Physics - ICS Part 1 Physics Chapter 4 Short Questions Test

Q1. Name some non- conventional energy sources.

Ans 1: Some of the non-conventional energy sources are:

- Energy from tides
- Energy from waves
- Energy from biomass
- Energy from waste products
- Solar Energy
- Geothermal Energy

Q2. What is solar constant ? What is its value?

Ans 1: Solar energy at incidence outside the Earth's atmosphere is about 1.4kw m^{-2} which is referred as solar constant.

Q3. Define work and its SI unit.

Ans 1:

Q4. A girl drops a cup from a certain height which breaks into pieces.What energy changes are involved?

Ans 1: When the cup was in the hands of girl, it had gravitational P.E when the cup is dropped, its P.E. Is converted into the K,E On striking the ground , this energy is converted into sound energy, heat, work done in breaking the cup into pieces and kinetic energy of pieces.

Q5. 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.

Q6. What are renewable & non-renewable energy sources? Give example of each .

Ans 1: Renewable energy is derived from natural processes that are replenished constantly . Such as wind tides etc. Non-renewable energy source is a source that does not renew itself. Such as coal, natural gas etc.

Q7. Define kilowatt hour (kWh).

Ans 1: Kilowatt hour is the work done in one hour by an agency whose power is one kilowatt.

1 kWh = $3.6x10^6$

Q8. What is a machine ? Discuss the input and output and efficiency of a mechanical machine ?

Ans 1: **Machine:**A machine is a thing or device with the help of which we can do more work than we can do by hands.
Input of Mechanical machine: The amount of work dine on a machine by a given effort force is known as input of machine.
Input = effort *effort arm
Input = P*d
Output of Mechanical Machine: The amount of work done by a machine on the load (weight) is known as output of the machine
output = load * load arm
output = w*d
Efficiency: The ratio of output and input of a machine is known as efficiency
Efficiency: Output / input
n = w*d/ p*d

Q9. 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.

Q10. Describes four uses of solar cells.

Ans 1: Solar cells are used.

1. To power satellites
2. In remote ground based weather stations
3. In rain forest communication systems
4. In solar calculators