

CLASS: VI

Time 1hr 30mins

Marks 80

PHYSICS

I. Fill in the blanks

(5X1=5)

1. The food we eat have energy.
2. Heat is also called energy.
3. When area increases pressure
4. The energy possessed by a compressed spring is.....
5. Loudspeaker converts energy to sound energy.

II. Name the following

(5X1=5)

1. The perpendicular force acting on a surface:
2. The capacity to do work:
3. The substances which are burnt for producing heat energy:
4. The SI unit of pressure:
5. The SI unit of work:

III. Define the following

(5X1=5)

1. Pressure 2. Nuclear fission 3. Nuclear fusion 4. Kinetic energy 5. Potential energy

IV. Write the energy change that takes place in each of the following activities (10X1=10)

1. Water falling from a height 2. A burning candle 3. Photosynthesis
4. A solar cooker while in use 5. Burning matchstick 6. Electric bell
7. Electric heater 8. Steam engine 9. Microphone 10. Battery

V. Give reason

(5X2=10)

1. The bottom part of foundation of a building made wider.
2. A person holding a suitcase does not do any work.
3. A narrow heel hurts more than a broad one.

4. A boy running around a circle and comes back to his initial position does not do any work.
5. It is easy to cut vegetables with a sharp knife than blunt one.

VI. Answer the following in short

(9X2=18)

1. Write the difference between distance and displacement.
2. What are the factors affecting pressure?
3. Write two uses of nuclear energy.
4. What is biomass?
5. Name four fuels used for household purpose.
6. What are the constituents of biogas? How is it useful?
7. What are the conditions for work to be done?
8. Explain why army tanks move over broad steel tracks rather than on wheels.
9. Explain with the help of an example how magnetism is a form of energy.

VII. Answer the following in detail

(4X3=12)

1. State the law of conservation of energy. Write two steps you would take to conserve energy at home?
2. Briefly explain energy chain.
3. Differentiate between thrust and pressure.
4. How will the pressure on a surface get affected when area of contact is reduced to half?

VIII. Solve the following

(5X3=15)

1. Calculate the pressure exerted by a drawing pin if pushed against a board with a force of 50N, assuming the area of the point to be 0.1mm^2 .
 2. For a car of weight 8000N, the recommended tyre pressure is 20Pa. Find the area of each tyre in contact with the ground.
 3. A man applies a force of 20N to move a toy car. If the work done by the man is 200J, calculate the distance through which the car has moved.
 4. Calculate the kinetic energy of body of mass 4Kg moving with a velocity of 0.2m/s.
 5. Calculate the gravitational potential energy of body of mass 500g when it is lifted to height of 6m above the ground. (take $g = 10\text{m/s}^2$)
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