Non conservative or dissipative force

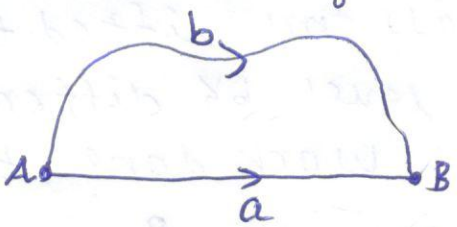
→ Work done by dissipative force is path dependent
It doesn't depends on the final and intial values of PE.

→ Frictional force is e.g of non-conservative force.

→ When frictional force is acts on a body, ME is violated and KE is decreased.

* The force does work when the particle moves in a closed path.

* For the same object surface system the work done against friction along path 'b' greater than the work done along path 'a'.



$W_b > W_a$

* If the object returns to the intial position, the total work done against friction will be;



$W_{OA} = W_{AO}$

$W_T = W_{OA} + W_{AO} = 2W_{OA}$

* The work done by a net force is the sum of the work done by conservative force and the work done by non-conservative force.

$W_{net} = W_c + W_{nc} \Rightarrow W_{net} = \Delta KE$

$\Delta KE = -\Delta GPE + W_{nc} \Rightarrow \boxed{\Delta KE + \Delta GPE = W_{nc}}$

Power :- The rate at which the body can do the work.

$P = \frac{\Delta W}{\Delta t}$ or $P = \vec{F} \cdot \vec{V} = F_x V_x + F_y V_y + F_z V_z$