

## TEST YOURSELF

### Objective Questions

1. Write **true** or **false** for each statement :

- (a) A man going up has potential energy and kinetic energy both. **T**
- (b) A gum bottle lying on a table has no energy. **F**
- (c) In an electric fan, electrical energy changes into mechanical energy. **T**
- (d) Potential energy changes into kinetic energy when it is put to use. **T**
- (e) One form of energy cannot be converted into another form. **F**
- (f) There is always some loss of energy in conversion from one form of energy to another form, so the total energy is not conserved. **F**
- (g) The energy of flowing water can be converted into electric energy (electricity). **T**

**Ans. True** (a), (c), (d), (g)

**False** (b), (e) (f)

2. Fill in the blanks :

- (a) An electric fan converts electrical energy into **mechanical** energy.
- (b) Cooking gas converts **chemical** energy into heat energy.
- (c) Energy possessed by a compressed spring is **potential** energy.
- (d) The ability to do work is called **energy**.
- (e) The energy possessed by a body due to its position is called **potential** energy.

- (f) The energy possessed by a body due to its motion is called **kinetic** energy.
- (g) Green plants convert **light** energy into chemical energy.
- (h) The S.I. unit of energy is **Joule**.
- (i) An object falling freely from the roof of a multistorey building has **potential** and **kinetic** energy when halfway down the building.

**Ans:** (a) mechanical (b) chemical (c) potential (d) energy (e) potential (f) kinetic (g) light (h) joule (i) potential energy and kinetic

3. Match the following columns :

#### Column A

#### Column B

- |                    |                     |
|--------------------|---------------------|
| (a) Running water  | (i) heat energy     |
| (b) Burning        | (ii) vibrations     |
| (c) Energy         | (iii) atom bomb     |
| (d) Sound energy   | (iv) kinetic energy |
| (e) Nuclear energy | (v) joule           |

**Ans:** (a)–(iv), (b)–(i), (c)–(v), (d)–(ii), (e)–(iii)

4. Select the correct alternatives :

- (a) When we rub our hands
  - (i) kinetic energy changes into potential energy.
  - (ii) mechanical energy changes into heat energy.**
  - (iii) potential energy changes into kinetic energy.
  - (iv) heat energy changes into mechanical energy.

(b) A ball rolling on the ground possesses

- (i) kinetic energy
- (ii) potential energy
- (iii) no energy
- (iv) heat energy.

(c) The energy stored in an electric cell is

- (i) chemical energy
- (ii) electrical energy
- (iii) heat energy
- (iv) mechanical energy.

(d) When a bulb lights up on passing current, the change of energy is

- (i) from electrical energy to heat energy
- (ii) from electrical energy to light energy
- (iii) from electrical energy to heat and light energy
- (iv) from electrical energy to mechanical energy.

(e) The correct statement is

- (i) Both work and energy have the same units
- (ii) Potential energy of a body is due to its motion
- (iii) Kinetic energy of a body is due to its position or state
- (iv) Kinetic energy can change into potential energy, but potential energy cannot change into kinetic energy

(f) According to law of conservation of energy, energy changes from one form to another form, but the total energy of that system

- (i) increases
- (ii) decreases
- (ii) alternates
- (iv) remains the same