CBSE Class 9 Science – Chapter 10: Work, Power, and Energy

Sample Question Paper

Section A – Very Short Answer Questions (1 Mark Each)

1. Define **work** and write its SI unit.
2. When is work said to be **positive** and **negative**?
3. What is the SI unit of power?
4. Define **1 Joule** of work.
5. What is the commercial unit of energy? How is it related to Joule?
6. A person is pushing a wall but fails to displace it. How much work is done? Why?

Section B – Short Answer Questions (2-3 Marks Each)

7. A body is moving in a circular path with constant speed. Is work done? Justify your answer.
8. A force of **10 N** is applied to move an object by **5 m** in the direction of force. Calculate the work done.
9. State and explain the **Work-Energy Theorem**.
10. Define **power** and derive its formula.
11. A **60 W** bulb is used for **5 hours** daily. Calculate the energy consumed in **kWh** in one month (30 days).
12. How does kinetic energy of an object change when:

- (i) Its mass is doubled?
- (ii) Its velocity is tripled?

Section C – Long Answer Questions (4-5 Marks Each)

13. Derive the formula for **kinetic energy** using equations of motion.
14. What is **potential energy**? Derive the expression for **gravitational potential energy**.
15. A **50 kg** person climbs up a staircase of height **10 m** in **5 seconds**. Calculate the power developed by the person.
16. Explain the **law of conservation of energy** with an example and a diagram.