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# ENERGY

## CHAPTER NO.4

## SUB: PHYSICS



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# LEARNING OUTCOMES

Students will be able to:

- Define kinetic energy.
- Express kinetic energy in proper units.
- Solve simple problems based on kinetic energy.
- Define potential energy.
- Define gravitational potential energy.
- Solve problems based on gravitational potential energy.
- Describe energy transformation in daily life situation .
- Distinguish between energy and power.

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# POINTS TO BE COVERED

- Summarization of the chapter .
- Exercise questions discussion.



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# INTRODUCTION

Formulae used:

$W = F \times S.$

Potential energy = mgh.

Kinetic energy = ½ mv2.

$P = W/t.$

$W = P \times t.$

# SOLVE

1. A force of 30 N acts on a body and moves it through a distance of 5m in the direction of force. Calculate the work done by the force?
2. A man lifts a mass of 20 kg to a height of 2.5m . Assuming that the force of gravity on 1 kg mass is 10N, find the work done by the man.
3. A body when acted upon by a force of 10 kgf, moves a distance of 0.5m in the direction of force.Find the work done by the force.1 kgf = 10N.

4. Two bodies of same masses are placed at height h and 2h. Compare their gravitational potential energy.
5. Find the gravitational potential energy of 2.5 kg mass kept at a height of 15m above the ground. The force of gravity on mass 1kg is 10N.
6. The gravitational potential energy stored in a box of weight 150kgf is 1.5 x 10000J. Find the height of the box. Take 1 kgf = 10 N.

# HOME ASSIGNMENT

- Exercise: C: 7,8,9,10,11,12

# THANKING YOU

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