1. Scalar quantities possess only magnitude, while vector quantities have both magnitude and direction. E.g. Distance is a scalar quantity as it possesses only magnitude while displacement is a vector quantity as it possesses both magnitude and direction.
2.
3. Gravitational force is the force of attraction between two masses, while electrostatic force is the force between charged particles.
4. Work is done when a force causes displacement. It's directly related to energy, as work done increases or decreases an object's energy.
5. Refraction is the bending of light as it passes from one medium to another. Examples include the bending of a pencil in water or the apparent bending of a stick in water.
6. Series circuits have components arranged sequentially, while parallel circuits have components arranged in separate branches.
7. Sound waves are mechanical waves that propagate through a medium by compressing and rarefying it. They need a medium for propagation.
8. A concave lens diverges light rays. It is used in devices like cameras and glasses for correcting myopia (nearsightedness).
9. Force can change an object's speed, direction, or both. For example, a ball thrown upward slows down due to gravitational force until it reaches its peak and starts descending.
10. The laws of reflection state that the angle of incidence is equal to the angle of reflection, and the incident ray, reflected ray, and normal at the point of incidence all lie in the same plane.