

Instructions: Read the question paper carefully. Write neatly and legibly. Do not over write. Read the answers before submitting the answer sheet.

Section - A (20 marks)
(Attempt all the questions)

I) State whether these statements is true or false- [4]

1. Convex mirror diverging mirror.
2. Virtual image can be taken on the screen.
3. The expansion in volume is called superficial expansion.
4. Evaporation occurs at all temperature.
5. Women have loud voice in comparison to men.
6. Unit of loudness is Hertz.
7. Fuse wire have high resistivity.
8. Charging an electroscope by two ways by conduction and by induction.

II) Match the column- [4]

A	B
1. Benjamin Franklin	a) Electric energy
2. kWh	b) Diverging mirror
3. Sound wave	c) Shrillness of sound
4. Pitch	d) Lighting
5. Thermal expansion	e) Longitudinal wave
6. Heat	f) Converging mirror
7. Convex mirror	g) Sensation of hotness or coldness
8. Concave mirror	h) Gravesad's ball and ring experiment

III) Choose the correct option:- [4]

1. _____ is used as rare view mirror in vehicles.
- a) Concave mirror c) Plane mirror
b) Convex mirror d) None of these

2. Relation between focal length and radius of curvature is :

a) $R = \frac{2}{f}$

c) $f = \frac{R}{2}$

b) $2 \times f = R$

d) All of these

3. Linear expansion does not depend on the :

a) Nature of material

c) Original length of the body

b) The increase in temperature

d) Original surface area of the body

4. A bimetallic strip is not used in :

a) Thermostat

c) Fire alarm

b) Pendulum clock

d) Electric iron

5. Sound travel fastest in :

a) Solids

c) Liquids

b) Gases

d) Vacuum

6. Loudness is a sensation depending upon :

a) Time period

c) Phase

b) Frequency

d) Intensity

7. Fuse wire is made-up of an alloy of :

a) Lead and tin

c) Aluminium and copper

b) Silver and gold

d) copper and silver

8. Earthing means connecting the device to _____.

a) Electroscope

c) earth

b) High voltage

d) none of these

IV) Draw ray diagram with nature of image : [4]

1. When object lies between centre of curvature and focus.

2. When object lies on centre of curvature.

V) Calculate electric energy consumed when 4 bulbs of 60 W, 2 fans of 100 W, television of 100 W is used for 8 hours daily in a month of 30 days. If electric energy cost Rs 4 per unit, Calculate complete expenditure for that month. [2]

VI) Tabulate the Four difference between Boiling and evaporation [2]

Section B (20 marks)

Attempt any Four questions (each question carry 2.5 marks)

- I) a) What is image ? write the difference between real and virtual image.
b) Write the uses of concave and convex mirror.
- II) a) State two application of thermal expansion ?
b) What is sound ? Can sound travel through vacuum ? What is a treble and bass.
- III) a) What is the full form of MCB and its function ?
b) What is a decibel scale. Explain it by giving suitable examples. How is hearing loss caused ?
- IV) a) What is a bimetallic strip ? Name two gadgets where it is used.
b) Describe an experiment to demonstrate the thermal expansion of solids.
- V) a) Explain the pitch and frequency in relation to working musical instrument by giving suitable examples?
b) Give the statement law of charges. If two charged rubber rods are brought near each other. What happen ?
- VI) a) What are the precautions must be taken in household electric connection ?
b) Loops are joined with the metal pipe line. Why ?

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