Physics - ICS Part 1 Physics Chapter 4 Short Questions Test

Q1. What is geothermal energy? How is it generated ?

Ans 1: The heat energy extracted from inside the Earth in the form of steam or hot water is called geothermal energy.
It can be generated by the following processes

- Radioactive Decay
- Residual Heat of Earth
- Compression of Material

Q2. How sunlight is directly converted into electricity by solar cells?

Ans 1: By using semiconductor devices,the solar cell also called photo voltaic cell, sunlight can be directly converted into electricity. These solar cells are made of silicon wafers. Electron in the silicon gain energy from sunlight to create a voltage. Voltage can be increased by increasing the number of solar cells.

Q3. How can we gain energy from tides?

Ans 1: The tides raise the water in the sea roughly twice a day.If the water at the high tides is trapped in a basin by constructing a dam, then it is possible to use this as a source of energy. There dam is filled at high tide and water is released in a controlled way at low tide to drive the turbines and generate electricity.

Q4. When a rocket re enters the atmosphere, its nose con becomes very hot.Where does this heat energy come from?

Ans 1: The atmosphere of earth contains a large number of dust particles,gases and water vapours.So when a rocket enters into the atmosphere and passes through these particles, due to the force of friction, the kinetic energy of the rocket is lost in the form of heat. That's why its nose cone becomes very hot.

Q5. Differentiate between conservative and non- conservative force.

Ans 1: Conservative Force: The force by which work done along a closed path is zero is called conservative force. For Example, gravitational force, electric force and magnetic force.

Non-Conservative Force: The force by which work done along a closed path is not zero is called non-conservative force. For example,frictional force, air resistance and normal force.

Q6. What do you mean by variable force?Give its two examples?

Ans 1: The force which is not constant but varies in magnitude and direction or in both is called a variable force.

1. Force a gravity acting on a rocket moving away from earth.
2. Force exerted by the spring increases by the amount of stretch.

Q7. Define conservative field.Give its example.

Ans 1: Conservative Field: The field in which work done along a closed path is zero is called conservative field.For example, Earth's Gravitational field

Q8. What is 'Aquifer'?`

Ans 1: Aquifer is a layer of rock holding water that allows water to percolate through it with pressure.

Q9. Differentiate between geyser and aquifer.

Ans 1: Geyser isa hot spring that discharges steam and hot water, intermittently releasing an explosive column into the air

Aquifer is a layer of rock holding water that allows water to percolate through it with pressure.

Q10. Name at least two renewable and two non-renewable energy sources.

Ans 1: The renewable source of energy are:

1. Wind
2. Tides
3. Biomass
4. Sunlight

The non-renewable sources of energy are

1. Coal
2. Natural gas
3. Oil
4. Uranium