

I)

1) Amount of energy the earth receives from the sun in form of light and ultraviolet radiation and the amount of energy the earth releases back to space in the form of infrared heat energy.

Light and ultraviolet radiation=infrared heat energy

2) All land plants make food from photosynthesis of  $\text{CO}_2$  and  $\text{H}_2\text{O}$  in the presence of sunlight. Through this utilisation of  $\text{CO}_2$  in the atmosphere plants have the ability to regulate the global climate.

3) Causes of climate change involve any process that can alter this global energy (1). Climate forcing forces the climate to change.

4) -Variation in the earth's orbit around the sun

-Changes in the composition of the atmosphere

-Impact of large volcanic eruptions

-Collisions with comets or meteorites

5) The earth's atmosphere protects us from the impact of comets and meteorites by vaporising all or most of the incoming materials before reaching the earth surface.

6) Fluctuation in the earth's orbit, variation in ocean circulation, changes in the composition of the earth's atmosphere.

7) The lava flows releases huge quantities of gases including  $\text{SO}_2$  and  $\text{CO}_2$  causing a longer term global warming.

8) During the last 200 years human pollution of atmosphere with extra greenhouses has enhanced the natural greenhouse effect.

9) Plankton utilise carbon dioxide dissolved in sea water for photosynthesis and the manufacture of their tiny carbonate shell. The oceans replace the utilised carbon dioxide by sucking down the gas from the atmosphere. When the plankton die their carbonate shell sinks to the seafloor effectively locking away the  $\text{CO}_2$  from the atmosphere.

II) a) CAUSE

- As a result, consequently, as a consequence, so, thus, therefore.

- Because, since, as.

b) CONDITION

- Providing that, provided that, as long as, so long as, but only if, only if.

c) HAD BETTER

- expresses advice. You had better work hard to pass your final exam.

Negative form without 'to': You look tired, you had better not go to school.  
Negative form without 'to': You look tired, you had better not go to school.

### III

- 1) **Choose a Topic:** Select a topic that interests you and aligns with your research goals. Consider its significance and relevance in the field of physics.
- 2) **Define Objectives:** Clearly state the purpose and objectives of your study. What are you trying to achieve? What questions are you addressing?
- 3) **Literature Review:** Analyze existing research and relevant sources. Understand the context and identify gaps in knowledge. This step helps you position your work within the broader scientific landscape.
- 4) **Create an Outline:** Organize your paper logically. A typical structure includes:
  - a) **Introduction:** Provide background information, state the problem, and introduce your research question.
  - b) **Methods:** Describe the experimental setup, data collection, and analysis techniques.
  - c) **Results:** Present your findings, including graphs, tables, and numerical data.
  - d) **Discussion:** Interpret results, discuss implications, and compare with existing literature.
  - e) **Conclusion:** Summarize key points and suggest future directions.

### IV) Essay