

# FORMATIVE ASSESSMENT OF WORK AND ENERGY

## Short Answer Based questions

- 1) What is unit of energy?
- 2) The total energy when a body falls freely towards earth remains constant. True or false?
- 3) What do you mean by kinetic energy of the body?
- 4) If the mass of the body is doubled and velocity is made halved, the kinetic energy will become?
- 5) Potential energy is a vector quantity True or false?
- 6) When the force acts at right angle to the direction of motion, what is the work done by the force
- 7) What is Power?
- 8) What is Law of conservation of energy?

## Match the column

Column A (Energy Conversion)	Column B (Converters)
Chemical energy into Mechanical energy	Electric Generator
Heat energy into Mechanical engine	Electric Motor
Mechanical energy into Electrical energy	Car engine
Electrical energy to Mechanical energy	Steam engine
Light energy into electrical energy	Electric bulb
Electrical energy into light energy	Solar Cell

## Table type question

A force 10 N act on the body and body is displaced by 10 m. The angle between force and displacement are given below. Calculate the work done

Angle	30	45	60	90
Work done	?	?	?	?

**Table type question**

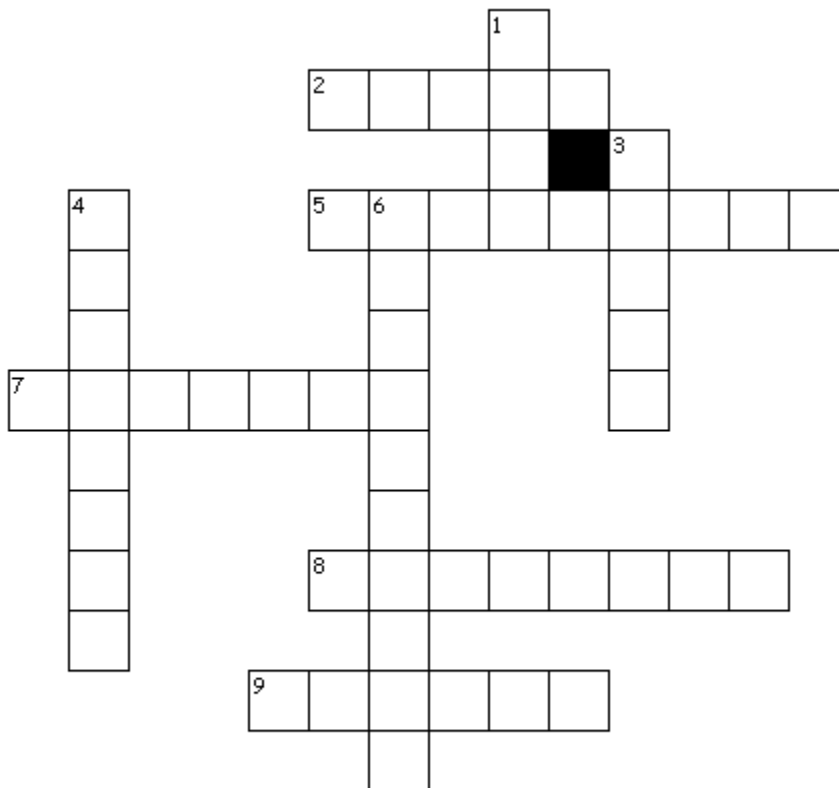
A body of mass 10 kg falls from the height 10 m towards the earth. Given  $g=10\text{m/s}^2$

Height from earth(m)	10m	?	?	2m
Potential energy(J)	?	?	500J	?
Kinetic energy(J)	?	1000J	?	?
Mechanical energy (J)	?	?	?	?

**Fill in the blanks**

- 1) 1 Kilo Watt hour of energy is equal to ..... Joule
- 2) Power is the rate of doing ..... And its unit is .....
- 3) Work done by the force can be ..... and .....
- 4) The water stored in the reservoir of the tank possessed ..... energy
- 5) The total energy of the swinging pendulum remains .....at all the points
- 6) When the body falls freely towards earth ,potential energy of the body .....while kinetic energy of the body ..... . The total remains ..... at all the point during the motion

## Crossword Puzzle



### Across

2. The scientist with whom unit of power is named
5. The kinetic energy of the body depends on mass and this quantity
7. The energy possessed by the car moving on the road
8. The Bigger unit of power
9. Work and power are these quantities

### Down

1. The work done by the earth on the satellite moving in circular path
3. Solar water heater converts this energy into heat energy
4. The gravitation potential energy is present because of this
6. In hydroelectric power house, the potential energy of the water is finally transformed to this energy

## Solution

### Fill in the blank Solutions

- 1)  $3.6 \times 10^6$
- 2) Work, watt
- 3) Negative, zero, positive
- 4) Potential
- 5) Constant
- 6) Decrease, increase, constant

### Crossword Solution

#### Across

James, velocity, kinetic, kilowatt, scalar

#### Down

Zero, light, Position, electrical