



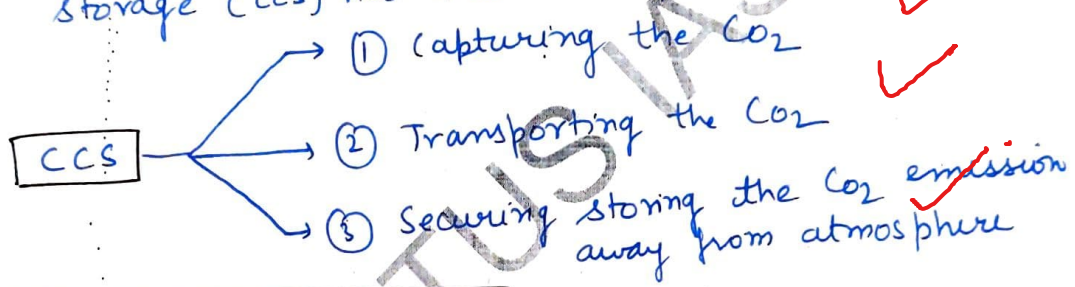
# PLUTUS IAS

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My question asked the need of Artificial CS.

Qn → what is Carbon Sequestration. How it can be done. How it can be done by Artificial Sequestration sink.

Ans → Carbon sequestration is the process of capture and long term storage of atmospheric Carbon dioxide (CO<sub>2</sub>) to mitigate or defer global warming. The Carbon capture and storage (CCS) has three parts



## How it can be done

Carbon Sequestration can be carried out by pumping carbon into Carbon sinks

### 1) Natural Sinks

(i) Forest → forest are natural sequesters of carbon, they take CO<sub>2</sub> from atmosphere and use it for the process of photosynthesis

(ii) Oceans Sinks → The concentration of CO<sub>2</sub>  
The Ocean absorbs CO<sub>2</sub> from the atmosphere

(iii) wetlands Sinks → wetland conserve 14.5% of the soil carbon.

(2) Artificial Sequestration

Iron fertilisers

(i) Mineral carbonation: CO<sub>2</sub> can react with minerals, fluids and organic matter to form stable compound like calcium, iron etc.

Geological Sequestration

(ii) Use of unmineable mines as sink: CO<sub>2</sub> can be stored in earth's subsurface by hydrodynamic trapping & solubility trapping

Oceanic Sequestration

(iii) Hydrodynamic trapping: CO<sub>2</sub> can be trapped as a gas under low-permeability cap rock.

(iv) Solubility trapping: CO<sub>2</sub> can be dissolved in liquid (water or oil)

(v) Use of ageing / depleted oil reserves as carbon sink

how?  
 a little expln reqd.

Carbon sequestration can assist significantly in maintaining the natural carbon cycle.  
 First we need to go for natural sequestration, later on artificial approach.

in empty oil & gas mines or by hydraulic fracturing

You can use data of 412 ppm CO<sub>2</sub> in nature which has already inc. temp of Earth by 1°C. - IPCC.

Good. Mr. 4/10