

3. If the body moves in cyclic path

$$W = W_{ACB} + W_{BDA} = 0$$

Or $W_{ACB} = -W_{BDA}$

i.e. the amount, of work done by the force in the forward path is received back when the body moves in the reverse path i.e. work done under the conservative force is completely recoverable.

Non - Conservative force:

The force under which work done depends upon the path actually followed by the body from initial to final position is known as non-conservative force. For eg. Frictional force, viscous force etc.

The non-conservative force always causes loss in energy of the body or the system. Due to this these forces are also called **dissipative force**.

Example : A particle is taken from point P to point Q via the path PAQ and then placed back to point P via the path QBP. Find the work done by gravity on the body over this closed path. **Ans:** 0

Solution: Since the force of gravity is a conservative force, the work done by gravity on the body over closed path is zero.