

NEET WORK, ENERGY AND POWER — CONSERVATION OF MECHANICAL ENERGY — PYQS

Max. Marks: 28
Questions: 7

Section A (MCQ) — 7 questions

- Q.1** An object falls from a height of 10 m above the ground. After striking the ground it loses 50% of its kinetic energy. The height upto which the object can rebound from the ground is:

[RE-NEET (UG) 2024]

- (1) 7.5 m (2) 10 m (3) 2.5 m (4) 5 m

Scan or tap for the full solution



- Q.2** A particle is released from height S from the surface of the Earth. At a certain height its kinetic energy is three times its potential energy. The height from the surface of earth and the speed of the particle at that instant are respectively -

[NEET (UG) 2021]

- (1) $\frac{S}{4}, \sqrt{\frac{3gS}{2}}$ (2) $\frac{S}{4}, \frac{3gS}{2}$
 (3) $\frac{S}{4}, \frac{\sqrt{3gS}}{2}$ (4) $\frac{S}{2}, \frac{\sqrt{3gS}}{2}$

Scan or tap for the full solution



- Q.3** A ball is thrown vertically downwards from a height of 20 m with an initial velocity v_0 . It collides with the ground, loses 50 percent of its energy in collision and rebounds to the same height. The initial velocity v_0 is
 (Take $g = 10 \text{ m s}^{-2}$)

[AIPMT 2015]

- (1) 28 m s^{-1} (2) 10 m s^{-1} (3) 14 m s^{-1} (4) 20 m s^{-1}

Scan or tap for the full solution



- Q.4** A particle with total energy E is moving in a potential energy region $U(x)$. Motion of the particle is restricted to the region when

[NEET 2013 (Karnataka)]

- (1) $U(x) < E$ (2) $U(x) = 0$
 (3) $U(x) \leq E$ (4) $U(x) > E$

Scan or tap for the full solution



- Q.5** A ball of mass 2 kg and another of mass 4 kg are dropped together from a 60 feet tall building. After a fall of 30 feet each towards earth, their respective kinetic energies will be in the ratio of [AIPMT 2004]

- (1) $\sqrt{2} : 1$ (2) 1:4 (3) 1:2 (4) $1 : \sqrt{2}$

Scan or tap for the full solution



- Q.6** A child is sitting on a swing. Its minimum and maximum heights from the ground are 0.75 m and 2 m respectively, its maximum speed will be

[AIPMT 2001]

- (1) 10 m/s (2) 5 m/s (3) 8 m/s (4) 15 m/s

Scan or tap for the full solution



- Q.7** A man is slipping on a frictionless inclined plane and a bag falls down from the same height. Then the velocity of both is related as [AIPMT 2000]

- (1) $v_B > v_m$
 (2) $v_B < v_m$
 (3) $v_B = v_m$
 (4) v_B and v_m can't be related

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7				
Ans.	4	1	4	3	3	2	3				