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**Max Time : 1 hr** **Class = 9th Science Test Max Marks : 30**

**WORK , ENERGY AND POWER**

1. Define power [ 1 ]
2. What is kinetic energy of an object? [ 1 ]
3. A force of 5 N is acting on an object. The object is displaced through 2m in the direction of force. Find the work done by the force. [ 1 ]
4. Define law of conservation of energy. [ 2 ]
5. An electric heater is rated 1500 W. How much energy does it use in 10 hours? [ 2 ]
6. How much time does it take to perform 500 J of work at a rate of 10 W? [ 2 ]
7. Find the mass of the body which has 5 J of kinetic energy while moving a speed of 2 m/sec. [ 2 ]
8. A ball of mass 1 kg is dropped from a height of 5 m. [ 2 ]

(a) Find the kinetic energy of the ball just before it reaches the ground.

(b) What is the speed at this instant?

1. The mass of a ball ‘A’ is doubled the mass of another ball ’B’. The ball ‘A’ moves at half the speed of the ball ‘B’. Calculate the ratio of the kinetic energy of ‘A’ to the kinetic energy of the ‘B’. [ 3 ]
2. What should be the power of an engine required to lift 90 metric tonnes of coal per hour from a mine whose depth is 200 m? [ 3 ]
3. A car of mass 2000 kg is lifted up a distance of 30 m by a crane in 1 min. A second crane does the same job in 2 min. What is the power applied by each crane? [ 3 ]
4. A 5 kg ball is dropped from a height of 10 m. Find (a) potential energy (b) Kinetic energy (c) the velocity before it reaches to ground. [ 3 ]
5. Prove that the energy remain constant in case of a freely falling body. [ 5 ]

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**Max Time : 1 hr** **Class = 9th Science Test Max Marks : 25**

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