

CHAPTER-10 | Work and Energy

QUIZ PART-03

1. Power is defined as:

- A. Force \times displacement
- B. Energy stored in a body
- C. Rate of doing work
- D. Product of mass and velocity (C)

Explanation: Power is the amount of work done per unit time.

2. The SI unit of power is:

- A. Joule
- B. Newton
- C. Watt
- D. Pascal (C)

Explanation: Watt is the SI unit of power.

3. One kilowatt equals:

- A. 10 W
- B. 100 W
- C. 1000 W
- D. 10,000 W (C)

Explanation: 1 kW = 1000 W.

4. Power can be calculated using:

- A. Work \times Time
- B. Work \div Time
- C. Force \div Distance
- D. Mass \times Velocity (B)

Explanation: Power = Work / Time.

5. If work done is 200 J in 10 s, the power is:

- A. 10 W
- B. 20 W
- C. 100 W
- D. 2000 W (B)

Explanation: Power = $200 \div 10 = 20$ W.

6. One horsepower is approximately:

- A. 100 W
- B. 500 W
- C. 746 W
- D. 1000 W (C)

Explanation: 1 HP = 746 W.

7. Which relation is correct?

- A. $P = F/v$
- B. $P = Fv$
- C. $P = mv$
- D. $P = Ft$ (B)

Explanation: Power when a body moves with velocity is $P = Fv$.

8. Commercial electrical energy is measured in:

- A. Watt
- B. Joule
- C. kWh
- D. Horsepower (C)

Explanation: Electrical energy consumption is measured in kilowatt-hour.

9. A machine does 600 J of work in 3 seconds. Its power is:

- A. 100 W
- B. 150 W
- C. 200 W
- D. 300 W (C)

Explanation: Power = $600 \div 3 = 200$ W.

10. The faster worker is considered more:

- A. Energetic
- B. Powerful
- C. Massive
- D. Efficient in force (B)

Explanation: Greater power means work is done in less time.