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CLASS -9

SUBJECT -PHYSICS
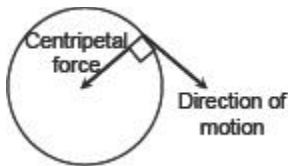
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CHAPTER – WORK AND ENERGY

LEARNING MATERIAL:

 1 Joule = 1 Newton × 1 metre.

 The unit of work is joule.

- Work done by a force acting obliquely is equal to W = F cos θ × s

- Work done on a body moving in circular path is zero.

Energy

- The energy of a body is its capacity of doing work. The S. I. unit of energy is Joule (1 KJ = 1000 J).

- Form of energy : (P.E & K.E.), heat energy, light energy, sound energy etc.

- Kinetic energy is the energy possessed by a moving body by virtue of its motion.

- Kinetic energy $= \frac{1}{2}mv^2$.

- Potential energy is the energy possessed by the body due to its position or shape.

- Potential energy = mgh

- Law of conservation of energy states that whenever energy gets transformed from one form to another, the total energy remains unchanged. i.e., energy can neither be created nor destroyed.

Power

- Power is defined as the rate of doing work. S.I. unit of power is Watt. (W).

- Commercial unit of energy is kWh (kilowatt –hour).