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|-----------------|---|-------------------|---|-------------------|
| 3. Electric fan | : | Electrical energy | - | Wind energy |
| 4. Speaker | : | Electrical energy | - | Mechanical energy |
| 5. Generator | : | Mechanical energy | - | Electrical energy |

III. Find out the form of energy possessed by the following things.

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|--------------------------------|---|--------------------------|
| 1. A rock on the top of a hill | - | Potential energy |
| 2. A rolling ball | - | Mechanical energy |
| 3. Charcoal | - | Heat energy |
| 4. Waterfalls | - | Kinetic energy |
| 5. Battery | - | Chemical energy |

IV. Match the following.

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|------------------|---|-------------------|---|
| 1. Electric bell | - | Solar energy | 3 |
| 2. Water in dam | - | Light energy | 5 |
| 3. Solar heater | - | Electrical energy | 4 |
| 4. Wind mill | - | Potential energy | 2 |
| 5. Torch light | - | Sound energy | 1 |

V. Say True or False.

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|---|--------------|
| 1. An apple falling from a tree is an example for gravitational energy. | False |
| 2. Electrical energy is used to run electric trains. | True |
| 3. Heat energy cannot be produced by friction. | True |
| 4. Potential energy and Kinetic energy are the two forms of mechanical energy. | False |

5. The unit of energy is Joule.

True

VI. Answer in brief.

1 .What is energy?

Energy is defined as capacity to do work.

2. What are the different forms of energy?

There are different forms of energy like mechanical energy, heat energy, light energy, wind energy.

3. What are the uses of mechanical energy?

- In hydro electric plants, kinetic energy of water is converted into electrical energy.
- Wind mills convert kinetic energy of winds into electrical energy.
- Mechanical energy of the hammer is used to apply a force on a nail.
- Mechanical energy can bring a moving body to rest and make a body at rest to move.

4. State the law of conservation of energy.

- Law of conservation of energy states that energy can neither be created nor be destroyed.
- One form of energy is converted into another form of energy .This law was given by Julius Robert Mayar.

5. Give the uses of light energy.

- We are able to see objects with the help of light energy.
- Plants use light energy to synthesis their food.
- With the help of light energy, our skin is able to synthesis Vitamin-D.

- Electricity can be produced with the help of light energy.

VII. Answer in detail.

1. Explain the types of mechanical energy.

Ans : Energy possessed by an object due to its motion and position are called mechanical energy. Mechanical energy can be classified into two.

- a) Kinetic energy
- b) Potential energy

a) Kinetic energy:

Energy possessed by a moving object is known as kinetic energy. It is also known as energy of motion.

Examples:

Moving car, Cricket ball bowled by a player, Bullet coming out of a gun.

b) Potential energy

Energy possessed by an object which is at rest is known as potential energy. It is also known as stored energy of position.

Examples:

Object lifted above, Stone in the stretched rubber, Water in the dam.

2. Explain conservation of energy

Water Dam

- Water stored in water dams possesses potential energy. When water falls down, potential energy of water is converted into kinetic energy.
- Kinetic energy of water rotates the turbines and electric energy is generated.

Electrical Appliance

- Electric energy is used in many domestic appliances such as electric stove, iron box and fan.
- Electric energy flows into the coil in the devices. As current flows, it heats up the coil. With the help of this heat energy, we do many useful works. Thus, electrical energy is converted into heat energy.
- Electrical energy is converted to mechanical energy in fan, light energy in bulb and sound energy in computer.

Driving Car

- We use fuel in the form of petrol or diesel or gas to run vehicles. When this fuel burns in the engine, chemical energy is converted into heat energy.
- Burning fuel produces hot gases which pushes the piston in the engine to move the vehicle. Thus heat energy is converted into mechanical energy.