WORK, POWER AND ENERGY

1. What is the work done by a force equal to?
2. Name two factors on which kinetic energy depends.
3. What is the commercial unit of energy?
4. Relate 1 kWh with joule.
5. State the law of conservation of energy.
6. Why do we say work done against gravity is negative?
7. What is average power?
8. Why does a nail become warm when hammered into a plank?
9. When the speed of a body is tripled, what is the change in its kinetic energy?
10. What is the difference between potential energy and kinetic energy?
11. What change should be affected in the velocity of the body to maintain same kinetic energy if its mass is increased four times?
12. How do you differentiate between energy and power?
13. A machine does 1960 jouleas of work in 4 minutes. What is its power?
14. Can a body have energy without momentum?
15. What is the relation between kinetic energy and momentum?
16. Is it necessary for force to do work always?
17. A body is thrown up with a kinetic energy of 10 J. If it attains a maximum height of 5 m, find the mass of the body.
18. An electric bulb of 60 W is used for 6 h per day.Calculate the units of energy consumed in one day by the bulb.
19. Name two forms of mechanical energy.
20. Prove that the energy remains constant in case of a freely falling body.
21. When is the work done by a force (a) positive   (b) negative   (c) zero?
22. A body is thrown up with a kinetic energy of 10 j.If it attains a maximum height of 5 m, find the mass of the body.
23. A 60 kg person climbs stairs of total height 20 m in 2 min. Calculate the power delivered.
24. Define one watt or Define the unit of power.
25. Derive an expression for kinetic energy.
26. Derive an expression for potential energy.
27. Define work energy theorm.
28. What is the work done to increase the velocity of a car from 30 km/h to 60 km/h if the mass of the car is 1500 kg?
29. Give five examples of energy transformations.
30. When do we say that work is done?
31. What is the relation between newton metre and joule?
32. An electric bulb of 40 W burns for 10 hours a day. What is the amount to be paid in a month of 30 days, if 1 unit of electricity costs Rs. 2.50 ?
33. Define unit of work.
34. Which effect more on kinetic energy and why :- increase in velocity or increase in mass?
35. Which energy is present in a body at maximum height?
36. The potential energy of falling body decreases progressively.Does this violate the law of conservation of energy? Why?