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## Section-5

Ans The various method of tidal power Generation are:-

- ① Barrage.
- ② Sluice gates.
- ③ Turbine
- ④ Basin.

a) Barrage It is a dam of low head and require the following feature.

- ① Less slopply towards the ocean and basin
- ② It should be able to withstand the shock load of tides and waves.
- ③ Low height and shorter in length to minimize the cost of construction.

b) Sluice Gate :- These gates are opened by water pressure and no mechanical means is required.

c) Turbine:- The Kaplan or bulb type turbine is used to operate with low head and entire turbine generator unit is submerged in the water.

d) Basin :- the basin can be single, pair or multiple type and have different design.

Limitation of each method are :-

① Limitation of Barrage.

- High tidal power plant construction cost
- Negative influence on marine life forms
- Location limited
- Variable intensity of sea waves.

② Limitation of Sluice Gate.

- They can be expensive
- The sealing surface is more prone to damage
- The opening and closing is time consuming since one needs to fully open or close it.
- It needs more space for installation

③ Limitation of turbine

- Cost is much greater than for a similar sized reciprocating engine since the material must be stronger and more heat resistant.
- Usually less efficient than reciprocating engine, especially at idle.
- Delayed response to change in power setting.

## Limitations of Basin

- ① Every basin smaller than you.
- ② Double basins that have two different size basin
- ③ Single basins sinks have an in ground footprint that is typically smaller a double basin but you'll have a lot more room to work with.