

WORK AND ENERGY PRACTICE PROBLEMS

Q1

A field in which the work done in moving a body in a closed path is zero is called

- (a) electric field
- (b) conservative field
- (c) electromagnetic field
- (d) gravitational field

Q2

Which of the following types of force does no work on the particle when it acts on it?

- (a) frictional force
- (b) gravitational force
- (c) elastic force
- (d) centripetal force

Q3

The average power and instantaneous power become equal if work is done at

- (a) any rate
- (b) variable rate
- (c) uniform rate
- (d) high rate

Q4

Proton, electron, neutron and α particles have same momentum. Which of them have highest K.E?

- (a) proton
- (b) electron
- (c) neutron
- (d) α -particle

Q5

Work done by variable force is determine by dividing

- (a) force into small interval.
- (b) displacement into small interval
- (c) both force and displacement into small intervals
- (d) force into small and displacement into large intervals

Q6

Gravitational P.E of a body can be found by

- (a) $\frac{Gm}{r}$
- (b) mgh
- (c) $-\frac{Gm}{r}$
- (d) both "b" and "c"

Q7

All the food we eat in one day has about the same energy as:

- A) One liter of petrol
- B) $\frac{1}{2}$ liter of petrol
- C) $\frac{1}{3}$ liter of petrol
- D) $\frac{1}{4}$ liter of petrol

Q8

The kinetic energy acquired by a body of mass m is travelling some distance s , starting from rest under the actions of a constant force, is directly proportional to

- A) m^0
- B) m^2
- C) m
- D) $m^{1/2}$

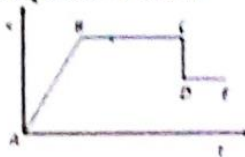
Q9

An engine pulls a car of mass 1500 kg on a level road at a constant speed of 5 ms^{-1} . If the frictional force is 500 N, what power does the engine generate?

- A) 5.0 kW
- B) 2.5 Kw
- C) 10 kW
- D) 12.5 kW

Q10

The adjoining diagram shows the velocity versus time plot for a particle. The work done by the force on the particle is positive from



- A) B to C
- B) D to E
- C) A to B
- D) C to D