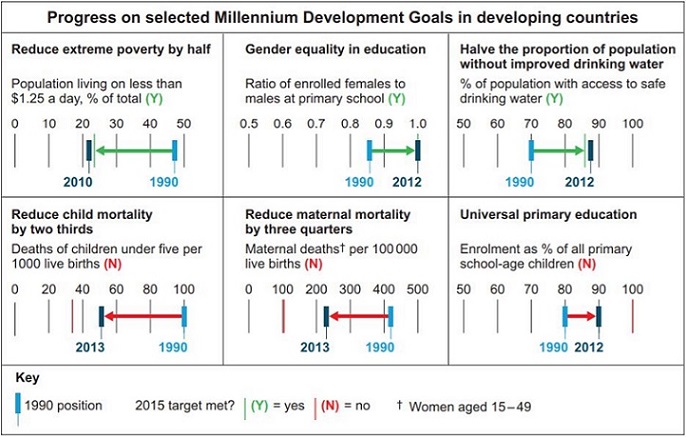
‘Climate change and pressures from economic growth mean that it is becoming more difficult to protect the global commons, such as Antarctica.’

To what extent do you agree with this view?

**[20 marks]**

**Q6.**

The table below shows the progress made on selected UN Millennium Development Goals which aimed to reduce global poverty and inequality by 2015.



Using the table and your own knowledge, to what extent do you agree that the UN is able to promote development?

**[6 marks]**

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**Q7.**

‘In a globalising world the use of the global common of Antarctica can never be sustainable.’

How far do you agree with this view?

**[20 marks]**

**Q8.**

Assess the importance of global governance in securing the long-term health and survival of coral reefs.

**[9 marks]**

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**Q9.**

Outline threats to Antarctica from fishing and whaling.

**[4 marks]**

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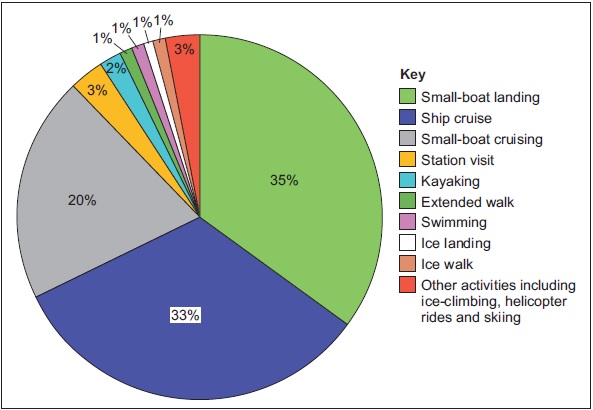
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**Q10.**

**Figure 1** shows percentage breakdown of main tourist activities for visitors to Antarctica in 2016–17. In the 2016–17 season there were 44 202 visitors to Antarctica.

**Figure 1**

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**Figure 2** shows a small-boat landing party of tourists visiting a penguin colony on South Orkney Islands in Antarctica.

**Figure 2**



Using **Figure 1**, **Figure 2** and your own knowledge, to what extent do you agree that tourism is a threat to Antarctica?

**[6 marks]**

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**Q11.**

How far do you agree that global governance is crucial in meeting the challenge of reducing incidence of wildfires?

**[9 marks]**

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**Q12.**

With reference to a tropical rainforest, evaluate the role of governance in environmental management.

**[9 marks]**

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**Q13.**

How far do you agree that global governance has a role to play in the conservation of the savanna grassland biome?

**[9 marks]**

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Mark schemes

**Q1.**

**AO3** – Analysis of the compound line graph and divided bar graph showing data about UN peacekeeping forces.

Mark scheme

**Level 2 (4–6 marks)**

**AO3** – Clear analysis of the quantitative evidence provided which makes appropriate use of data to support. Clear connections between different aspects of the data.

**Level 1 (1–3 marks)**

**AO3** – Basic analysis of the quantitative evidence provided which makes limited use of data to support. Basic or limited connections between different aspects of the data.

Notes for answers

This question requires analysis of the changing regions with forces in active service and origin of UN peacekeeping forces. There should be analysis of the compound line to show changes in the amount and distribution of forces in active service and the divided bar to look at the distribution of the origin of forces. Connections can be made between Figure 1 and 2 and within the data sets, for example by analysing the relationship between regions with forces in active service and origin of the forces.

**AO3**

•   Figure 1 shows that the number of forces in active service has fluctuated considerably between 1955 and 2015. The highest number was in 2016 at 105 000 with the lowest numbers in 1956/57 and between 1968 and 1973 at only 5000.

•   The number of forces in active service has increased rapidly since 2003 with most of the increase seen in the Middle East/North Africa and Sub-Saharan Africa. Between 2005 and 2010 the Middle East/North Africa saw an increase of 40 000 personnel.

•   There was a spike showing an increase in forces around the mid-1990s with most of this increase in Europe and Sub-Saharan Africa. Since 2007 there hasn’t been any UN forces in Europe.

•   Asia has had very little deployment of UN forces with its peak of around 10 000 troops seen in the early 2000s. In 2016 there were no personnel in Asia. The Middle East/North Africa has had a constant presence of UN forces, with the exception of 1968–1973.

•   The divided bar shows that the origins of the peacekeeping forces has changed over time – in 1995 over half came from Europe but in 2016 this had reduced by 46%. Whereas Sub-Saharan Africa supplies over 6 times the number of forces in 2016 compared to 1995.

•   2 shows some relationships to 1, for example in 1995 Europe accounted for about 50% of all forces in active service and this is reflected by the similar percentage of forces coming from Europe.

•   However, the relationship between 1995 and 2016 is not always clear. For example, Asia accounts for over 1/5 of troops in 1995 and over a third in 2016 yet accounts for no deployments in either 1995 or 2016 in 1. Similarly, Middle East/North Africa has a similar percentage in 2 in both years yet in 2016 in 1 it has 9 times the number of troops in active service.

Credit any other valid analysis.

**AO3 = 6**

**[Total 6 marks]**

**Q2.**

Mark scheme

Award one mark each for points of knowledge or understanding.

Allow extra marks for developed points (d).

Notes for answers

Allow credit for specific knowledge of what the ‘global commons’ are and why they need protection. Candidates must outline the concept and explain why we they need protection for full marks.

Max 1 mark for list of examples without elaboration.

•   The global commons refers to the Earth’s shared resources (1), such as the deep oceans and atmosphere (1)(d).

•   The global commons includes those areas that have no national governance but are used jointly by all people (1). The only land-mass considered to be part of the global commons is Antarctica (1).

•   Some people define the commons to be even broader to include resources that are shared by all but not controlled by any single country (1) for example, cyber-space, language and science (1) this is referred to as the ‘common heritage of humanity’ (1)(d).

•   Access to such shared resources has historically been difficult but advances in technology mean that such resources are in danger of being over exploited (1) for example the potential oil reserves in Antarctica (1).

•   The notion of the tragedy of the commons (1) as there is no single jurisdiction there is always the potential for overexploitation (1). If an individual country / group acts independently this will be contrary to the whole group and the shared resource becomes depleted (1)(d).

•   As current resources become depleted there will be an increasing need for the global commons to meet the needs of the world’s population (1).

**AO1 = 4**

**[Total 4 marks]**

**Q3.**

**AO1** – Knowledge and understanding of strategies to ensure food security. Knowledge and understanding of global governance.

**AO2** – Applies knowledge and understanding to analyse and evaluate the extent to which global governance is necessary to ensure food security.

Mark scheme

**Level 3 (7–9 marks)**

**AO1** – Demonstrates detailed knowledge and understanding of concepts, processes, interactions and change. These underpin the response throughout.

**AO2** – Applies knowledge and understanding appropriately with detail. Connections and relationships between different aspects of study are fully developed with complete relevance. Analysis and evaluation is detailed and well supported with appropriate evidence. A well-balanced and coherent argument is presented.

**Level 2 (4–6 marks)**

**AO1** – Demonstrates some appropriate knowledge and understanding of concepts, processes, interactions and change. These are mostly relevant though there may be some minor inaccuracy.

**AO2** – Applies some knowledge and understanding appropriately. Connections and relationships between different aspects of study are emerging/evident with some relevance. Analysis and evaluation evident and supported with some appropriate evidence. A clear but partial argument is presented.

**Level 1 (1–3 marks)**

**AO1** – Demonstrates basic/limited knowledge and understanding of concepts, processes, interactions and change. These offer limited relevance with inaccuracy.

**AO2** – Applies limited knowledge and understanding. Connections and relationships between different aspects of study are basic with limited relevance. Analysis and evaluation basic and supported with limited appropriate evidence. A basic argument is presented.

Notes for answers

This question makes connections across two different units, namely ‘Population and the Environment’ and ‘Global Systems and Global Governance’. Links should be made between strategies to ensure food security and the role played by global governance. Expect to see reference to the work of the UN but this is not necessary to answer the question.

**AO1**

•   Global and regional patterns of food production and consumption

•   Knowledge and understanding of strategies to ensure food security

•   Issues associated with attempts at global governance, including how the UN in the post-1945 era, can work to promote growth and stability but may also exacerbate inequalities and injustices

•   An understanding of how Interactions between the local, regional, national, international and global scales are fundamental to understanding global governance.

**AO2**

•   Evaluation of strategies to ensure food security on a global scale. For example, the green revolution has been successful in producing rice and wheat varieties that are high yielding, increasing agricultural productivity. Rice yields have more than quadrupled since 1960s.

•   Evaluation of strategies used on local or national scales. For example, Niger’s initiative of 3N led to use of improved seed varieties and transfer of surplus milk resulting in decreased food insecurity and a GDP rise of 3% in one year.

•   The role of global governance in increasing food security might consider the role of organisations such as GAFSP and World Bank in increasing agricultural productivity. Between 2010 and 2014 they improved food security in 31 of the poorest nations.

•   Evaluation of the role of global governance in improving post-harvest practices. For example, the World Food Programme invested in research into improving post-harvest practices by training local farmers in Uganda and Burkina Faso.

•   The extent to which NGOs can also be a global force in improving food security, for example, the Hunger Project aims to increase food productivity in 11 countries across the globe. They focus on community-led projects letting farmers take control of their own production.

•   The relative importance of global governance and globalisation might be considered. For example, globalisation may be responsible for the persistence of food insecurity making need for global governance essential. Role of TNCs in creating food insecurity.

•   Different attitudes and values towards food security may be considered. For example, global governance is essential as there is enough food to feed 7 billion people, but it is not distributed fairly so organisations such as the UN need to be involved. Others believe that no amount of global governance will ensure food security as we simply can’t produce enough food.

•   Alternative possible futures such as climate change increasing food insecurity making global governance more necessary. Technological advancements mean that more food can be grown per hectare making global governance less important.

•   Students should come to a conclusion of the importance of global governance in reducing food insecurity. Any conclusion is valid as long as it supports the content of the response.

Credit any other valid approach.

**AO1 = 4, AO2 = 5**

**[Total 9 marks]**

**Q5.**

**AO1** – Knowledge and understanding of the concept of the Global Commons and the need to protect it. Knowledge and understanding of the threats to Antarctica.

**AO2** – Application of knowledge and understanding to analyse and evaluate the governance and protection of the Global Commons including Antarctica, in the light of threats from climate change and economic pressures.

Notes for answers

The question requires students to critically appraise the protection and governance of the global commons in terms of managing threats from climate change and economic pressures such as tourism or mineral exploitation. They have been given a steer of Antarctica but there is no requirement for them to refer to it and they could write their whole answer on other global commons.

**AO1**

•   Knowledge of the concept of the global commons.

•   Understanding of the threats to the global commons and the rights of all to the benefits of the commons.

•   The contemporary geography of Antarctica.

•   Threats to Antarctica due to climate change.

•   Threats to Antarctica due to economic pressures – fishing & whaling, mineral exploration, tourism, scientific research.

•   Governance of Antarctica and other Global Commons – international organisations and NGOs.

•   Strategies for enhancing protection of Antarctica and other global commons.

**AO2**

•   Analysis of the need for international governance of the global commons such as Antarctica in light of future economic pressures from mineral exploration as technology improves and global reserves decline.

•   The link between threats to Antarctica and other global commons and the need for management. The fragility of the ecosystem and need for protection. For example, overfishing of krill, essential to the Southern Ocean ecosystem, by more than one nation, needs international co-operation.

•   Critical appraisal of the challenges of managing the global commons. With the exception of coastal waters, no-one country owns the oceans, yet all countries can use the resources, if one country takes more fish, it alone benefits. Reference to the ‘tragedy of the commons’.

•   Evaluation of the role of international government organisations in protecting Antarctica and the global commons. The Antarctic Treaty 1959 governs protection for a wide scope of activities from tourism to scientific research. The number of signatories has grown to 52 nations. Extra protection has also been added at later dates such as the Madrid Protocol in 1991, which designates Antarctica as a natural reserve devoted to peace and science.

•   The IUCN provides governance for the High Seas. They try to provide protection for areas where there are Areas Beyond National Jurisdiction (ABJN). This is challenging as there are few laws in place, so it is difficult to ensure compliance.

•   Evaluation of the role of international agreements to protect the global commons, for example the Paris Agreement to limit carbon emissions is trying to reduce the impact of climate change on our oceans and Antarctica.

•   Analysis of the role played by NGOs. Greenpeace has raised awareness of environmental issues via positive action campaigns such as ‘krill-gotten gains to fund Antarctic research’. They also have #FireDrillFriday to campaign for Green Deals to protect the atmosphere.

•   Alternative futures in terms of the role of international governance and NGOs would also be relevant. For example, the Madrid Protocol only runs until 2048 and new agreements will be needed to ensure the future protection.

•   The extent to which we are already seeing damage in the global commons may also be considered. They may take the view that despite all the measures in place, there has been limited success in preventing change.

•   Overall conclusion should seek to consider the extent to which the global commons can be protected. It should be supported by the body of the text and evidence provided. Any valid assessment will be credited.

**Level 4 (16–20 marks)**

•   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 (AO2).

•   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 (AO1).

**Level 3 (11–15 marks)**

•   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 (AO2).

•   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 (AO1).

**Level 2 (6–10 marks)**

•   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 (AO2).

•   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 (AO1).

**Level 1 (1–5 marks)**

•   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 (AO2).

•   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 (AO1).

**Level 0 (0 marks)**

•   Nothing worthy of credit.

**AO1 = 10, AO2 = 10**

**[Total 20 marks]**

**Q6.**

**AO1** – Knowledge and understanding of the attempts by the UN to promote development.

**AO2** – Applies knowledge and understanding to the novel situation to analyse and evaluate the extent to which the UN has been successful in promoting development.

Mark scheme

**Level 2 (4–6 marks)**

**AO1** – Demonstrates clear knowledge and understanding of concepts, processes, interactions and change.

**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 clear relevance.

**Level 1 (1–3 marks)**

**AO1** – Demonstrates basic knowledge and understanding of concepts, processes, interactions, change

**AO2** – Applies limited knowledge and understanding to the novel situation offering basic analysis and evaluation drawn from the context provided. Connections and relationships between different aspects of study are basic with limited relevance.

Notes for answers

This question requires knowledge of the UN and its success in global governance. Answers should show awareness of the extent to which the UN has promoted development through achieving the Millennium goals.

**AO1**

•   The UN works to promote development by fostering co-operation between countries and regions. It was set up in 1945 with several goals including maintaining international peace and security, protecting human rights, delivering humanitarian aid, promoting sustainable development and upholding international law and has been involved in a diverse range of areas such as the environment, food supply, justice and eradication of poverty.

•   The Millennium Development Goals are 8 anti-poverty targets set in 2000 by the United Nations Development Programme. Their aim was to reduce poverty across the globe by 2015. They have now been replaced with the Sustainable Development Goals, which have a wider range including disaster risk reduction and reducing the impacts of climate change.

•   The UN technically has no political power as it mainly has an advisory role. It has however made an enormous contribution to securing world peace through the UN Security Council and the use of its peacekeeping forces.

•   The 15 member security council has the most power within the UN and can vote to authorise military actions, for example in Libya in 2011.

•   It has been very successful in promoting human rights and development assistance. The UN capital development fund has given grants and loans to developing countries enabling them to grow economically and improve living standards.

**AO2**

•   To some extent there has been progress on all the MDGs shown in the question source. There has been improvement shown in all graphs.

•   Analysis of the question source shows that the most successful goal has been reducing extreme poverty by half. The percentage in 2010 was actually more than half that of 1990 and the target has been exceeded. 70% of countries are on track.

•   Improved access to drinking water has also been very successful as the target has been succeeded. 87% of people have access to safe drinking water.

•   The extent to which the successes have promoted development is difficult to assess as there are still 22% of people living in extreme poverty and 30% of countries haven’t met their target. This has caused the gap to widen – most of the countries not meeting the MDG targets are sub-Saharan whereas the East Asian and South American countries have mostly met or exceeded theirs.

•   The question source shows that some MDGs have not been met in areas of health and education. In 2013 there was a significant way to go in reducing child mortality and only 44% of countries had met their target. Even fewer countries met their targets for reducing maternal mortality at only 23%. This would suggest that development has not been promoted adequately in most countries in the area of health.

•   They may also consider issues with the data. For example, the targets on poverty were about reducing the proportions of extreme poverty. However, whilst the proportion according to the question source has been reduced by just over 50% the actual number has not really changed due to population increase.

•   There should be an overall conclusion to consider the success or otherwise of the UN in promoting development. Any response is valid as long as it supported by the evidence in the question source.

**Credit any other valid approach.**

**AO1 = 2**

**AO2 = 4**

**[Total 6 marks]**

**Q7.**

**AO1** − Knowledge and understanding of the various human threats to Antarctica and the way these are managed, including the growing levels of economic and political interdependence on a global scale.

**AO2** − Application of knowledge and understanding to analyse and evaluate the extent to which sustainable use of the resources of Antarctica can be achieved in an increasingly globalising world.

Notes for answers

The question requires links to be made between distinct elements of Global systems and global governance, specifically aspects of globalisation, the global commons and governance of Antarctica.

**AO1**

•   The form and nature of globalisation, including environmental, political and economic impacts.

•   Fishing in the Southern Ocean has been exploited for a variety of fish, such as Antarctic rock cod (now so depleted that it cannot be fished), icefish and more recently the Patagonian toothfish.

•   Over-fishing and whaling are major threats to the region. Illegal, unregulated and unreported (IUU) fishing in the Southern Ocean threatens fish stocks and the seabirds and marine mammals that depend upon them.

•   Whaling and sealing - early exploitation was far from sustainable, with species hunted to near extinction and no steps introduced to reduce or stop the exploitation until very late on, almost too late.

•   Fishing limits are put in place (maximum sustainable yield) but these are exceeded and it is believed that actual amounts taken are 5 times the official figures. There is careful monitoring of Krill which is the staple of the marine ecosystem and if overfished has implications for the whole food chain.

•   Tourism in Antarctica has seen significant increase in recent years with approximately 30 000 arrivals per year. Most visitors arrive by boat and are taken ashore in limited numbers. It is an expensive destination, very little litter / waste is left and research suggests that seals and penguins are not affected by tourists. Of the landing sites 95% are not damaged.

•   Marine pollution from tourist and other sources is a threat, for instance the sinking of the M/S Explorer off south Shetland Islands in 2007.

•   IAATO guidelines are designed to manage impacts of tourism. However, membership of IAATO is not compulsory and so Antarctic and Southern Ocean Coalition (ASOC) suggest limiting the total number of tourists, method of arrival, no land-based development, no air travel allowed, for example.

•   Pollution by tourists, fishing industry and scientist communities actually or potentially affects the Antarctic environment. Discarded plastic, fishing nets and hooks, organic waste, and sewage all contribute to environmental degradation. Other possible pollution sources include chemicals in the atmosphere, brought into the area by winds and sea currents, and damage to the upper atmosphere / ozone layer caused by CFCs or their successors.

•   The role of the ‘global commons’ in relation to Antarctica and the role of international government organisations such as the International Whaling Commission and United Nations.

•   The concept of sustainability in relation to Antarctica whereby the use of the area does not lead to irrevocable environmental damage, but leaves it for future generations to experience. So too is the potential for economic sustainability, dependent on the activity and is linked to careful management.

**AO2**

•   Evaluation of the effects of increased globalisation, with combined pressures of economic, technological, environmental, and other trends, and pressures for new initiatives to establish a regime for minerals exploitation and other forms of economic activity.

•   Conversely globalisation may also result in dangers of greater levels of exploitation and environmental damage, including effects of climate change, which impinges on Antarctica.

•   Analysis of the wider threats posed by climate change associated with human activity and affecting long term use and sustainability. Warming of the ice cap is leading to melting ice as well as disturbance to ecosystems. Floating icebergs present a threat to shipping and trade. If the atmosphere continues to warm, krill populations could be devastated, undermining the entire southern polar food chain, thus undermining environmental sustainability.

•   Analysis of the distinction between renewable and non-renewable resources in the Antarctic region, suggesting that renewable resources can be sustainably managed whereas non-renewable cannot.

•   Evaluation of the sustainability of fishing: this may be at more sustainable levels at present largely due to the break-up of the Russian fleet. Fishing is monitored in the Southern Ocean by the Convention on the Conservation of Antarctic Marine Living Resources. Fishing clearly has the potential to be sustainable − but the management of the resource is variable.

•   Evaluation of the potential unsustainability of recent revival of whaling. While commercial whaling is prohibited in the Southern Ocean Whale Sanctuary, Japan has continued to hunt whales inside the Sanctuary for the purposes of scientific research.

•   Evaluation of the sustainability of tourism: the need for caution due to the fragility of the Antarctic environment. The effectiveness of IAATO and ASOC guidelines are likely to feature here. These ASOC measures are more stringent − but may encourage more sustainable use of the area. Impact studies by Scott Polar Research Institute show that tourism is largely positive, with excellent educational provision on board ships that are visiting. Tourism perhaps offers the best hope for sustainability of the more recent developments, although in a globalising world tourist pressures are likely to increase.

•   Evaluation of balance between management and protection − allowing the area to be seen, visited, developed to a degree, but simultaneously protected from damage. The Antarctic Treaty and its role is likely to be investigated and its significance in offering protection from certain types of development, including mineral exploration. Credit the view that in a globalising world, word is spreading (through e.g. Greenpeace - an international organisation) just how fragile and important Antarctica is and therefore conservation is occurring.

•   Analysis of the potential impacts of oceanic acidification (from extra dissolved carbon dioxide) on environmental sustainability, already leading to the loss of some marine snails thought to have a significant part to play in the oceanic carbon cycle. Breeding populations and ranges of some penguin species could potentially be altered irrevocably.

•   Analysis of the effectiveness of international scale protection of Antarctica through frameworks such as the United Nations Environment Programme, and resource management such as the IWC Whaling Moratorium, and the extent to which they help to achieve sustainability. With increasing globalisation the issue of the protection of Antarctica becomes more pressing.

•   Overall evaluation of the question, giving consideration to the various uses of and threats to the Antarctic region in a globalising world, the effectiveness of international agencies, reflecting emerging global governance in resisting the threats and attempts to achieve environmental and / or economic sustainability.

•   Conclusion may recognise that whilst the main focus to date has been on relatively successful protection, conservation and scientific research, current controversies involving illegal, unregulated and unreported fishing, the Law of the Sea, tourism and whaling are likely to provoke serious challenges for the governance and sustainability of Antarctica.

**Level 4 (16−20 marks)**

•   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 (AO2).

•   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 (AO1).

**Level 3 (11−15 marks)**

•   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 (AO2).

•   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 (AO1).

**Level 2 (6−10 marks)**

•   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 (AO2).

•   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 (AO1).

**Level 1 (1−5 marks)**

•   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 (AO2).

•   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 (AO1).

**Level 0 (0 marks)**

•   Nothing worthy of credit.

**AO1 = 10, AO2 = 10**

**[Total 20 marks]**

**Q8.**

**AO1** − Knowledge and understanding of global governance in coordinating responses to environmental concerns. Knowledge and understanding of the factors affecting the health and survival of coral.

**AO2** − Application of knowledge and understanding to analyse the potential role of global governance in securing the long-term future, health and survival of coral reefs.

Mark scheme

**Level 3 (7−9 marks)**

**AO1** − Demonstrates detailed knowledge and understanding of concepts, processes, interactions and change. These underpin the response throughout.

**AO2** − Applies knowledge and understanding appropriately with detail. Connections and relationships between different aspects of study are fully developed with complete relevance. Evaluation is detailed and well supported with appropriate evidence.

**Level 2 (4−6 marks)**

**AO1** − Demonstrates clear knowledge and understanding of concepts, processes, interactions and change. These are mostly relevant though there may be some minor inaccuracy.

**AO2** − Applies clear knowledge and understanding appropriately. Connections and relationships between different aspects of study are evident with some relevance. Evaluation is evident and supported with clear and appropriate evidence.

**Level 1 (1−3 marks)**

**AO1** − Demonstrates basic knowledge and understanding of concepts, processes, interactions and change. This offers limited relevance with inaccuracy.

**AO2** − Applies limited knowledge and understanding. Connections and relationships between different aspects of study are basic with limited relevance. Evaluation is basic and supported with limited appropriate evidence.

Notes for answers

**AO1**

•   The emergence and developing role of norms, laws and institutions in regulating and reproducing global systems.

•   Issues associated with attempts at global governance, including how interactions between the local, regional, national, international and global scales are fundamental to understanding global governance.

•   Analysis and assessment of the geographical consequences of global governance for citizens and places in Antarctica and elsewhere to specifically consider how global governance underlies and impacts on students’ and other people's lives across the globe.

•   The distribution and main characteristics of coral reef ecosystems. Environmental conditions associated with reef development.

•   Factors in the health and survival of reefs: Natural: Water temperature, acidity, salinity, algal blooms.

•   Human activity and its impact: Major drainage basin schemes, onshore development, desalination, pollution, tourism, fishing.

•   Future prospects for coral reefs.

**AO2**

•   The long-term health and survival of coral arguably lies beyond the means of individual countries to address. This question invites a broad consideration of the potential opportunities which exist to forge a, local, national, regional and international approach to the protection of coral.

•   As coral is found in so many parts of the world’s seas and oceans, a unilateral approach to coral’s long-term management is unlikely to bear fruit. Whilst local measures can be taken in order to control the worst impacts of fishing and the impacts of tourism, wider agreement and co-operation around pollution levels and sea temperature are needed to fully address the sustainability question.

•   The main threat facing coral are: bleaching caused by the expulsion of algae following stress from temperature change or change in nutrient levels; pollution of local water systems by industry and services such as tourism; highly damaging activities such as dynamite fishing.

•   Actions to address this clearly lie within the remits of government organisations. National governments have been taking their own measures to protect coral from destruction. In Australia, the government is investing over $200 annually in the protection and restoration of the Great Barrier Reef. It has a Reef 2050 plan which is concerned with the long-term sustainability of the reef. It has also established and funded a reef trust at a cost of $40 million. Its role is to re-establish the ecosystems along the reef.

•   However, these actions alone cannot address the wider issues associated with sea temperature changes and ocean water quality. These are the principle threats facing coral.

•   The United Nations is one such organisation which has the potential to support the conservation of coral. Students are unlikely to go much further than to suggest broad ways in which organisations such as the UN could act to protect coral. Others may apply their learning from the Global Commons in the context of coral conservation. Both approaches are legitimate.

•   Some may offer more detailed knowledge. For example, in 2016 the UN agreed a resolution on sustainable coral reef management. It focused upon coral reef and climate change resilience; coral reef policy instruments; development and implementation of national or regional measures and action plans; and development of indicators and assessment of coral reef status and trends.

Whatever the approach there should be some recognition that addressing the coral ecosystem requires a concerted global effort and not solely action by individual countries.

**AO1 = 4, AO2 = 5**

**[Total 9 marks]**

**Q9.**

Point marked

Allow 1 mark per valid point with extra mark(s) for developed points (d).

For example:

Notes for answers

Allow credit for specific knowledge and understanding of the threats to Antarctica from fishing and whaling. Candidates may also consider the extent to which the threats are mitigated. Candidates can gain maximum marks from covering fishing or whaling, there is no requirement to consider both.

•   Antarctica marine waters are highly productive due to the Antarctic Convergence where the upwelling and mixing creates waters rich in oxygen and nutrients (1). This makes them highly lucrative for fishing businesses and over-fishing has occurred (1) (d).

•   Many species of whales have been over-exploited (1). However, the threat is now less due to the establishment of the IWC which banned commercial whaling globally in 1982 (1). However, some nations such as the Japanese still whale under the guise of scientific research (1) (d).

•   Overfishing of krill removes a major supply of food as it is low down in the food chain (1). It is a popular protein food in SE Asia and commands high prices (1) (d). This demand is making fishing of krill in the Southern Ocean unsustainable (1) (d).

•   Illegal fishing is of grave concern in the Southern Ocean as it is difficult to control and manage for organisations such as ASOC (1). The long-line fishing of the Patagonian Toothfish (1) has caused a massive depletion of stocks but also resulted in the deaths of sea-birds due to loss of a food source (1) (d).

•   Fishing ships are also responsible for ocean pollution, often dumping fishing gear and waste into the ocean (1). The cold water temperatures are slow to break down pollutants (1) (d).

•   Fishing and whaling boats have brought in invasive species on the hull of their ships (1) such as the Mytilus bivalve (1) (d).

The notes for answers are not exhaustive. Credit any valid points.

**AO1 = 4**

**[Total 4 marks]**

**Q10.**

**AO1** – Knowledge and understanding of the threats to Antarctica from tourism.

**AO2** – Applies knowledge and understanding to the novel situation to analyse and evaluate the extent to which tourism is a threat to Antarctica.

**Level 2 (4–6 marks)**

**AO1** – Demonstrates clear knowledge and understanding of concepts, processes, interactions and change.

**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 clear relevance.

**Level 1 (1–3 marks)**

**AO1** – Demonstrates basic knowledge and understanding of concepts, processes, interactions, change.

**AO2** – Applies limited knowledge and understanding to the novel situation offering basic analysis and evaluation drawn from the context provided. Connections and relationships between different aspects of study are basic with limited relevance.

Notes for answers

This question requires knowledge of the threat from tourism in Antarctica. Answers should show awareness of the extent to which the pie-chart and image suggest tourism is a threat. Threats from tourism not derived from the figures can be credited as AO1 only.

**AO1**

•   Tourism numbers in Antarctica have more than doubled in the past 20 years putting increased pressure on its fragile nature.

•   There is a significant danger from cruise ships in terms of oil spills and introduction of invasive species such as Mediterranean mussels.

•   However, global governance through the Antarctic Treaty system and IAATO attempts to limit the threat by preventing large cruise ships with more than 500 tourists from landing.

•   Tourists can only reach a very small proportion of Antarctica and research suggests that only 10 out of 200 landing sites show sign of wear and tear.

**AO2**

•   Analysis of **Figure 1** shows that up to 53% of people may not actually be landing on Antarctica so the threat may be less direct. However, a third are large cruise ships which run the risk of ice-collision and subsequent oil spills. These large cruise ships could also bring in invasive species.

•   However, this is also a sign that companies are signing up to the IAATO agreement that large cruise ships are not allowed to land.

•   **Figure 1** suggests that some visitors do more extreme activities such as ice-walking, swimming and kayaking. These activities will require more infrastructure and so pose a larger threat to the natural landscape and the local wildlife. As people want more adventurous holidays, demand for these activities might increase in the future.

•   **Figure 1** shows that 1% do extended walks which will take people further away from the landing sites. Although a small percentage it is about 4400 people, posing a threat to fragile lichen species for example, and penguin colonies.

•   **Figure 2** shows that tourists have landed on a penguin colony. Evidence shows that penguin breeding and feeding patterns are affected by tourism. The tourists may also pose a threat to lichens that will grow on the rocky shoreline

•   However, in **Figure 2** the tourists are wearing red jackets as imposed by IAATO. This makes them show up on the ice and suggests this is a reputable tourist company. The landing craft is also small. By landing in specified locations, it protects other areas of Antarctica.

•   There may be an overall conclusion to consider the extent to which tourism is a threat. Any reasonable conclusion is valid as long it is related to evidence derived from **Figures 1** and **2**.

Credit any other valid approach.

**AO1 = 2, AO2 = 4**

**[Total 6 marks]**

**Q11.**

**AO1** – Knowledge and understanding of the cause of wildfire. Knowledge and understanding strategies to manage wildfire. Knowledge and understanding of the role of global governance in taking global action.

**AO2** – Application of knowledge and understanding assess potential for global governance structures to reduce incidence of wildfire.

Mark scheme

**Level 3 (7–9 marks)**

**AO1** – Demonstrates detailed knowledge and understanding of concepts, processes, interactions and change. These underpin the response throughout.

**AO2** – Applies knowledge and understanding appropriately with detail. Connections and relationships between different aspects of study are fully developed with complete relevance. Evaluation is detailed and well supported with appropriate evidence.

**Level 2 (4–6 marks)**

**AO1** – Demonstrates clear knowledge and understanding of concepts, processes, interactions and change. These are mostly relevant though there may be some minor inaccuracy.

**AO2** – Applies clear knowledge and understanding appropriately. Connections and relationships between different aspects of study are evident with some relevance. Evaluation is evident and supported with clear and appropriate evidence.

**Level 1 (1–3 marks)**

**AO1** – Demonstrates basic knowledge and understanding of concepts, processes, interactions and change. This offers limited relevance with inaccuracy.

**AO2** – Applies limited knowledge and understanding. Connections and relationships between different aspects of study are basic with limited relevance. Evaluation is basic and supported with limited appropriate evidence.

Notes for answers

**AO1**

•   Nature of wildfires. Conditions favouring intense wildfires: vegetation type, fuel characteristics, climate and recent weather and fire behaviour. Causes of fires: natural and human agency. Short and long-term responses; risk management designed to reduce the impacts of the hazard through preparedness, mitigation, prevention and adaptation. Impact and human responses as evidenced by a recent wildfire event.

•   The emergence and developing role of norms, laws and institutions in regulating and reproducing global systems.

•   Interactions between the local, regional, national, international and global scales.

**AO2**

•   Wildfire is an increasingly severe problem affecting large areas of the planet. Areas not normally associated with wildfire are also becoming affected. The Siberian wildfires of 2019 are a case in point.

•   Some may also point to places which are prone to wildfire, which appear to be experiencing even more extreme events. The Australian wildfires of 2019–20 are likely to feature in this regard.

•   Responses are likely to suggest that climate change is an increasing threat to natural vegetation in such areas and therefore global systems can play their part in reducing the risk and impact of such events. Expect to see responses focus on global agreements to reduce greenhouse gas emissions.

•   Equally though there should be some acknowledgement that reducing the impact of wildfire requires local action and national policy. For instance, in the case of the Siberian wildfire, there was an active policy in 2019 that only areas likely to affect local populations should be tackled by firefighters. This meant that millions of acres of wildfire were effectively left to burn themselves out.

•   In the case of the Australian wildfires, logging practices are considered to have contributed significantly to the widespread nature of the fires. This type of deforestation leaves behind huge amount of dead vegetation which becomes tinder in the dry conditions.

•   Some responses may consider the local actions of planners and managers to predict wildfire and take actions on the ground to reduce incidence.

•   Global governance is therefore crucial in tackling the spread and incidence of wildfire but so too is local action and national policy on fire prevention and mitigation strategies.

Credit any valid assessment.

**AO1 = 4, AO2 = 5**

**[Total 9 marks]**

**Q12.**

**AO1** − Knowledge and understanding of the management issues in tropical rainforests. Knowledge and understanding of the role of governance.

**AO2** − Application of knowledge and understanding to show evaluation of the role of governance and how this is applied to tropical rainforests.

Mark scheme

**Level 3 (7−9 marks)**

**AO1** − Demonstrates detailed knowledge and understanding of concepts, processes, interactions and change. These underpin the response throughout.

**AO2** − Applies knowledge and understanding appropriately with detail. Connections and relationships between different aspects of study are fully developed with complete relevance. Evaluation is detailed and well supported with appropriate evidence. A well balanced and coherent argument is presented.

**Level 2 (4−6 marks)**

**AO1** − Demonstrates clear knowledge and understanding of concepts, processes, interactions and change. These are mostly relevant though there may be some minor inaccuracy.

**AO2** − Applies clear knowledge and understanding appropriately. Connections and relationships between different aspects of study are evident with some relevance. Evaluation is evident and supported with clear and appropriate evidence. A clear but partial argument is presented.

**Level 1 (1−3 marks)**

**AO1** − Demonstrates basic knowledge and understanding of concepts, processes, interactions and change. This offers limited relevance with inaccuracy.

**AO2** − Applies limited knowledge and understanding. Connections and relationships between different aspects of study are basic with limited relevance. Evaluation is basic and supported with limited appropriate evidence. A basic argument is presented.

Notes for answers

**AO1**

•   The principals of governance: The emergence and developing role of norms, laws and institutions in regulating and reproducing global systems.

•   Issues associated with governance, including how agencies, can work to promote growth and stability.

•   Interactions between the local, regional, national, international and global scales are fundamental to understanding governance.

•   The nature of tropical rainforests to include: the main characteristic ecological responses to the climate, soil and soil moisture budget − adaptations by flora and fauna human activity and its impact on each biome.

•   Typical development issues in each biome to include changes in population, economic development, agricultural extension and intensification, implications for biodiversity and sustainability.

**AO2**

•   Evaluation − For the equatorial rainforest there is likely to be a justification for the necessity of governance. This is likely to be focused upon the management of natural vegetation, habitat, soil and localised climate.

•   Evaluation − Should consider the work of agencies / organisations at any scale and specifically the effectiveness of the governance in achieving these defined aims e.g.:

The Tropical Forest Alliance seeks to: Improve planning and management related to tropical forest conservation, agricultural land use and land tenure; share best practices for tropical forest and ecosystem conservation and commodity production, including working with smallholder farmers and other producers on sustainable agricultural intensification, promoting the use of degraded lands and reforestation; provide expertise and knowledge to assist with the development of commodity and processed-commodity markets that promote the conservation of tropical forests; improve monitoring of tropical deforestation and forest degradation to measure progress.

•   Evaluation − The best responses should offer detailed location support of actual evidence of good governance through a variety of schemes and overarching aims.

1.   Creation of reservations free from development.

2.   Eco-tourism and its potential to generate income and conserve landscapes.

3.   Agricultural practices, e.g. The African Palm Oil Project.

4.   Energy projects.

5.   Afforestation projects.

6.   Debt for land schemes.

**AO1 = 4, AO2 = 5**

**[Total 9 marks]**

**Q13.**

**AO1** – Knowledge and understanding of the conservation issues in savanna grassland. Knowledge and understanding on strategies to manage savanna grassland. Knowledge and understanding of the role of global governance in taking global action.

**AO2** – Application of knowledge and understanding to analyse the contributing factors leading to the development of this biome.

Mark scheme

**Level 3 (7–9 marks)**

**AO1** – Demonstrates detailed knowledge and understanding of concepts, processes, interactions and change. These underpin the response throughout.

**AO2** – Applies knowledge and understanding appropriately with detail. Connections and relationships between different aspects of study are fully developed with complete relevance. Evaluation is detailed and well supported with appropriate evidence.

**Level 2 (4–6 marks)**

**AO1** – Demonstrates clear knowledge and understanding of concepts, processes, interactions and change. These are mostly relevant though there may be some minor inaccuracy.

**AO2** – Applies clear knowledge and understanding appropriately. Connections and relationships between different aspects of study are evident with some relevance. Evaluation is evident and supported with clear and appropriate evidence.

**Level 1 (1–3 marks)**

**AO1** – Demonstrates basic knowledge and understanding of concepts, processes, interactions and change. This offers limited relevance with inaccuracy.

**AO2** – Applies limited knowledge and understanding. Connections and relationships between different aspects of study are basic with limited relevance. Evaluation is basic and supported with limited appropriate evidence.

Notes for answers

**AO1**

•   The concept of the biome. The global distribution of major terrestrial biomes.

•   The nature of two contrasting biomes: tropical rainforest and savanna grassland to include:

•   the main characteristics of each biome

•   ecological responses to the climate, soil and soil moisture budget – adaptations by flora and fauna

•   human activity and its impact on each biome

•   typical development issues in each biome to include changes in population, economic development, agricultural extension and intensification, implications for biodiversity and sustainability.

•   The emergence and developing role of norms, laws and institutions in regulating and reproducing global systems.

•   Interactions between the local, regional, national, international and global scales.

**AO2**

•   Responses should be aware of the importance of savanna grassland; it is home to some of the world’s most iconic endangered species of animal – Lions, cheetahs, elephants, rhinos, hippos, wildebeest, giraffe, zebra and antelope. There are substantial pressures to develop the land as a result of growing population demands.

•   Conservation is likely to be focused on sustainable farming practices and tourism. The key is that economic development continues without degrading the land.

•   The pressure to manage the conflicting interests of wild animals and farmers is a huge issue and a growing problem.

•   Strategies are being employed improve the sustainability of farming. Expect to see reference to afforestation schemes, controlled burning to manage wildfire and education around crop rotation to protect soils.

•   In considering the global governance response might reasonably suggest international agreements banning ivory sales are one way to support conservation in the savanna of Africa.

•   Education programmes and aid initiatives can also help to support the local population. Some may even consider measures to reduce birth rates as indirectly supporting the conservation of savanna. Organisations such as the World Wildlife Fund or the African Wildlife Foundation seek to raise funds to support conservation efforts. There is certainly a global dimension to this work.

•   Expect most to suggest that success lies more in local action and national policy, with important lines of communication between countries to agree common approaches to savanna management. For instance, the establishment of national parks such as Kruger has gone some way to support greater conservation.

Credit any other valid approach. Evaluation should be based upon preceding content.

**AO1 = 4, AO2 = 5**

**[Total 9 marks]**

Examiner reports

**Q2.**

Almost all students had some knowledge of the global commons and were able to illustrate it with examples. However very few were able to access maximum marks. Students needed to provide more detail in these short-answer questions. Many gave only a basic definition and examples scoring 2 marks.

**Q3.**

This question proved quite challenging. This was the cross-specification question and required students to link their knowledge of global governance and food security. Answers were frequently very generic, showing a lack of application of knowledge between the two units. They were often able to write about food security but their understanding and application of the concept of global governance was often very limited. Only a few students used specific knowledge of UN agencies studied in the global governance unit in this question. Better answers concentrated on FAO and famine relief or on the Millennium Development Goals. Some students accessed higher marks by evaluating other factors relative to global governance, this was a legitimate approach. For example, considering the success of the green revolution or NGOs in comparison to the work of the UN. Some students considered recent events in Ukraine, which was creditworthy and showed good awareness of current global issues and ‘thinking like a geographer’.

**Q6.**

All students made use of the question source, though some included detailed analysis of the resource, which is not required in these types of questions. Many students failed to use their own knowledge; students should be reminded that when signalled to do so by the phrase ‘using your own knowledge’ they need to go beyond the figure and bring in their own examples (if applicable) or development beyond the figure. More effective answers evaluated the progress of some of the goals, perceiving that all showed success even if only three reached their target. They then proceeded to show their own knowledge through linking the goals to the impact on development or evaluation of other UN strategies, such as peacekeeping to give a more informed view.

**Q8.**

This was a question which tested the application of knowledge and understanding by drawing two distinct areas of the specification together. In this case it was *Global Systems and Governance* and *Ecosystems*. Students were unlikely to be able to develop specific strategies of international co-ordination in addressing threats to coral. However many did consider opportunities to co-operate on climate change as well as reducing pollution and action around minimising the impact of tourism and certain types of fishing. Others chose to counterbalance global action with local action. This was a creditworthy approach.

**Q9.**

This question was answered well by a large majority of students. A high proportion reached 3 or 4 marks. Most students focused on the negative changes to food webs/chains and the threat of extinction. Better responses went on to develop these points and add support through specific examples. Weaker responses tended to focus on vague threats eg ‘whaling impacts food chains’, without any qualification as to what the impact was. This was not creditworthy.