

NAT I Engineering Physics

Sr	Questions	Answers Choice
1	Two bodies of masses m_1 and m_2 have equal momentum their kinetic energies E_1 and E_2 are in the ratio	A. √m ₁ : √m ₂ B. m ₁ : m ₂ C. m ₂ : m ₂ : m ₁ D. m ₁ Sup>2 : m ₁ ² : m ₂ ₂ ₂
2	A body of mass 2 kg is thrown up vertically with K.E of 490 joules If the acceleration due to gravity is 9.8 m/s^2 the height at which the K.E of the body becomes half its original value is give by:	A. 50 m B. 12.5 m C. 25 m D. 10 m
3	A body moves a distance of 10 m along a straight line under the action of a force of 5 Newtons, if the work done is 25 joules the angle which the force takes with the direction of motion of the body is:	A. 0° B. 30° C. 60° D. 90°
4	Two masses of 1 g and 4 g are moving with equal kinetic energies The ratio of the magnitudes of their linear moments is:	A. 4:1 B. √2:1 C. 1:2 D. 1:16
5	Which of the following four statements is false?	A. A body can have zero velocity and still be accelerated B. A body can have a constant velocity and still have a varying speed C. A body can have a constant speed and still have a varying velocity D. The direction of the velocity of a acceleration is constant
6	The initial velocity of a body moving along a straight line in 7 m/s. It has a uniform acceleration of 4 m/s ² . The distance covered by the body in the 5th second of its motion is	A. 25 m B. 35 m C. 50 m D. 85 m
7	The acceleration 'a' in m/s^2 of a particle is given by $a = 3 t^2 + 2 t + 2$, where 't' is the time if the particle starts out with a velocity $v = 2$ m/s at $t = 0$, then the velocity at the end of 2 second is	A. 12 m/s B. 24 m/s C. 18 m/s D. 36 m/s
8	A body is dropped from a tower with zero velocity reaches ground in 4s. The height of the tower is about	A. 80 m B. 20 m C. 160 m D. 40 m
9	What will be the ratio of the distance moved by a freely falling body from rest in 4^{th} and 5^{th} seconds of journey?	A. 4:5 B. 7:9 C. 16:25 D. 1:1
10	A train of 150 m length is going towards north direction at a speed of 10 ms ⁻¹ A parrot flies at a speed of 5 ms ⁻¹ towards south direction parallel to the railway track, The time taken by the parrot to cross the train is equal to	A. 12 s B. 8 s C. 15 s D. 10 s