**To what extent is climate change the result of human actions?**

Climate change is a complex issue, but I believe humans are responsible to an extent. There are a variety of natural factors that can affect the climate, such as volcanic activity, solar radiation, and changes in the Earth's orbit. For example, eccentricity means that the plant does not always orbit the sun in the same pattern changing from circular to elliptical shape. This changes the distance sun rays have to travel some years resulting in colder periods. Also, from the photograph, volcanoes contribute in two ways. Firstly, they cool the planet thanks to the emitted sulphur dioxide reflecting the sun. But once burn off, carbon dioxide remains heating the planet long term.

However, it is widely accepted within the scientific community that human actions have had a significant impact on the Earth's climate in recent decades. One of the main ways in which human actions have contributed to climate change is through the emission of greenhouse gases, such as carbon dioxide, methane, and nitrous oxide. These gases trap heat in the Earth's atmosphere, leading to a warming effect known as the greenhouse effect. Human activities that contribute to greenhouse gas emissions include burning fossil fuels, deforestation, and intensive agriculture. This enhancement of the greenhouse effect is much more devastating compared to natural causes and has increased the warming of our planet dramatically over the past 150 years.

In conclusion, while there are natural factors that can affect the Earth's climate, the majority of evidence suggests that human actions have had a significant impact on climate change through the emission of greenhouse gases and other activities that alter the Earth's surface. Therefore, it can be said that climate change is largely the result of human actions, although there may be some natural factors that contribute as well.

‘Managing climate change involves both reducing causes (mitigation) and responding to change(adaptation).’Do you agree? Explain your answer. (9 marks)

I agree that managing climate change requires both mitigation and adaptation strategies. Mitigation is necessary to address the root causes of climate change and reduce the amount of greenhouse gases emitted into the atmosphere. This can be achieved through a variety of measures, such as transitioning to renewable energy sources, improving energy efficiency, and promoting sustainable land use practices. By reducing greenhouse gas emissions, we can slow down the rate of climate change and reduce its long-term impact.

However, even with mitigation efforts, some level of climate change is already inevitable due to the amount of greenhouse gases that have already been emitted into the atmosphere. Therefore, adaptation is necessary to help people and ecosystems cope with the effects of climate change. Adaptation measures can include improving infrastructure to withstand extreme weather events, developing drought-resistant crops, and relocating vulnerable communities away from areas at risk of flooding. This means populations would be safe from the effects of climate change but land will be lost which will negatively impact economies and potentially cultures.

In conclusion, both mitigation and adaptation are necessary to effectively manage climate change. Mitigation helps to address the root causes of climate change, while adaptation helps to minimise the impact of the changes that are already underway. Both strategies are essential for creating a sustainable future, and their implementation requires collaboration and cooperation from governments, businesses, and individuals around the world.