FINAL EXAMINATION (2025-2026)
PHYSICS

CLASS: 8
READING TIME: 15 Minutes
DATE: 12.02.2026

TOTAL MARKS: 80
WRITING TIME: 2 Hours

Answers to this Paper must be written on the paper provided separately.
You will not be allowed to write during first 15 minutes.
This time is to be spent in reading the question paper.
The time given at the head of this Paper is the time allowed for writing the answers.

***Section A** is compulsory. Attempt **any four** questions from **Section B**.*
The intended marks for questions or parts of questions are given in brackets [ ].

SECTION A

*(Attempt **all** questions from this Section.)*

Question 1

Choose the correct answers to the questions from the given options. [15]

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

(i) A bucket kept under a water tap is about to fill. Which characteristic of sound enables us to find if bucket is about to fill?
(a) pitch (b) loudness (c) quality (d) noise

(ii) **Assertion (A):** Refractive index has no unit.

Reason (R): The refractive index of a medium depends on the colour of light.

(a) Both A and R are true and R is the correct explanation of A
(b) Both A and R are true and R is not the correct explanation of A
(c) Assertion is false but reason is true
(d) Assertion is true but reason is false

(iii) Which phenomenon is demonstrated in the picture given alongside?
(a) gravitational pull
(b) static electricity
(c) electric shock
(d) lightening

(iv) Choose the correct statement(s):

A. Refractive index of a medium is the ratio of speed of light in air to the speed of light in the medium.

B. Speed of light in a medium is always less than the speed of light in air.

(a) Both (A) and (B)
(b) Only (B)
(c) Only (A)
(d) None of these

(v) The relation between coefficient of linear expansion (α), superficial expansion (β) and cubical expansion (Y) is:

(a) $\alpha : \beta : Y = 1 : 3 : 2$
(b) $\alpha : \beta : Y = 2 : 3 : 1$
(c) $\alpha : \beta : Y = 1 : 2 : 3$
(d) $\alpha : \beta : Y = 3 : 2 : 1$

(vi) **Assertion (A):** We cannot hear anything in space.

Reason (R): Sound cannot travel through an empty space with absence of matter.

(a) Both A and R are true and R is correct explanation of A.
(b) Both A and R are true and R is not the correct explanation of A.
(c) Assertion is false but Reason is true.
(d) Assertion is true but Reason is false.

(vii) Which of the following is a reed instrument?
(a) tabla (b) guitar (c) trumpet (d) piano

(viii) On heating, solids expand:
(a) more than liquids.
(b) less than liquids.
(c) more than gases.
(d) more than liquids but less than gases.

(ix) A given volume of alcohol and the same volume of water at room temperature are heated to the same rise in temperature then:
(a) alcohol contracts, but water expands.
(b) water contracts, but alcohol expands.
(c) water expands more than alcohol.
(d) alcohol expands more than water.

(x) Which of the following is not an use of concave mirror:
(a) As a doctor's head mirror
(b) In flood lights as a reflector
(c) As a vigilance or anti-theft mirror
(d) To converge solar radiations in a solar cooker

(xi) The frequencies of notes given by flute, guitar, trumpet and piano are respectively 400 Hz, 200 Hz, 500 Hz and 300 Hz. Which one of these has highest pitch?
(a) flute (b) guitar (c) trumpet (d) piano

(xii) Equal volume of carbon dioxide and oxygen gases are heated to same rise in temperature, then:
(a) Carbon dioxide will expand more than oxygen.
(b) Oxygen will expand more than carbon dioxide.
(c) None of the gases will show any expansion.
(d) Both the gases will expand equally.

(xiii) When a light ray falls normal to the glass surface:
(a) it bends towards the normal
(b) it bends away from the normal
(c) it does not bend and goes along the same path
(d) it may bend towards or away from the normal

(xiv) During boiling:
(a) all molecules take part.
(b) temperature rises.
(c) no heat is absorbed.
(d) the average kinetic energy of the molecules increases.

(xv) Which of the following is not an example of refraction of light?
(a) Image seen through the rear-view mirror of a car.
(b) Mirage in desert.
(c) Twinkling of stars.
(d) A pencil in water appears to be bent.

Question 2.

(i) Complete the following by choosing the correct answer from the bracket: [6]

(a) Air is optically _____ *[rarer / denser]* than water.

(b) Cooling is produced in _____ [*boiling / evaporation*]

(c) Elephants can hear _____sound. [*infrasonic / ultrasonic*].

(d) Telephone wires are kept _____*[tight / loose]* between two poles in winter.

(e) Threshold of hearing for human ear is _____. [*0 dB /120 dB*]

(f) On heating water from 0^0C to 4^0C it _____ [*expands /contracts*].

(ii) Name the kind of mirror used to obtain:

(a) a real and enlarged image,

(b) a virtual and enlarged image. [2]

(iii) What is the speed of light in vacuum? If speed of light in glass is 2×10^8 ms^{-1}, find the refractive index of glass. [2]

Question 3.

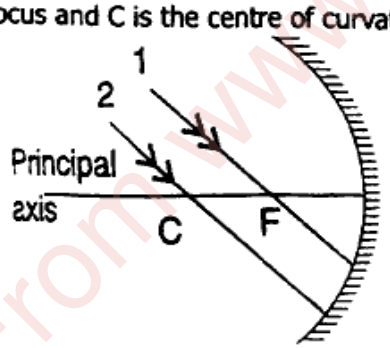
(i) In each of the following cases, state which body loses electrons: [2]

(a) A glass rod when rubbed with silk.

(b) An ebonite rod when rubbed with fur.

(ii) Give two examples of inflammable substances. [2]

(iii) Copy and complete the following diagram by drawing the reflected rays for the incident rays 1 and 2 if F is the focus and C is the centre of curvature. [2]



(iv) Write the characteristic of sound that depends on: (a) waveform, and (b) amplitude. [2]

(v) Give two differences between charging by conduction and charging by induction. [2]

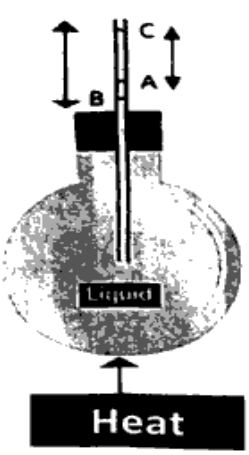
(vi) An electric meter reads 4740 kWh at the end of a month, while at the end of the previous month the reading was 4420 kWh. How many units of electricity was consumed during the month? If one unit costs ₹ 4.00, find the cost of the electrical energy consumed. [2]

(vii) In the given figure, water is heated in a flask. The initial level of water is A. It is observed that on heating, the level of water goes to B and on further heating it increases to level C.

(a) Why does the level of water decrease to level B?

(b) What is the increase in levels from A to C called?

(c) What is the increase in level from B to C called? [3]



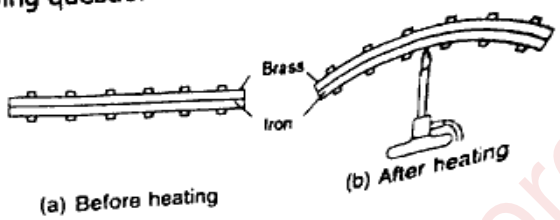
SECTION B

*(Attempt **any four** questions.)*

Question 4.

(i) In ball and ring experiment, iron ball is heated. State the effect on its: (a) mass, (b) diameter, and (c) density. [3]

(ii) Study the following diagram and answer the following questions:

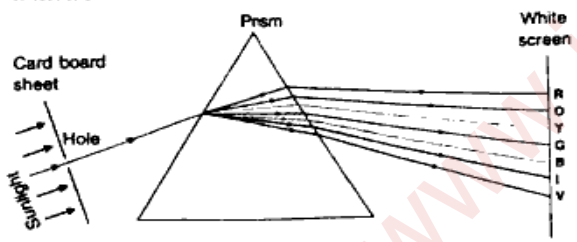


(a) Why does the strip bends?
(b) Which one expands more iron or brass?
(b) Give one application bimetallic strip. [3]

(iii) (a) How can a concave mirror be used to obtain a virtual image of an object?
(b) Draw a diagram to illustrate your answer in part (a). [4]

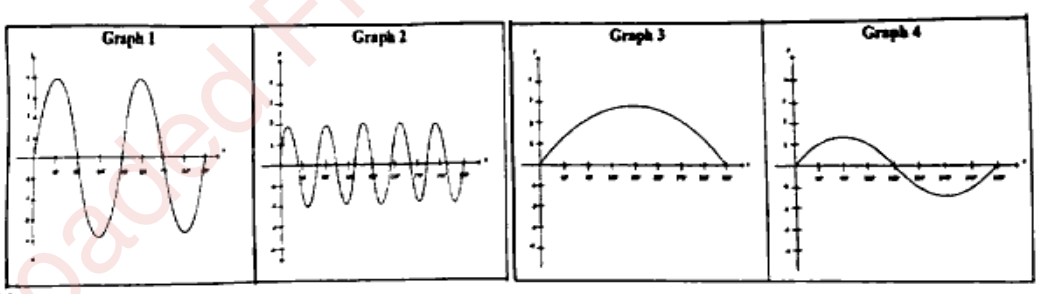
Question 5.

(i) (a) In the figure given below, name the phenomenon taking place at the first surface of the prism.
(b) Give reason for the above mentioned phenomenon in part (a).
(c) What is the name given to the band of colours formed on the white screen? [3]



(ii) State the colour coding of the three wires in a cable used for wiring in a household electrical circuits. [3]

(iii) Study the graph and answer the following questions: [4]



(a) Which graph shows sound wave of highest loudness?
(b) Which graph shows highest pitch sound?
(c) Which graph shows least frequency?
(d) Which graph shows soft sound of all the waves?

Question 6.

(i) Draw a neat, labelled diagram showing a high pitch and low pitch sound waves.[3]

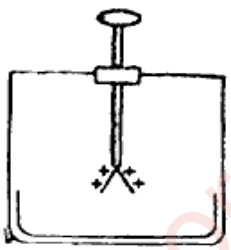
(ii) Name three constituents of an atom and state the kind of charge on each of them. [3]

(iii) In your classroom two bulbs each of 100 W, four fans each of 150 W and a sense board of 300 W are used for 6 hours per day. Find:
(a) total power consumed per day.
(b) total power consumed in 30 days.

(c) total electrical energy consumed in 30 days.
(d) the cost of electricity at the rate of Rs 6.50 per unit. [4]

Question 7.

(i) What is an electroscope? In the given diagram of Gold Leaf Electroscope, the body to be tested is brought near brass disc. State the kind of charge when:
(a) the divergence of leaves increases?
(b) the divergence of leaves decreases? [3]



(ii) (a) Give reason: A women's voice is different from a man's voice.
(b) What is the frequency range of audibility for human beings? 3]

(iii) Draw a ray diagram to show the formation of image of an object placed between the focus and the centre of curvature. Also write two characteristics of the image formed. [4]

Question 8.

(i) (a) What is the cause of thermal expansion? increase in intermolecular space
(b) State two factors on which frequency of sound produced by membrane instruments depend. [3]

(ii) Give three effects of heat. [3]

(iii) (a) Name the electrical device shown in the figure alongside.
(b) Name the material of the wire it is made of. alloy of lead
(c) Give one characteristic of the wire used in this device.
(d) Why a copper wire should not be used in this device? [4]
high mp

Question 9.

(i) State three factors on which loudness of sound heard by a listener depends. [3]

(ii) An electric heater is rated 1500 W, 220 V.
(a) What do you mean by this statement?
(b) If it is used for 2 hours, calculate the energy consumed in:
(i) kWh, and in (ii) joule. [3]

(iii) (a) Identify the kind of mirror used in the figure given alongside and give reason as why this kind of mirror is used as rear view mirror in vehicles.
(b) Give one more use of this kind of mirror. [4]