Emission Trading: is a market based approach to controll poll by providing economic incentives for reducing the emissions of pollutants
The concept is also known as CAT (cap and trade) or ETS (emission trading scheme)
Carbon Emission Trading for CO_2 and other greenhouse gases has been introduced in China, Europe & other countries as a key tool for climate change mitigation.
Emission Trading is a type of Flexible Environmental Regulation that allows organizations & markets to decide how best to meet policy targets.
Economics of Emission Trading: It is possible for a country to reduce emissions using a command & control approach such as Regulation, direct & indirect taxes.
Pricing the externality, Efficiency & Equity, Carbon Leakage, Competitiveness risks, Coase Model, Equity, Trading, Incentives & Allocation

International Environmental Treaties & Protocol:

Convention: A meeting or formal assembly of representatives for discussion & action on particular matters of common concern.
Need of Global Environ Conventions.
- Protection of environment
- Promotion of Sustainable developement.

Protocol / Agreement / Treaty
- A legally binding official written agreement.
- Establishes rights & obligations b/w each party

List of Conventions
① Ramsar Convention
- It is called the Convention on Wetlands
- It was adopted in the city of Iran, Ramsar in 1971
- It came into force in 1975.

④ Stockolm Convention
- It is a convention on Persistent Organic Pollutants (POPs)
- It was adopted in 2001, in Geneva Switzerland.
- It came into force in 2004.

⑤ CITES
- It is a convention on International trade in Endangered Species.
- It was adopted in 1963
- It came into force in 1975.

⑨ CBD (Convention on Biological Diversity)
- It is a convention for the conservation of biological diversity.
- It was adopted in 1992.
- It came into force in 1993.

⑧ Bonn Convention
- It is a convention on the Conservation of Migratory Species of Wild Animals.
- It was adopted in 1979
- It came into force in 1983.

⑥ Montreal Protocol
- It is an international environment protocol on substances that deplete the ozone layer.
- It was adopted in 1987
- It came into force in 1989

⑦ Vienna Convention
- It is convention for the Protection of Ozone layer
- It was adopted in 1985.
- It came into force in 1988.

Ramsar Convention → Convention on wetlands

Stockholm Convention → Convention on POPs (Persistent Org Pollutts)

CITES → Convention on International trade in Endangered Species of Wild Fauna & Flora.

Convention on Biological Diversity → It is a convention for the ~~to~~ conservation of biological diversity.

Bonn Convention → It is convention on the conservation of Migratory Species of Wild Animals

Vienna Convention → It is a convention for the Protection of Ozone layer

Montreal Convention → It is an International env protocal on substances that deplete the Ozone layer.

Kyoto Protocol → It is an international protocal to reduce greenhouse gases emission

United Nations Framework Convention on Climate Change (UNFCCC) It is an international env treaty to contol of emission of GHGs that cause Global Warming.

Climate Change

refers to long term shifts in temperatures & weather patterns. These shifts may be natural such as through variations in solar cycle. But since 1800 human activities have been main driver of CT due to burning fossil fuels like coal, oil and gas

Causes

1. Generating Power
2. Manufacturing goods
3. Cutting Down Forests
4. Using Transportation
5. Producing food
6. Powering Buildings
7. Natural processes → Volcanoes, Shifts in Earth's Orbit, Changes is Sun

Effects

1. Hotter Temp
2. Increased drought
3. Loss of species
4. More health Risks
5. More Severe Storms

Greenhouse Gas: absorbs infrared radiation from the Sun in the form of heat, which is circulated in the atmosphere & eventually lost to space.
GHGs increase the rate at which atmosphere can absorb radiation from Sun
Any gases that cause the greenhouse effect.
1. Carbon Dioxide
2. Methane
3. Nitrous Oxide
4. Water Vapor
5. CFCs, HFCs

Greenhouse Effect
is how heat is trapped on earth before it can return to space.

Global Warming
Long term heating of Earth's surface due to human activities like fossel fuel burning which increases heat trapping greenhouse gas level in Earth's atmosphere

Objectives of Resource Sharing
1. Increased Availability & Accessibility of Resources.
2. To diminish cost
3. To share experiences
4. To promote interaction
5. To provide wider access to users.
6. To provide high quality information support services
7. To avoid duplication
8. Collection & facilities.

International Resource Panel is a global platform established by United Nation
to build & share knowledge needed to improve our use of resources.
It includes scientists & governments from both developed & developing

The IRP's goal is to away from over consumption, waste & ecological harm

Examples → Australia has many resources such copper, gold, diamonds, energy resources such coal, oil & uranium

Air Act

also known as Prevention & Pollution control Act, 1981 is a law passed by the parliament of India in the 32nd year of Republic of India, was passed to control & prevent the harmful effects caused by air poll.

Salient Features of the Act

① Section-3 Only Central Pollution Control Board & State Pollution Control Board can control & monitor air pollution

② Section-4 In the states where there is Water Pollution control board already established, will be given the joint responsibility of controlling & monitoring air poll

③ Section-5 In the states where ~~there~~ no Water Poll Control Board is established, a new Pollution Control Board will be set up for the responsibility of controlling & monitoring air poll

④ Section-16 It describes functions of Central Pollution Control Board

- Set the standards in India for air quality
- Research about Air Poll
- Spread awareness & info about air & air poll
- Support & advise the State Boards in carrying out their functions.
- Support & advise the Central Government on matters related to air poll

(5) Section-17. It describes the functions of the State Poll Control Board which are

- support & advise state gavernment on matters about air & air poll

Salient & Imp Features of biodiversity Act

Biological diversity or biodiversity refers to the variety of life on earth.
It includes diversity of ecosystems, species and the ecological processes that support them.
India is one of the 12 mega biodiversity countries of the world.

Convention on Biological Diversity (CBD)

Goals

- To promote the conservation of biodiversity
- the sustainable use of its components
- the fair & equitable sharing of benifits arising out of the utilization of genetic resources

Salient Features

- to regulate acces to biological resources of country.
- to conserve & sustainably use biological diversity.
- to respect & protect knowledge of local communities related to biodiversity.
- to secure sharing of benifits
- involvement of institutions of state goverments in broad scheme of implementation of Biological Diversity Act.

~~Regression Testing~~ Adhoc Testing

① Ozone Layer

the ozone layer refers to a region of Earth's stratosphere that absorbs most of the Sun's ultraviolet (UV) radiation.
It contains high concentrations of O_3 relative to other parts of atmosphere.

Causes of Ozone Depletion

Ozone Hole is caused by chemicals called CFCs
CFCs escape into the atmosphere from refrigeration and propellant devices & processes.

One molecule of CFC can destroy more than 100000 molecules of stratospheric ozone

Ozone Hole
is not technically a hole where no ozone is present but a region of depleted ozone in the stratosphere.

The average concn of ozone in the atmosphere is about 300 Dobson Units. Any area where the concn drops below 220 DU is considered part of the ozone hole

Effects of OLD

OL absorbs most of the harmful UV radiation.
The depletion of ozone layer leads to higher levels of ultraviolet radiation reaching earth surface. More of UV R means-
① more melanoma & non melanoma skin cancers
② more eye cataracts
③ weakend immune system

- Damage to ocean eco-systems
- large amount of UV radiation can kill plankton found in oceans which absorbs CO_2 thus increasing the rate of global warming

Alternatives to CFCs

1. use of propane & 2-methyl propane as refrigerant coolants.
2. Fluorocarbons are not toxic or flamable and are stable to uv reactions although they are green house gases.
3. Hydro/Fluoro carbons are more stable than CFCs but they are only a temporary solution
4. Hydro/Fluorocarbons are the best alternative

Montreal Protocol

is an international agreement adopted to control the production & consumption of specific man made chemicals that destroy the ozone layer