

CLASS 12

SUB: ENGLISH

JOURNEY TO THE END OF THE EARTH

STUDY MATERIAL

BACKGROUND STUDY

The Earth today is warming at a rate faster than it ever was in the last one thousand years. In the US, electricity generation accounts for 33% of total global warming emissions. The sea level across the globe has climbed between four and ten inches approximately in the past century. The North Pole Arctic Sea ice has shrunk almost 40% in the recent decades. If the West Antarctic ice sheet were to melt then the sea level could rise by another 16 to 30 feet approximately. Annual natural disaster statistics of the past 30 years show that the number of floods and sandstorms in Asia is increasing rapidly, annual flood frequency has doubled and with 16 of the past 17 years having been hottest on record, Arctic ice is melting faster than ever before, raising sea levels at an increasingly rapid rate.

A one-metre sea level rise would lead to submergence of 576,400 hectares of land in India. Rice yields in India could fall by 15-42%, wheat yields by 3-4%. Gangotri glacier has receded by almost one-third kilometre in just 13 years. Pindari glacier is retreating. The carbon gases are piling up invisibly in the atmosphere and trapping solar heat.

SOME IMPORTANT FACTORS ABOUT ANTARCTICA

90% of the world's ice (thus 70% of the world's fresh water). If all of this ice were melted, sea levels would rise about 60m(200ft).

Antarctica has total area of 13.8 million square kilometres. It is considered a desert because its annual precipitation can be less than 51mm in the interior.

Antarctica has no commercial industries, no towns or cities. No permanent residents. The only settlements with long term residents (who stay for some months or a year maybe two) are scientific bases.

It does not rain or snow a lot there. When it snows, snow does not melt and builds up over many years to make large, thick sheets of ice called ice sheets.

Antarctica is unreachable by fiber-optic cables. American research stations in Antarctica receive internet from few different satellite systems.

January is warmest when average temperature climb up to zero degree Celsius. Average temperature ranges between -10 and -60 degree Celsius.

No trees or shrubs are found here. Only two species of flowering plants are found here.

The biggest difference is that the Arctic is sea surrounded by land while Antarctic is land surrounded by sea.

WHY IS ANTARCTIC SO IMPORTANT

Antarctica has not always had the climate that it has now. In the geological past Antarctica has been much warmer, fossils indicate that at various times trees covered much of the continent. For at least 6million years ice has covered most of the continent.

The ice core record extends from present day back to about 800000years ago. Over this time span the distribution of land and sea across the world has been essentially same as today, and therefore the change recorded in Antarctica ice are more informative about how climate varies under present tectonic configuration and how it may change in the future.

Antarctic ice provides a long record of atmospheric carbon dioxide concentration that is unavailable from Greenland ice.

SHORT QUESTIONS

- 1.How did Antarctica amaze the writer when she first saw it?
2. Why Antarctica important in the study of the history of the Earth?
3. How Antarctica will play an important role in the survival of the world?
4. How is Antarctica different from the Earth?
5. Who started the programme 'Student on Ice'? why?
6. How is Phytoplankton so crucial for our existence?
7. " My Antarctic experience was full of such epiphanies," says Tishani Doshi. Which experience does she consider the best and why?

LONG QUESTION

- 1.** 'Take care of small things and big things will take care of themselves.' Elaborate.
- 2.** Why does Tishani Doshi call her trip to Antarctica a Journey to the end of the Earth? How was she able to join this programme?