



Class 11 Physics | Work, Energy And Power

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. A 10 N force acts at 60° to a 4 m displacement. Work done is:

A. 0 B. 20 J C. 10 J D. 40 J

2. Work done by the centripetal force in uniform circular motion is:

A. Positive
B. Zero
C. Equal to kinetic energy
D. Negative

3. Kinetic energy of a 2 kg body moving at 3 m/s is:

A. 6 J B. 9 J C. 18 J D. 3 J

4. If speed doubles at fixed mass, kinetic energy becomes:

A. Unchanged B. Half C. Four times D. Twice

5. A net work of 30 J acts on a body initially having 20 J kinetic energy. Final kinetic energy is:

A. 25 J B. 600 J C. 10 J D. 50 J

6. A spring of $k=200$ N/m is compressed by 0.1 m. Stored energy is:

A. 10 J B. 1 J C. 2 J D. 20 J

7. A pump raises 20 kg of water by 5 m in 2 s. Useful power ($g=10$) is:

A. 1000 W B. 200 W C. 50 W D. 500 W

8. A motor supplies force 100 N along motion at 3 m/s. Power is:

A. 33.3 W B. 103 W C. 900 W D. 300 W

9. Which force is conservative?

A. Viscous drag B. Kinetic friction
C. Air resistance D. Gravitational force

10. A ball falls through 5 m from rest. Speed just before impact ($g=10$; no drag) is:

A. 50 m/s B. 20 m/s C. 5 m/s D. 10 m/s

11. In a perfectly elastic collision of an isolated system, which are conserved?

A. Momentum and kinetic energy
B. Only kinetic energy
C. Only potential energy
D. Only speed of each body

12. Two equal masses collide head-on and stick. Initial velocities are +6 and 0 m/s. Common velocity is:

A. 6 m/s B. 0 C. 12 m/s D. 3 m/s

13. For $U(x)=3x^2$ in SI units, force at $x=2$ m is:

A. -3 N B. 12 N C. -6 N D. -12 N

14. A force rises linearly from 0 to 10 N over 4 m. Work done is:

A. 20 J B. 80 J C. 10 J D. 40 J

15. A 1 kg body has momentum 4 kg m/s. Kinetic energy is:

A. 2 J B. 8 J C. 16 J D. 4 J

ANSWER KEY — check after completing all 15 questions

1.B 2.B 3.B 4.C 5.D 6.B 7.D 8.D 9.D 10.D 11.A 12.D 13.D 14.A 15.B

Original exam-style practice • Reference notes: www.physics.guru/cbse-practice-papers/ • Not an official paper