

Home Assignment

1) How is work related to energy?

A) Work is related to energy because energy is the thing which gives strength to do work.

2) What is potential energy? state its units

A) The energy possessed by a body due to its state of rest or position is called potential energy. Its potential energy is U .

3) Give one example of a body that has potential energy in each of the following :-

- a) due to its position at a height.
- b) due to its elongated stretched state.

A) a) water

B) Stretched rubber band.

4) State two factors on which the potential energy of a body at a certain height above the ground depends.

A-) Two factors on which potential energy depends is . Mass

• Height above the ground.

5) A body of mass m is moved from ground to a height h . its force of gravity on mass of 1 kg is g newton. find.

(a) the force needed to lift the body.

(b) the work done in lifting the body and.

(c) the potential energy stored in the body.

A-) When a body mass at A on ground. is raised above ground through height h at B force is applied

Force applied = weight of Body.

Force of mass $m = F = mg$

g is the acceleration due to gravity on a mass of 1 kg.

b) Work done = Force \times displacement.

$$W = mgh.$$

c) The work done is stored in a body in the form of potential energy.

$$P.E. = mgh$$

6) Name the type of energy (kinetic or potential) possessed by the following

a) A moving cricket ball.

A) Kinetic energy

b) A stone at rest on the top

of a building.

A → Potential energy

c → A compressed spring.

A → Potential energy

d → A moving bus

A → Kinetic energy

e → A bullet fired from a gun.

A → Kinetic energy.

b → water flowing in a river.

A → Kinetic energy

f → A stretched rubber band.

A → Potential energy