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ASSIGNMENT 03

Climate Change and Its Effects

Causes, impacts and what we can do

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SUBJECT

Environmental Studies

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1. Introduction

Climate change refers to long-term shifts in temperatures and weather patterns. While some changes are natural, human activities since the industrial revolution have become the main driver, mainly through burning fossil fuels such as coal, oil and gas.

Burning fossil fuels releases greenhouse gases that trap heat in the atmosphere, raising the average temperature of the planet.

2. Causes of Climate Change

The main causes are linked to how we produce energy, grow food and use land.

- Burning coal, oil and gas for electricity and transport
- Cutting down forests that absorb carbon dioxide
- Agriculture, especially rice paddies and livestock
- Industrial processes such as cement and steel production

Gas	Main source	Share (approx.)
Carbon dioxide	Fossil fuels, deforestation	~75%
Methane	Agriculture, waste	~18%
Nitrous oxide	Fertilisers	~5%
Others	Industry	~2%

3. Effects on India

India is one of the countries most exposed to climate change because of its long coastline, dependence on the monsoon and large farming population.

- More frequent heatwaves in summer
- Erratic monsoon rainfall affecting crops
- Rising sea levels threatening coastal cities
- Melting Himalayan glaciers affecting rivers

Remember

Climate is the long-term pattern of weather; weather is what happens day to day.

4. Solutions

Solutions exist at every level — global agreements, national policies, cities, communities and individuals.

- Switching to solar, wind and other clean energy
- Planting trees and protecting forests
- Using public transport, cycling and walking
- Reducing waste and saving electricity at home

5. Conclusion

Climate change is a serious challenge, but it can be slowed through collective action. Every individual choice, from saving electricity to planting a tree, adds up to a meaningful difference.

6. Bibliography

- NCERT textbook, relevant chapter (latest edition).
- Reference book on the subject, standard edition.
- Class notes provided by the teacher.