Section-5

* Tidal power Generation :-

Tidal power or tidal energy is the form of hydropower that converts the energy obtained from tides into useful forms of power, mainly electricity.

* method of Tidal power Generation :-

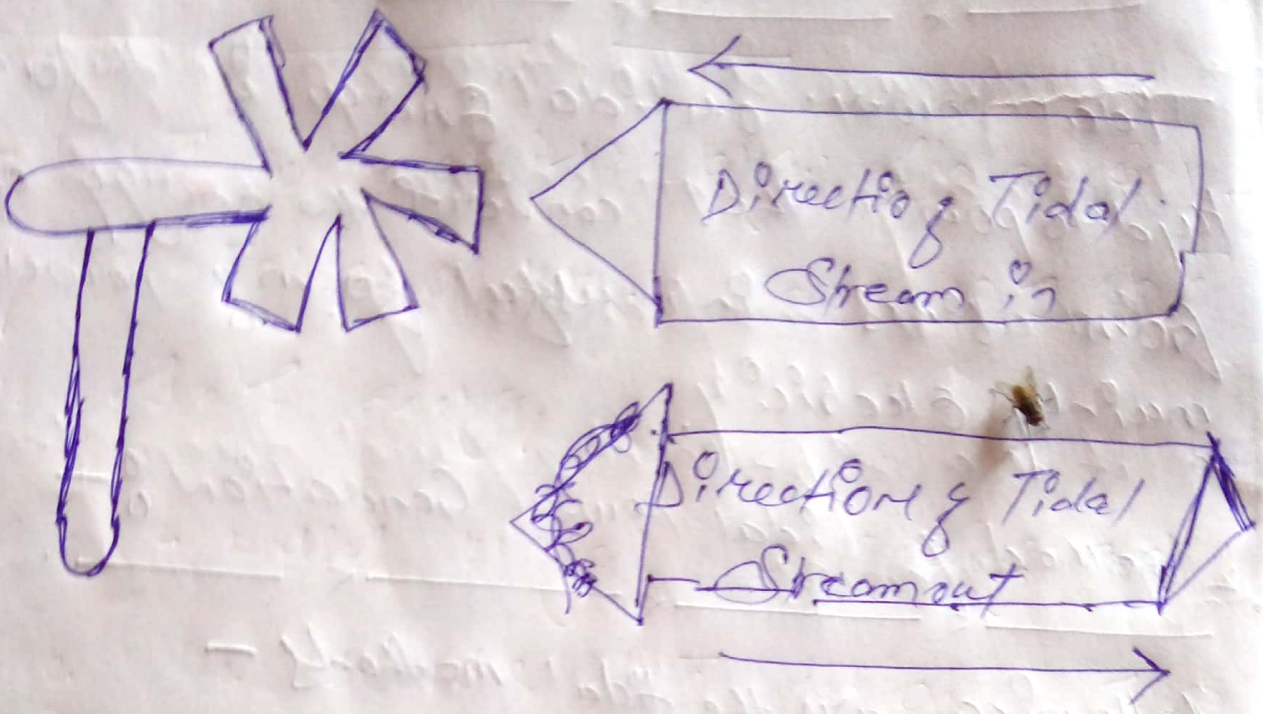
following are the tidal methods -

1) Tidal Steam generators.
2) Tidal Barrage.
3) Dynamic Tidal power.
4) Tidal Lagoon.

(1) Tidal Steam Generators :-

→ Tidal Stream generator method is used to extract energy from running tides of water.

→ That water have huge amount of kinematic energy stored in it and we can use that energy to produce electrical energy by tidal stream method.



② Tidal Barrage :-

→ Look of Tidal barrage is just like a Traditional dam and it work on the same principal as the Traditional dam do but there is one difference between them.

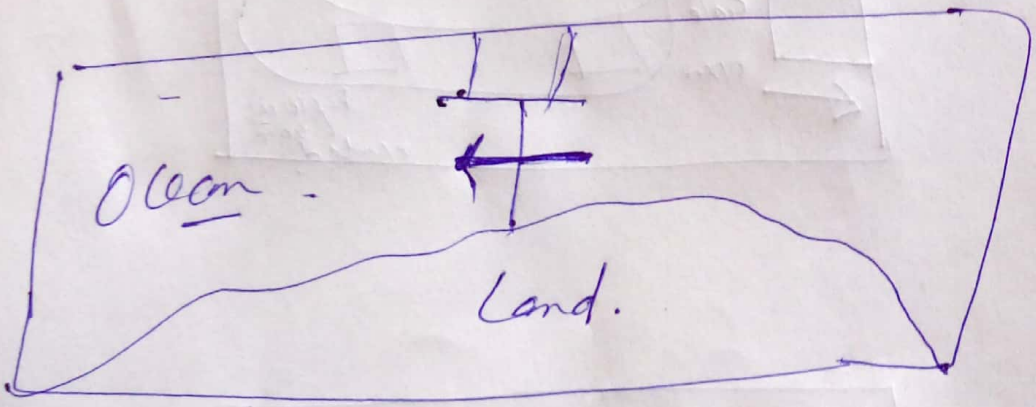
→ Consider a place where water level increase and decrease with the increase and decrease of tides.

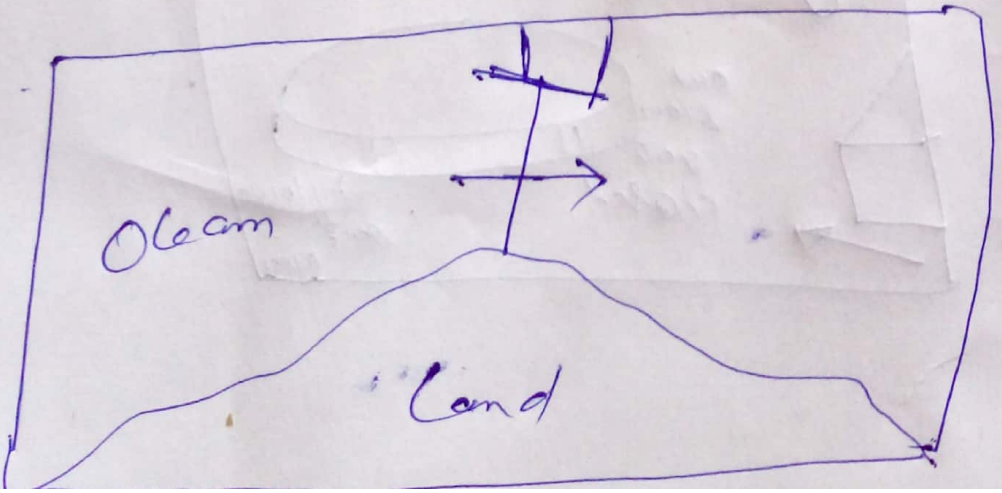
→ It will be stored in one place when it reach its max^m value, gates are open and water starts to flow, over the Turbines blade. So electrical energy is produced.

(3) Dynamic Tidal power :-

→ It is a fact that ocean tides don't operate strictly perpendicular to the shore but also flow in parallel to shore as well as well and dynamic tidal power use this method to generate electricity.

→ This method involving the creating of long dam-like structure perpendicular to the coast, with the option for a coast parallel barrier at each end forming a large 'T' shapes to harvest energy from the tides.

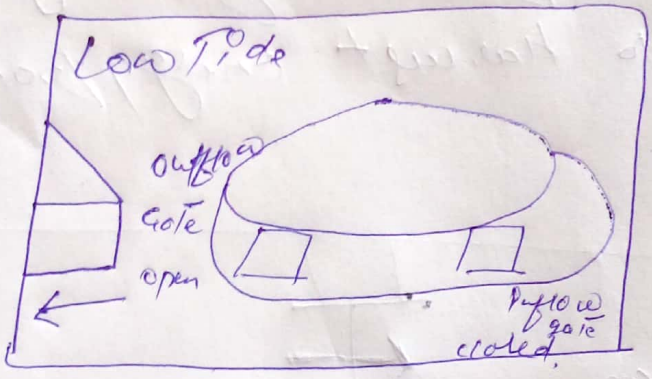


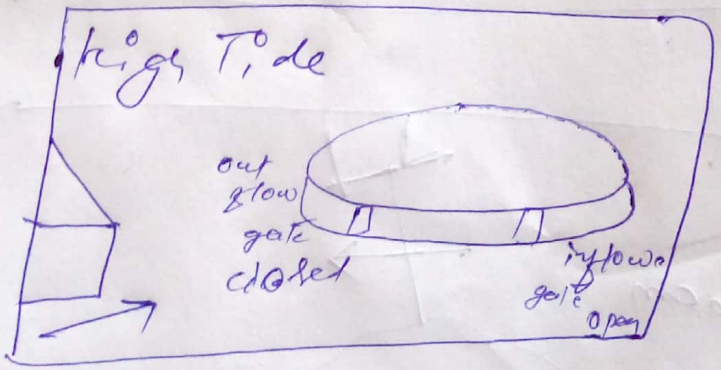


(4) Tidal Lagoon :-

A new tidal energy design options is to construct circular retaining walls embedded with turbines that can capture the potential energy tides.

→ During the high tides water level around the lagoon will increase and they to move in the lagoon and during low tide water moves outside in both direction, it will produce electricity.





Limitations :-

Following are the limitations -

→ Environmentally friendly.

→ Highly predictable energy resources.

→ High Energy Density.

→ Inexhaustible source of Energy.