Practice Paper (Physics)

1. Calculate the height which a ball will gain if thrown vertically upwards with a kinetic energy of 100 J. Mass of ball is 400g.
2. How much energy would be dissipated in the lift when it carries a man (mass 75Kg) from 3^{rd} floor to fifth floor? Approximate distance btw floors is 8m.
3. Derive expression for Kinetic Energy.
4. What would be the velocity of a ball thrown vertically downward, with a speed of 3m/s, from a 10m high tower on reaching the ground?
   Do NOT use eqns of motion to determine answer.
5. Estimate the power that would be required to stop a car moving with velocity of 40Km/hr in 5s. Assume mass of to be 'M'.
6. If a bulb rated 250W is used for 9hrs a day, calculate the Electrical Units it will consume in one week.
7. If the potential energy of an object of mass 5kg is decreasing with a constant rate of 10J/s. Estimate the speed with which it must be falling.
8. If a load of 100Kg is lifted and placed at a height of 27m in 1minute by crane, estimate the power applied by Crane.
9. A 20g stone made to freelyfall from a certain height approaches the ground with a speed of 1.5m/s. Calculate the height from where it was dropped.
10. What happens to the kinetic energy of the train when it stops?
11. Is it possible to have a case where both kinetic and potential energy of an object are increasng continuously? If yes suggest an example.
12. Work done = Force . Displacement
    and Energy = WorkDone
    then is it true that Energy can be negative also? Give appropriate reasons