

(b) Ques If the resultant of all the external forces acting on a system is zero, then from an inertial frame of reference, one can surely say that

- (A) linear momentum of the system does not change in time.
- (B) Kinetic Energy of the system does not change in time.
- (C) Angular Momentum of the system does not change in time.
- (D) potential energy of the system does not change in time.

Ans
(A)

Concept Used

- ① Relation between momentum (change) & external force, Newton's 2nd Law

Formulae Used

① $\vec{F} = \frac{d\vec{p}}{dt}$ — ①

Proof — ①

Linear momentum remains constant if net external force on the system is 0.