

**ICSE Board  
Class VI Physics  
Sample Paper – 4**

**Time: 2 hrs**

**Total Marks: 75**

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**General Instructions:**

1. **All** questions are **compulsory**.
  2. Questions 1 to 15 carry one mark each.
  3. Questions in 2 A and B carry one mark each.
  4. Questions in 3 A carry one mark each and 3 B carries 5 marks.
  5. Question 4 carries 5 marks each.
  6. Questions in 5 A and B carry one mark each.
  7. Questions in 6 A and B carry five mark each.
  8. Question 7 A and 7 B carry five marks.
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**Question 1**

Choose the correct answer out of the four available choices given under each question. [15]

1. If two unequal forces are applied on an object in opposite directions, then
  - (a) these forces will add to one another
  - (b) these forces will cancel each other
  - (c) the net force will be the difference between the two forces
  - (d) these forces will multiply each other
2. When a person speaks in front of a microphone, sound energy is converted into
  - (a) Loud sound energy
  - (b) Magnetic energy
  - (c) Chemical energy
  - (d) Electric energy
3. Which of the following is not used for measuring time?
  - (a) Sundial
  - (b) Water clock
  - (c) Sand clock
  - (d) Hand span

4. Efficiency of a machine is
  - (a)  $\text{output} \times \text{input}$
  - (b)  $\text{output} / \text{input}$
  - (c)  $\text{input} / \text{output}$
  - (d)  $\text{output} + \text{input}$
  
5. In which direction does a freely suspended compass needle align itself?
  - (a) South-North
  - (b) North-South
  - (c) East-West
  - (d) West-East
  
6. What is the unit of force?
  - (a) N/m
  - (b) Nm
  - (c)  $\text{N}^2$
  - (d) N
  
7. Why do trucks carrying heavy loads have eight tyres instead of four?
  - (a) To increase the area of contact
  - (b) To decrease the area of contact
  - (c) To increase friction
  - (d) To decrease friction
  
8. Which of the following is NOT used to reduce friction?
  - (a) Lubricant
  - (b) Wheels
  - (c) Boric powder
  - (d) Cleats
  
9. The 'nodding action of the human head' is an example of which class of lever?
  - (a) Class I
  - (b) Class II
  - (c) Class III
  - (d) None of the above
  
10. Class II levers are designed to have
  - (a)  $\text{M.A.} = \text{V.R.}$
  - (b)  $\text{M.A.} > \text{V.R.}$
  - (c)  $\text{M.A.} > 1$
  - (d)  $\text{M.A.} < 1$

- 11.** Lodestone is an example of a/an
- (a) Artificial magnet
  - (b) Electromagnet
  - (c) Natural magnet
  - (d) None of the above
- 12.** In Class I lever the
- (a) Fulcrum is between the load and effort
  - (b) Load is between the load and fulcrum
  - (c) Effort is between the load and fulcrum
  - (d) None of the above
- 13.** The force exerted by a magnet is called
- (a) Gravitational force
  - (b) Magnetic force
  - (c) Mechanical force
  - (d) Muscular force
- 14.** A nut cracker is an example of a \_\_\_\_\_ lever.
- (a) First order
  - (b) Second order
  - (c) Third order
  - (d) None of the above
- 15.** For doing more work, more \_\_\_\_\_ has to be applied.
- (a) Energy
  - (b) Displacement
  - (c) Force
  - (d) None of the above

**Question 2**

(A) Name the following. [5]

1. The ultimate source of energy.
2. Force which does not require physical contact between the two bodies on which it acts.
3. The ratio of load to effort.
4. A grooved wheel which is used along with a rope or a chain.
5. Unit of thrust.

(B) Fill in the blanks. [5]

1. A quantity which can be measured is called a \_\_\_\_\_ quantity.
2. \_\_\_\_\_ forces require physical contact between the objects.
3. \_\_\_\_\_ is an instrument used to find the directions at a place.
4. Force acting on a body perpendicular to its surface is called \_\_\_\_\_.
5. \_\_\_\_\_ is the total energy of motion and position of an object.

**Question 3**

(A) Match the following. [5]

Column A	Column B
1. Beam balance	a. Magnetic keepers
2. Rubbing a glass rod with silk cloth	b. Chemical energy
3. Horse-shoe magnet	c. Measurement of mass
4. Burning of a candle	d. Charging by friction
5. Self-demagnetisation	e. Artificial magnet

(B) Correct the following sentences. [5]

1. Powder applied on a carrom board increases friction.
2. Magnetic force is the weakest of all the forces.
3. Natural magnets are stronger than artificial magnets.
4. The time period of the simple pendulum depends on the mass of the bob used.
5. Moon is the ultimate source of energy.

**Question 4**

(A) Answer the following.

1. Differentiate between mass and weight. [4]
2. Define force. [1]

(B) What are the uses of an electromagnet? [5]

**Question 5**

(A) Answer in one sentence: [5]

1. Define: Light year.
2. Give three names of simple machines which are of lever type.
3. Which is the most important, inexhaustible and main source of energy?
4. What is meant by the term magnetic field?
5. Give two examples of muscular force.

(B) Find the odd one out. [5]

1. Diesel, petrol, kerosene, photocell
2. Beam balance, stopwatch, grocer's balance, digital balance
3. Ice tongs, claw hammer, crowbar, see-saw
4. Steel, copper, aluminium, brass
5. Using lubricants, using ball-bearings, polishing the surfaces, making grooves in tyres

**Question 6**

(A) How can a magnet be demagnetised? [5]

(B) Define the following. [5]

1. Input or input energy
2. Temporary magnet
3. Laboratory thermometer
4. Magnetic force
5. Length of a magnet

**Question 7**

(A) Answer the following.

1. Give two advantages of an electromagnet. [2]
2. What is a machine? [3]

(B) Answer the following.

1. Write four advantages of friction. [2]
2. Explain how to prepare a magnet by the magnetic induction method. [3]