

Quiz 1 for PHYS 6220/7220, 21st September 2026

First

Last

Student Name:

1. Write an expression for Newton's second law in terms of time t , momentum $\mathbf{p}$ and force $\mathbf{F}$ on a particle.
2. Write an expression for the total energy of a system of N particles in terms of their individual kinetic and other energies if any. Assume all forces are conservative.
3. Write the defining equation for a conservative force field.
4. Write the most general equation defining a holonomic constraint.
5. There is no net external force on a system of particles. What can be said about the total momentum of the system of particles?