SUBJECT:- PHYSICS   CLASS:- IXTH   DATE:02/09/XX

SUBJECT TEACHER:- MR. NEEL NIRANJAN

CHAPTER 4. (WORK, ENERGY & POWER)(BASED ON NCERT PATTERN)

Q1. Does the transfer of energy take place when you push, a huge rock with all your might and fail to move it? Where is the energy you spend ,going?

Ans. When rock is pushed with all might . the energy does not allow the rock to move. No work is said to be done. The energy gets transformed in the form of heat energy.

Q2. A certain household has consumed 250 units of energy during a month How much energy is this in joules?

Ans. Commercial unit of energy 250 units

 1 unit = 1 kWh

 ∴250 units - 250 kWh

 1kWh = 3.6×10^6J

 250 units 250 × 3.6×10^6J

 Energy in Joules = 9×10^8 J

Q3. An object of mass 40 kg is raised to a height of 5 m above the ground. What is its potential energy. If the object is allowed to fall, find its kinetic energy when it is half-way down.

Ans. Mass = 40 kg,   h = 5m,   P.E. _ ?   [g = 10 m/ s²]

 P.E. = mgh

 = 40 × 10 × 5

 P.E. = 2000J

 When the object falls the potential energy gets transformed into kinetic energy. When the object is half way down

P.E. = will become half i.e., $\dfrac{2000}{2}$ = 1000 J and P.E. = K.E.

∴ Kinetic Energy = 1000 J