CLASS- IX **SUBJECT- PHYSICS** **FULL MARKS- 20** **TIME- 45 MIN**

Q1. Define linear momentum? **[1]**

Q2. State Newton's second law of motion **[1]**

Q3. State one factor on which the magnitude of a non-contact force depends. How does it depend on the factor stated by you **[2]**

Q4. Dust particles are removed from a carpet by beating it. Explain why? **[2]**

Q5. State and explain the law of action and reaction, by giving two examples. **[3]**

Q6. A car of mass 480 kg moving at a speed of 54 km h^{-1} is stopped by applying brakes in 10s.Calculate the force applied by the brakes. **[3]**

Q7. A bullet of mass 50 g moving with an initial velocity of 100 ms^{-1} , strikes a wooden block and comes to rest after penetrating a distance 2cm in it. Calculate: (I) initial momentum of the bullet, (II) final momentum of the bullet,(III) retardation caused by the wooden block, (IV)resistive force exerted by the wooden block. **[4]**

Q8. Explain the following: **[2+2]**

(a). A cricketer pulls his hand back while catching a fast moving cricket ball.

(b). When a shot is fired from a gun, the gun gets recoiled.