Worksheet: Work and Energy (Class IX)

Section A: Multiple Choice Questions (1 × 5 = 5 marks)

(Attempt all questions)

Q1. When is work said to be done?

a) When force is applied

b) When displacement occurs

c) When force causes displacement

d) When energy is present

Q2. The SI unit of work is:

a) Newton

b) Joule

c) Watt

d) Pascal

Q3. A moving body possesses:

a) Potential energy

b) Chemical energy

c) Kinetic energy

d) Heat energy

Q4. The kinetic energy of an object depends on:

a) Mass only

b) Velocity only

c) Both mass and velocity

d) Shape of object

Q5. Which of the following is an example of potential energy?

a) Flowing river

b) Moving car

c) Stretched bow

d) Flying aeroplane

Section B: Very Short Answer Questions (2 × 2 = 4 marks)

Q6. Define work.

Q7. Write the formula for kinetic energy.

Section C: Short Answer Questions (3 × 4 = 12 marks)

Q8. State the law of conservation of energy.

Q9. Define potential energy and give one example.

Q10. Calculate the kinetic energy of a body of mass 2 kg moving with a velocity of 3 m/s.

Q11. What is power? Write its SI unit.

Section D: Long Answer Question (1 × 5 = 5 marks)

Q12. Answer the following subparts: (1 mark each)

a) Write the SI unit of energy.

b) Name the energy stored in a stretched rubber band.

c) Write the formula for work done.

d) What is 1 watt?

e) Name any one renewable source of energy.

Section E: Case-Based Question (1 × 4 = 4 marks)

Q13.

Ravi lifts a box of mass 10 kg to a height of 2 m and places it on a shelf. Later, the box falls down due to gravity.

Answer the following questions: (1 mark each)

a) Which type of energy does the box have at the height?

b) What happens to the potential energy when the box falls?

c) Name the force responsible for the box falling.

d) Write the formula for potential energy.

— End of Worksheet —