

Work power energy

A bucket tied to a string is lowered at a constant acceleration of $g/4$. If the mass of the bucket is M and is lowered by a distance d , the work done by the string will be (assume the string to be massless)

- (A) $1/4 Mg d$ (B) $-3/4 Mg d$ (C) $-4/3 Mg d$ (D) $4/3 Mg d$

A body which is constrained to move along Y-direction is acted upon by a force $\vec{F} = (-2\hat{i} + 15\hat{j} + 6\hat{k})N$.

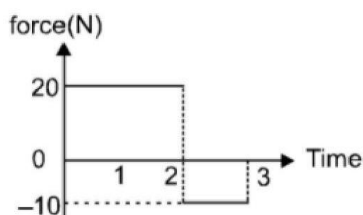
The work done by this force in displacing the body by 10m along Y-axis is-

- (A) 190 J (B) 160 J (C) 150 J (D) 20 J

Work done by static friction on an object:

- (A) may be positive (B) must be negative
 (C) must be zero (D) none of these

Starting at rest, a 5 kg object is acted upon by only one force as indicated in figure. Find the total work done by the force.



- (A) 180 J (B) 60 J (C) 150 J (D) 90 J

Force acting on a particle moving in a straight line varies with the velocity of the particle as $F = \frac{K}{v}$. Here,

K is a constant. The work done by this force in time t is :

- (A) $\frac{K}{v^2} \cdot t$ (B) $2 Kt$ (C) Kt (D) $\frac{2Kt}{v^2}$

A force $\vec{F} = (3x\hat{i} + 4\hat{j})$ Newton (where x is in metres) acts on a particle which moves from a position (2m, 3m) to (3m, 0m). Then the work done is

- (A) 7.5J (B) -12J (C) -4.5 J (D) +4.5 J

ANSRWER KEY

- 1.(B) 2.(C) 3.(A) 4.(D) 5.(C) 6.(C)