World Ozone Day

World Ozone Day or International Day for Preservation of Ozone Layer is observed on September 16 every year. The motto behind its observation is spreading awareness among people about the Ozone Layer depletion and searching possible solutions to preserve it.

International Day for Preservation of Ozone Layer

1. In December, 1994, the United Nations General Assembly- UNGA proclaimed September 16 as World Ozone Day.
2. This was done to commemorate the date, in 1987, the signing of the Montreal Protocol on substances that depletes the Ozone Layer.
    - According to the UN, the Montreal Protocol has led to the phase-out of 99% of ozone-depleting chemicals in refrigerators, air-conditioners and many other products.
    - Ozone layer protection efforts have also contributed to the fight against climate change by averting an estimated 135 billion tonnes of carbon dioxide equivalent emissions, from 1990 to 2010.
    - Part of the ozone layer has recovered at a rate of 1-3% per decade since 2000, and it is expected to return to pre-1980 levels by 2050.

Ozone Depleting Substances -

- Chlorofluorocarbons -CFCs, Hydrochlorofluorocarbons, Carbon tetrachloride, Methyl chloroform, Methyl chloroform, Halons, Methyl bromide.

World Ozone Day 2020

1. The slogan of World Ozone Day 2020 was ‘Ozone for life’. The slogan reminds that ozone is crucial for life on Earth and the world must continue to protect the ozone layer for future generations also.
2. In 2020, World Ozone Day celebrated 35 years of ozone layer protection. It marks 35 years of the Vienna Convention.

Global Conventions to Protect Ozone Layers

1. The Vienna Convention called the Convention for the protection of the Ozone layer, came into force in 1988 and was universally ratified by 2009.
    - It prompted the international community to establish a mechanism for cooperation to take action to protect the ozone layer.
    - The Vienna Convention provided the framework necessary to create regulatory measures in the form of the Montreal Protocol.

2. Montreal Protocol - is an important Multilateral Agreement on Substances that Deplete the Ozone Layer.
    - Its purpose is regulating the production, consumption, and emissions of ozone-depleting substances (ODSs).
    - The parties to the Protocol meet once a year to make decisions aimed at ensuring the successful implementation of the agreement. These include adjusting or amending the Protocol, which has been done six times since its creation.
    - The most recent amendment, the Kigali Amendment, called for the phase-down of hydrofluorocarbons (HFCs) in 2016.
3. Kigali Agreement - is the 8th amendment made to Montreal Protocol. 197 member countries signed the agreement for this amendment.
    - According to the amendment, the signing countries are expected to decrease the manufacture and usage of hydrofluorocarbons (HFCs) by about 80-85% from their baselines until 2045.
    - This will curb global warming (by arresting global average temperature rise to 0.5 degrees Celsius) by the year 2100.

Definitions -

1. **Ozone Hole -** The 'ozone hole' is not really a hole — it refers to a region in the stratosphere where the concentration of ozone becomes extremely low in certain months.
    - Chemicals containing chlorine and bromine atoms are released to the atmosphere through human activities. These chemicals combine with certain weather conditions to cause reactions in the ozone layer, leading to ozone molecules being destroyed.
    - The ozone holes most commonly talked about are the reductions over Antarctica, forming each year in the months of September, October and November, due to a set of special meteorological and chemical conditions that arise at the South Pole.
    - Such holes are also spotted over the North Pole, but due to warmer temperatures than the South Pole, the depletions here are much smaller in size.
2. **Ozone -** Ozone (composed of three atoms of oxygen) occurs both in the Earth's upper atmosphere (stratosphere) and at ground level (troposphere). It can be good or bad, depending on where it is found.
    - Bad ozone is found in the troposphere, the layer nearest the ground. It is formed when sunlight alters various chemicals emitted by humans such as air pollutants, emission by cars, power plants, industrial boilers, refineries, chemical plants, etc.
    - Good ozone forms in the stratosphere, that helps shield us from ultraviolet (UV) radiation in sunlight that can cause sunburn and skin cancer.