# XI Physics Worksheet

**Time: 30 min** **Chapter#6 : Work Energy and Power-01** **Full Marks: 20**

**Instructions:**

**1. All questions are compulsory.**

**2. Please give the explanation for the answer where applicable.**

Q1 - A light body and a heavy body have same momentum, which will have greater kinetic energy ?

(2 Marks)

Q2 - A ball is dropped from height h1 and it rebounces to a height h2. Find the Values of Coefficient of restitution.

(2 Marks)

Q3 -What is the minimum energy released in the annhilation of an electron positron pair ?

(2 Marks)

Q4 -A truck and a car are moving with the same kinetic energy on a straight road. Their engines are simultaneously switched off.Which one will stop at a lesser distance ?

(3 Marks)

Q5 - A ball of mass m1 moving with velocity v collides head on with stationary ball of mass m2. The velocity of the ball becomes v/4 after the collision.Assuming the collision to be elastic, find the ratio m2/m1.

(3 Marks)

Q6 - Derive an expression for the final velocities of two bodies of masses $m_1$ and $m_2$ that undergoes a head on elastic collision.

(5 Marks)

Q7 - What happens to the potential energy of a spring when it is compressed or stretched?

(1 Mark)

Q8 - A spring is cut into two equal halves. How is the spring constant of each half affected?

(1 Mark)

Q9 - What is the work done in holding a suitcase of 20 kg for 16 minutes while waiting for a bus?

(1 Mark)