

Chapter: 2

Q.1 A) Choose the correct alternative and rewrite the sentence (1)

Coolie is standing with load on his head. Work done by him is zero because.

- a. load is less
- b. there is no displacement
- c. load is on his head and not on back
- d. All of the above

B) Answer the following questions. (2)

1) Find co-related terms

Work : joule :: power :

2) Find the odd man out:

2) dyne – cm, kilowatt, joule, erg.

Q.2 A) Give scientific reasons (Any one) (2)

- 1) A fast bowler takes a run-up before bowling a ball.
- 2) Explosion of a bomb produces heat and light.

B) Answer the following questions. (Any two) (4)

1) Write short notes

1) The velocity of a car increases from 54 km/h to 72 km/h. How much is the work done if the mass of the car is 1500 kg?

2) Distinguish between

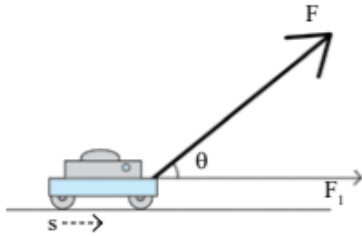
Work and Energy

3) What will be the work done, if a body of mass 'm' is raised from ground to a height 'h'?

Q.3 Answer the following questions. (Any two) (6)

- 1) State the law of conservation of energy. Explain with examples.
- 2) An object of mass 75 kg is raised at a height of 20 m above the ground. What is its P.E.? If the object is allowed to fall, find its K.E. and P.E. when it is halfway down. What is the P.E. when it reaches the ground?

3)



- Derive the expression for work done with the help of the above figure.
- What is the work done when the applied force is perpendicular to the horizontal?
- What is the value of θ when force and displacement are in opposite directions?

Q.4 Answer the following questions. (Any one)

(5)

- Prove that the kinetic energy of a freely falling object on reaching the ground is nothing but the transformation of its initial potential energy.
- Derive the formula for the kinetic energy of an object of mass ' m ', moving with velocity ' v '?