

Ch-10 Work and Energy

1. Derive the formula for potential energy.
2. Explain the Law of conservation of energy with pendulum.
3. If energy is neither created nor destroyed then from where do we get energy?
4. State and explain one example where kinetic energy is present in a body and is used.
5. Define power and give its unit.
6. What is potential energy? Explain different types of potential energy.
7. How is work and energy related to each other?
8. Give one example where work done on an object is negative.
9. A man does 60 J of work in 6 seconds. Calculate the power.
10. Give one example where work done on an object is zero.
11. Define work.
12. What is the unit of work done?
13. Name the energy stored when a rubber band is stretched?
14. Differentiate between potential energy and kinetic energy.
15. Explain the following –
 - a. An object increases its energy when raised through a height.
 - b. Energy is neither created nor destroyed, then from where do we get energy.
 - c. When we push the wall, the wall does not move and no work is done.
16. State and explain one example, where, potential energy is present in a body is used.
17. Define one watt of power.
18. Name two physical quantities whose unit is Joule.
19. What is the commercial unit of energy? Define it.
20. Give one example where work done on an object is negative.
21. What work is said to be done to increase the velocity of a car from 15 km/h to 30 km/h, if the mass of the car is 1000 kg?
22. A body possess potential energy of 460 J whose mass is 20 kg and is raised to a certain height. What is the height when $g = 10 \text{ m/s}^2$.
23. Derive the formula for kinetic energy.
24. With pendulum as an example the law of conservation of energy.
25. Derive the formula for potential energy.