

Ans-1 the rise & fall in sea level is called tides. It is caused by giant wave produced by gravitational pull of Sun and moon. Tides are caused by interaction of gravity in Earth-moon system when Sun, Earth & Moon lineup in certain ways, Sun can strengthen then or weaken the moon's effect.

Functions of tidal power :-

- 1) Tidal Power is under water when wave rises into a chamber.
- 2) rising water forces the air out of chamber.
- 3) moving air spins a turbine which can turn generator.
- 4) turbines Spinning is mechanical energy.
- 5) Generator Converts the mechanical energy into electrical which goes to School, houses and business.

Ans-2 Advantages of tidal's are :-

- 1) It is inexhaustible energy resource.
- 2) most efficient energy source
- 3) predictability
- 4) No green house gas emission
- 5) protect from dangerous tides
- 6) produced electricity

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Assignment → 7th
R-E.R

Ans → 3 Working principle of OTEC is -

OTEC utilizes the temperature difference b/w water at bottom of sea and water at top of sea this temp difference can be used to operate heat engine. the absorption of solar radiation in water varies can be expressed by Lambert's law

$$\frac{dy}{dx} = \mu I$$

$$I_y = I_0 e^{-\mu y}$$

I_y = radiation intensity at depth from water and falls with depth.

I_0 = radiation intensity at water surface

μ = Extinction or absorption coefficient

Ans → 4 OTEC is way to generate electricity using temperature difference of sea water at different depth.

Process:

Oceans surface water acts as heat sources & cold water at 1000 meter depth act as heat sinker.

- 1) Power A/C to pump to start process
- 2) fluid pump pressurizes & pushes working fluid to evaporator.

- 3) Heat addition from hot water is used to evaporate the working fluid within heat exchanger.
- 4) Expanding vapor drives turbines & electricity is created by generator.
- 5) Heat extraction from cold water through the working fluid in its condenser.

