

MARTHOMA RESIDENTIAL SCHOOL, THIRUVALLA

ANNUAL EXAMINATION ,MARCH 2018

CLASS VI

PHYSICS

MARKS: 80

TIME: 1hr 30mins.

I. Classify the following as magnetic and non-magnetic materials. [1/2 x 8 = 4]

- 1) plastic 2) copper 3) cobalt 4) aluminium 5) nickel 6) brass 7) wood 8) iron

II. Name the following: [1x7=7]

1. A device used to measure force.
2. The splitting up of nucleus of an atom.
3. The work done by a machine.
4. The process of producing induced magnetism.
5. The capacity to do work.
6. The region where attractive power of magnet is maximum.
7. A force applied on an object by another object without coming in contact with each other.

III. Write the energy changes that take place [1x5=5]

- 1) Photosynthesis 2) microphone 3) battery 4) electric bulb 5) burning candle

IV. Define the following(In one or two sentences) [2x6=12]

1. Friction 2. Kinetic Energy 3. Ideal machine 4. Dipole 5. Efficiency 6. Force

V. Give reason.(In one or two sentences) [2x3=6]

1. Tyres of vehicles have grooved surfaces.
2. A fruit detached from a tree falls to the ground.
3. Wheels are fitted at the base of suitcases.

VI. Answer in short [3x6=18]

1. Write three properties of magnets.
2. What is the resultant force when two forces 45N and 20N act on a body in the a) same direction b) opposite direction? If two opposite forces are equal, what is the resultant force?
3. What is biomass? How is it converted to biogas?
4. What are magnetic keepers?
5. Draw class II lever. What is the mechanical advantage of a Class II lever?
6. Suggest three methods to demagnetize a magnet.

VII. Differentiate between [4X2=8]

1. Temporary magnet and Permanent magnet.
2. Single fixed pulley and single movable pulley

III. Solve the following (4X5=20)

1. The mass of a body is 80 kg. It is moving with a velocity 30 m/s. Calculate the kinetic energy of the body.

2. Calculate the gravitational potential energy of a body of mass 800 g when it is lifted to a height of 5 m above the ground. (Take $g = 10 \text{ m/s}^2$)

3. A girl pushes a table with a force of 50 N. If the work done by the girl is 400 J, calculate the distance through which the table has moved.

4. What minimum effort is required to lift a load 450 N using a lever whose mechanical advantage is 5?

5. A crowbar of length 8 m has fulcrum at a distance of 2 m from the load. Calculate the effort required to lift a load of 140 N.