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Date 30/09/2024

Environmental Science

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(5-Marks Each question)

Q: Write down short note on the following

1. Kyoto Protocol:

The Kyoto Protocol is an international treaty adopted in 1997 to combat climate change by reducing greenhouse gas emissions. It sets binding targets for developed countries to limit their emissions of carbon dioxide and other harmful gases that contribute to global warming. The Protocol came into effect in 2005 and is considered a significant step in global efforts to address environmental issues. However, it faced challenges, including the withdrawal of major emitters like the United States and limited participation from developing nations.

"Climate Change is a silent crisis that affects us all. The Kyoto Protocol is a crucial step toward a sustainable future."

(Kofi Annan)

(former UN Secretary-General)

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Binding Emission Targets

Monitoring  
and Reporting

Key Features of  
Kyoto Protocol

Clean Development Mechanism  
(CDM)

Adopting and  
Financial support

These features collectively aimed to mitigate climate change by establishing a framework for international cooperation and accountability in reducing greenhouse gas emissions.

## 2. Smog :

Smog is a type of air pollution that results from the combination of smoke and fog, primarily caused by vehicle emissions, industrial activities, and the burning of fossil fuels.

It contains harmful pollutants such as nitrogen oxides, sulfur dioxide and particulate matter. Smog poses serious health risks, including respiratory problems, heart disease and environmental damage. Major cities especially in developing countries, frequently experience severe smog episode which worsen during colder months due to temperature inversions.

"Smog is just like air pollution. It is a matter of what you cannot see that's important"

(Lorraine Moore)

## II. Types of Smog:

### 1. Photochemical Smog:

Photochemical smog also known as "Summer smog" This is the most common form primarily caused by vehicle emissions and sunlight reacting with pollutants to form ozone.

### 2. Sulfurous Smog:

Sulfurous smog also called "London-type smog" or "winter smog." This occurs when sulfur dioxide from coal burning mixes with fog, leading to thick, toxic air.

### 3. Health Impacts of Smog:

Smog can cause serious health issues such as respiratory problems, asthma, bronchitis and other lung-related conditions. Long-term exposure may lead to cardiovascular diseases and reduce life expectancy, especially in vulnerable groups like children and the elderly.

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## 4. Environmental Effects of Smog:

Smog can reduce visibility, damages plant life and contributes to acid rain. It can also affect ecosystem by altering the photosynthesis process in plants and harming wildlife.

## 5. Control and Prevention of Smog:

Efforts to control smog include reducing emissions through clean energy alternatives, enforcing emission standards, promoting public transportation and encouraging the use of eco-friendly vehicles.

These aspects explores the significant impact of smog on health, the environment and air quality.

