

ST. THOMAS' SCHOOL, SUNARI
Sample Half Yearly Examination(2024-25)

Class- VI

Subject- Physics

Max. Time- 2 Hours

M.M – 80

Name: _____

Roll no. _____

General Instructions:

Read all the questions carefully before answering.

All the questions are compulsory.

Don't copy questions in the answer script.

Pay attention to the correct numbering of answers. Maintain good handwriting and pay attention to the margins & neatness.

The intended marks for questions or part of questions are given in the brackets [].

Question 1: Choose & write the correct answer:

[5]

i) Energy can neither be created nor destroyed; it only changes from one form to another. This is known as:

- a) Law of reflection
- b) Law of conservation of energy
- c) Law of inertia
- d) Law of magnetism

ii) The primary source of energy for life on Earth is:

- a) Electricity
- b) Wind
- c) Sun
- d) Water

iii) The image formed by a plane mirror is:

- a) Real and inverted

- b) Virtual and upright
 - c) Smaller than the object
 - d) Larger than the object
- iv) When light passes through a glass prism, it:
- a) Is reflected
 - b) Bends and disperses
 - c) Remains unaffected
 - d) Is absorbed
- v) A material that does not allow light to pass through is called:
- a) Transparent
 - b) Translucent
 - c) Opaque
 - d) Reflective

Question 2: Complete the following sentences:

[5]

- i. ____ is a device that uses magnetism to convert electrical energy into mechanical energy.
- ii. The splitting of white light into its component colours is called ____.
- iii. The energy possessed by an object due to its motion is called ____ energy.
- iv. A ____ is a material that can attract iron and steel objects.
- v. Light travels in a ____ line.

Question 3: Correct the following false statements by writing the correct statement.

[5]

- i. The energy stored in a stretched rubber band is kinetic energy.
- ii. The angle of incidence is always greater than the angle of reflection.
- iii. All magnets have only a north pole.
- iv. A shadow forms when light bends around an object.
- v. A magnet can attract all types of metals.

Question 4: Match the items given in Column A with the most appropriate ones in Column B and rewrite the correct matching pairs:

[5]

	Column A	Column B
	i. Potential energy	a) Magnetic field lines
	ii. Transparent material	b) Iron filings around a magnet
	iii. Refraction	c) Energy due to position
	iv. Magnetic compass	d) Light passing through a lens
	v. Light travels fastest in	e) Air

Question 5: Answer the following questions in one or two words.

[5]

- i. A device used to measure light intensity.
- ii. The type of image formed by a concave lens.
- iii. The unit of energy in the International System of Units.
- iv. A material that reflects most of the light that falls on it.
- v. The invisible lines that represent the direction and strength of a magnetic field.

Question 6: Write the SI units of the following quantities:

[4]

- i. Energy
- ii. Light intensity
- iii. Magnetic field strength
- iv. Power

Question 7: Give reasons for the following statements:

[4]

- i. A black surface absorbs more heat than a white surface.

- ii. Iron filings form a pattern around a magnet.
- iii. The image in a plane mirror is laterally inverted.
- iv. A convex lens can focus sunlight to a point.

Question 8: Define the following terms:

[4]

- i. Magnetic field
- ii. Refraction of light
- iii. Renewable energy
- iv. Dispersion

Question 9: Distinguish between the following:

[6]

- i. Renewable and non-renewable sources of energy
- ii. Transparent and translucent materials

Question 10: Solve the following numerical:

[6]

- i. A light ray strikes a plane mirror at an angle of 30° . What is the angle of reflection?
- ii. A person uses 500 Joules of energy to lift a 10 kg object. How high is the object lifted? (Assume $g = 10 \text{ m/s}^2$)
- iii. The power of a machine is 200 watts. How much energy does it use in 5 minutes?

Question 11: Short answer questions:

[8]

- i. What is meant by "energy transformation"? Give one example.
- ii. Explain why shadows are formed.
- iii. How does a magnet lose its magnetic properties?
- iv. What is the purpose of using a convex mirror in vehicles?

Question 12: Long answer questions:

[12]

- i. Describe the different types of energy (kinetic, potential, thermal, etc.) and give an example of each.
- ii. Explain how light travels and how it can be reflected and refracted.

- iii. Discuss the importance of magnets in everyday life, with examples.
- iv. Describe the process of generating electricity using wind energy.

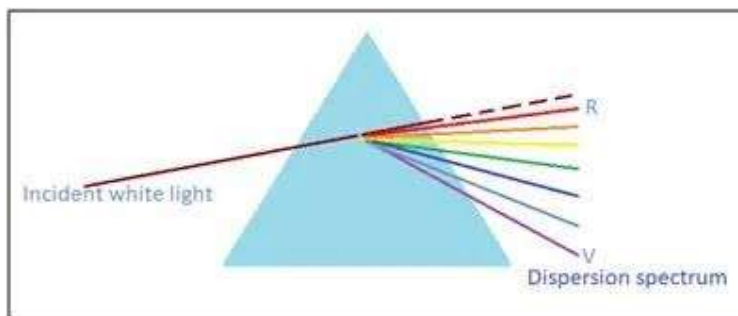
Question 13: Answer the following application-based question on magnets:

[4]

Ananya has two identical looking bars. One is a magnet, and the other is a piece of iron.

a) How can she determine which one is the magnet without using any other materials?

Question 14: Observe the following diagram and answer the following questions:



- i. Name the phenomenon shown in the diagram.
- ii. Which colour of light bends the most?
- iii. Which colour of light bends the least?
- iv. What is the cause of the bending of light?

Question 15: Draw a well-labelled diagram of a bar magnet and its magnetic field lines.

[3]