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**SUBJECT:- PHYSICS**

**CLASS:- IXTH**

**DATE:-20/01/XXI**

**SUBJECT TEACHER:- MR. NEEL NIRANJAN**

**CHAPTER 4. (WORK, ENERGY AND POWER REVISION)(BASED ON NCERT PATTERN)**

**Question 1. Find the energy in kWh consumed in 10 hours by four devices of power 500 W each.**

**Ans:-** power of each device,  $P = 500 \text{ W} = 0.50 \text{ kW}$

Time for which each device runs,  $t = 10 \text{ h}$

Work done = Energy consumed by each device (E)

We know, power = Energy consumed / Time

Energy consumed by each device = Power  $\times$  Time

$$E = P \times t$$

$$= 0.50 \times 10 = 5 \text{ kWh}$$

Hence, the energy consumed by four devices of power 500 W each in 10 h will be

$$4 \times 5 \text{ kWh} = 20 \text{ kWh} = 20 \text{ units}$$

**Question 2. A freely falling object eventually stops on reaching the ground. What happens to its kinetic energy?**

**Ans:-** As the object hits the hard ground, its kinetic energy gets converted into

(i) heat energy (the object and the ground become slightly warm)

(ii) sound energy (sound is heard when the object hits the ground)

(iii) potential energy of configuration of the body and the ground (the object and the ground get deformed a little bit at the point of collision).

**Question 3. Soni says that the acceleration in an object could be zero even when several forces are acting on it. Do you agree with her? Why?**

**Ans:-** acceleration in an object could be zero even when several forces are acting on it.

This happens when all the forces cancel out each other i.e., the net force acting on the object is zero.