

**ST. THOMAS' SCHOOL, SUNARI, AGRA**  
**Half Yearly Examination (2024-25)**  
**Specimen Question Paper**  
**Class- VIII**  
**Subject- Physics**

*Time allowed: Two hours*

*Maximum marks: 80 marks*

**SECTION A**

*(Attempt all the questions)*

**Question 1**

**[15]**

Choose the correct answers to the questions from the given options.

(Do not copy the question, write the correct answers only.)

- i. Speed of a light is maximum in  
(a). glass (c). vacuum  
(b). water (d). diamond
- ii. The bending of light when it travels from one medium to another is called  
(a). reflection (c). refraction  
(b). diffraction (d). propagation
- iii. Image formed by convex mirror is always:  
(a). inverted (c). enlarged  
(b). real (d). virtual
- iv. One calorie equal to.  
(a). 42 j (c). 4200 j  
(b). 4.2 j (d). 420 j
- v. The coolant used in radiator of car is.  
(a). diesel (c). alcohol  
(b). petrol (d). water
- vi. 50 calories of heat raise the temperature of 10 gram of water by:  
(a).  $10^{\circ}$  C (c).  $1^{\circ}$  C  
(b).  $5^{\circ}$  C (d).  $2^{\circ}$  C
- vii. The pitch of the sound of mosquito is:  
(a). higher (c). medium  
(b). lower (d). none of them
- viii. In a guitar sound is produced by:  
(a). plucking (c). blowing  
(b). beating (d). all of them
- ix. Charging of a body by bringing a charged body near it but not touching it it's called charging by.  
(a). conduction (c). radiation  
(b). convection (d). induction
- x. An electroscope is an instrument used to:  
(a). view the electrons (c). detect the presence of a charge.  
(b). charge a body (d). none of these
- xi. Liquid converts to gas on –  
(a) cooling (b) heating  
(c) fusion (d) none
- xii. Density = \_\_\_\_\_  
(a) mass X volume (b) mass – volume  
(c) mass /volume (d) mass + volume

xiii. The device used to measure the pressure is-

- (a) Manometer
- (c) Barometer

- (b) Sonometer
- d) Galvanometer

xiv. Which of the following is not a fossil fuel?

- (a) Biogas
- (c) petroleum

- (b) wood
- (d) coal

xv. A stretched bow store stores-

- (a) Potential energy
- (c) heat energy

- (b) kinetic energy
- (d) wind energy

### Question 2.

**(i) Complete the following sentences using suitable words:**

[6]

- (a) The speed of light is \_\_\_\_\_ in a vacuum compared to any other medium.
- (b) When light passes from air into water, it \_\_\_\_\_ due to a change in speed.
- (c) A convex mirror always forms a \_\_\_\_\_ image regardless of the position of the object.
- (d) The unit used to measure energy, specifically heat, is the \_\_\_\_\_.
- (e) The coolant most commonly used in a car radiator to absorb heat is \_\_\_\_\_.
- (f) The pitch of a sound is determined by its \_\_\_\_\_, with higher frequencies producing higher pitches.

**(ii) Give reasons for the following:**

[2]

- 1) Energy changes from one form to another, but not the power.
- 2) Bags and suitcases are made with broad belts.

**iii) Differentiate between the following by giving examples-**

[2]

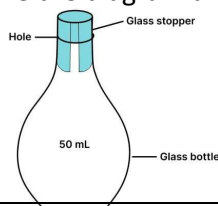
- 1. Chemical energy and mechanical energy.

### Question 3.

- (i) Name some electrical safety devices [2]
- (ii) Define and explain the static electricity [2]
- (iii) What do you understand by electrical grounding? [2]
- (iv) How is boiling different from evaporation? Explain [2]
- (v) Which factor determines the quantity of heat in a body? [2]
- (vi) What is latent heat of fusion? Explain [2]

**(vii) Observe the diagram and answer the following questions-**

[3]



- a) Name the apparatus shown above.  
 b) What is the use of shown apparatus in Physics?

**Section – B (40 marks)**  
 (Attempt *all* the questions)

**Question 4.**

[10]

- i. Study the diagram and explain the process shown here:



- ii. Why does a vibrating simple pendulum do not produce any sound?  
 iii. Define a) noise pollution b) amplitude  
 iv. How is rainbow formed?

**Question 5.**

[10]

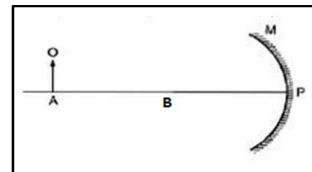
- i. What is refractive index of a medium?  
 ii. What is spherical mirror? Differentiate between concave and convex mirror.  
 iii. Find the amount of heat energy required to change 10 g of ice at  $-5^{\circ}\text{C}$  to water at  $15^{\circ}\text{C}$  (latent heat of ice = 336 joule/gram, specific heat of ice= 2100 joule/kg, specific heat of water=4200 joule/kg)  
 iv. What are the precautions that should be taken during lightning.

**Question 6.**

[10]

- i. Write a short note on live, neutral and Earth wires.  
 ii. How do you use a gold leaf electroscope to detect the nature of a charge on a body?  
 iii. Explain all the three characteristics of sound.  
 iv. In the given figure, AO is an object placed on the principal axis of a concave mirror. The image of the object is formed at the same point where the object is located but in an inverted position.

- a) At which point on the principal axis is the object located  
 b) What is the nature and size of the image formed?  
 c) Draw the complete ray diagram.



**Question 7.**

[10]

- i. Why does a pencil appear to be bent when dipped in a glass of water? Explain.  
 ii. Write the laws of refraction. Which law of refraction is associated with refractive index?

iii. Define the following terms:

- i. Radius of curvature
- ii. Focal length
- iii. Principal axis

iv. Note the relation between first two words and write for the other one.

Slow vibrations	Oscillations	Fast vibration	.....
Frequency	Hertz	Intensity of sound	.....
Flute	Wind instrument	Guitar	.....
Cotton	Good absorber	Good reflector	.....