

## CHAPTER-10 | Work and Energy

### QUIZ PART-02

1. Energy is defined as:

- A. Rate of doing work
- B. Ability to create matter
- C. Capacity to do work
- D. Product of force and time (C)

**Explanation :** Energy is the capacity of a body to do work.

2. Which is the commercial unit of electrical energy?

- A. Joule
- B. Watt
- C. Kilowatt-hour
- D. Newton (C)

**Explanation :** Electrical energy is commercially measured in kWh.

3. The kinetic energy of a body depends on:

- A. Mass only
- B. Velocity only
- C. Both mass and velocity
- D. Height only (C)

**Explanation :**  $K.E. = \frac{1}{2}mv^2$ , so it depends on both mass and velocity.

4. A body moving with velocity possesses:

- A. Potential energy
- B. Kinetic energy
- C. Heat energy
- D. Chemical energy (B)

**Explanation :** Energy due to motion is kinetic energy.

5. The formula for kinetic energy is:

- A. mgh
- B. mv
- C.  $\frac{1}{2}mv^2$
- D. Fd (C)

**Explanation :** Kinetic energy equals half the product of mass and square of velocity.

6. Potential energy due to height is:

- A.  $mv^2$
- B. mgh
- C. F/t
- D. Fs (B)

**Explanation :** Gravitational potential energy = mgh.

7. Which law states that energy can neither be created nor destroyed?

- A. Newton's law
- B. Ohm's law
- C. Conservation of energy
- D. Hooke's law (C)

**Explanation :** Total energy remains constant according to the law of conservation of energy.

8. A stretched bow possesses:

- A. Chemical energy
- B. Electrical energy
- C. Potential energy
- D. Sound energy (C)

**Explanation :** A stretched bow stores energy due to its shape.

9. A 2 kg object moving at 3 m/s has kinetic energy:

- A. 3 J
- B. 6 J
- C. 9 J
- D. 18 J (C)

**Explanation :**  $K.E. = \frac{1}{2} \times 2 \times 3^2 = 9 \text{ J}$ .

10. The sum of kinetic and potential energy is called:

- A. Heat energy
- B. Mechanical energy
- C. Magnetic energy
- D. Chemical energy (B)

**Explanation :** Mechanical energy = Kinetic energy + Potential energy.