



CLASS IX
ENGLISH COURSE BOOK
UNIT V - ENVIRONMENT
LESSON C
CLIMATE CHANGE, GLOBAL WARMING, MELTING ICE AND ITS EFFECTS

SOLUTIONS

EXERCISES

A. Complete the following statements:

- Global warming is mainly due to the emission of greenhouse gases.
- As far as crop yield is concerned global warming may result in reduced yield worldwide.
- Due to Global warming the ice cover over the Arctic Ocean is shrinking each summer and the remaining ice is becoming less thick.
- The Arctic region is increasingly becoming a new power house due to climate change and receding ice.
- In China highland glaciers are shrinking each year at the rate equivalent to all the water in the Yellow River.
- Rise in global sea level has been caused by melting ice.
- Coastal cities face inundation due to the rise of sea level.
- A shift to low-carbon and renewable energy resources such as solar and wind power etc. may avoid catastrophic climate change.

B. Answer in a sentence each:

- What is responsible for the shrinking of the Arctic ice cap?**
Ans: Global warming is responsible for the shrinking of the Arctic ice cap.
- On what do poor communities depend for their livelihood?**
Ans: Poor communities depend on stable and hospitable climate.
- How do melting and freezing of snow affect the reindeer?**
Ans: Melting and freezing of snow makes food less accessible to reindeer thereby affecting the economic and cultural integrity of herders and hunters.



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d) Why is a thick snow cover important for the polar bears?

Ans: Thick snow cover is important for the polar bears because they depend on sea ice to hunt seals and use ice corridors for locomotion and pregnant Polar bears build winter dens in areas with thick snow cover.

e) What may happen to Chinese glaciers by 2050?

Ans: By 2050, nearly 64 percent of Chinese glaciers will have disappeared.

f) Why has global sea level arisen?

Ans: Melting ice has caused rise in global sea level.

g) Why had the inhabitants of Vanuata leave their original living place?

Ans: The inhabitants of **Vanuata** had left their original living place due to climate change and global warming.

h) How has ethanol been useful to the Brazilians?

Ans: In Brazil, ethanol has replaced about 40 percent of the country's need for petrol and becomes very useful.

C. Answer briefly:

a) How is global warming connected with Industrial Revolution?

Ans: The world has warmed dramatically since the advent of the industrial revolution. Some of the warmest years in the past 125 years had occurred since 1990.

b) Write how global warming affect the Arctic regions, the sea and glaciers?

Ans: The Arctic is warming twice as fast as the global average and the Arctic Ocean covered by ice is shrinking each summer and the remaining ice is becoming less thick. Moreover, sea absorbs more heat than ice and further melting is created. Nearly one-third of sea- ice in the Arctic region has been lost. As a result, polar bears will become extinct.

The melting of glaciers in the World's great mountain ranges affects the supply of water to the rivers.

c) What are scientists around the world concerned about?

Ans: Scientists around the world are concerned about the possibility of the abrupt climate change, including reductions in ocean currents.



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- d) **Why does the writer say that Africa is especially vulnerable to the negative effects of global warming?**

Ans:. As a result of global warming, crop yield may reduce worldwide which will have a negative effect on Africa, being a poor community, as there will be a significant increase of hunger.

- e) **What economic activities are the people in Arctic region engaged in?**

Ans: The people in Arctic region are engaged in hunting, fishing, reindeer herding, trapping and gathering for survival.

- f) **How is reindeer connected with the economy and culture of Arctic people?**

Ans: Melting and freezing of snow makes food less accessible to reindeer thereby affecting the economic and cultural integrity of herders and hunters.

- g) **Why does the writer say that since 1980, nearly one third of sea-ice in the European Arctic region have been lost?**

Ans: The writer said that since 1980, nearly one third of sea-ice in the European Arctic region have been lost because the area of the Arctic Ocean covered by ice is shrinking each summer and the remaining ice is becoming less thick and sea absorbs more heat than ice and further melting is created.

- h) **How is there a possibility of polar bears becoming extinct?**

Ans: It is estimated that there may be an almost complete loss of summer sea-ice in the Arctic before the end of the 21st century and if this happens, polar bears will become extinct.

- i) **How has Arctic region become an economic powerhouse?**

Ans: The Arctic region has become an economic powerhouse for minerals, oil and gas extraction and shipping due to climate change and receding ice.. Both the Polar Regions have become interested area for tourism and industrialists are keen to exploit their vast and abundant fish stocks.

- j) **How will the melting of Tibetan glaciers affect half the population of the world?**

Ans: The melting of Tibetan glaciers affects the supply of water to most of the major rivers flowing in China, India, Pakistan, Burma and Vietnam. Nearly half the population of the world depends on the Himalayan glaciers for water.



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k) Why do inhabitants in the low-lying areas and coastal cities face inundation?

Ans: Inhabitants in the low-lying areas and coastal cities face inundation as sea level rises due to melting ice and the rate has increased to about 3 millimeters a year.

l) How will global warming affect corals and molluscs?

Ans: Global warming could affect the process of calcification by which corals and molluscs make their shells from calcium carbonate.

m) How can mankind adopt an efficient use of energy?

Ans: Mankind could adopt an efficient use of energy by shifting to low-carbon and renewable resources such as solar and wind power, bio-energy and geothermal energy.

n) How is Iceland replacing use of fossil fuels?

Ans: In Iceland, abundant hydropower and geothermal energy are being channelled to develop hydrogen from water as a major source to replace fossil fuels.



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