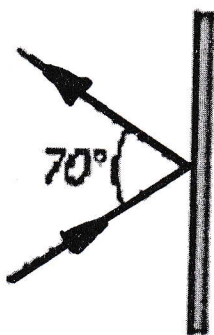


Section AAttempt all the questions

- Q1 Choose the correct alternative and rewrite your answers (15)
- i. The perpendicular drawn to the reflecting surface is called
- normal
  - incident ray
  - reflected ray
  - none of these
- ii. If the amplitude of a sound wave is tripled, the loudness increases
- 9 times
  - 3 times
  - 2 times
  - No change
- iii. The Relative density of a metal is 2.7, Its density is
- 2.7
  - $2700 \text{ g cm}^{-3}$
  - $2700 \text{ kg m}^{-3}$
  - $2.7 \text{ kg m}^{-3}$
- iv. Two sources of sound A and B have frequencies 128 Hz and 256 Hz respectively, then to the listener
- Sound A will be Shrill and sound B will be grave
  - Sound A will be grave and sound B will be Shrill
  - Both sound A and Sound B will be grave
  - Both sound A and sound B will be shrill.
- v. The wire which carries current to the appliance at high voltage is
- Earth wire
  - Ground Wire
  - Neutral Wire
  - Phase wire
- vi. Early sunrise and late sunset is due to
- Reflection of Light
  - Transmissions of light
  - Refraction of Light
  - Diffraction of light
- vii. In a flute, a lower note is obtained by
- closing some more holes of the flute
  - opening some more holes of the flute
  - by blowing the flute with more force
  - by blowing the flute with less force

- viii. A gold leaf electroscope is to be charged negatively by conduction
- A positively charged rod is held close to the disc of electroscope
  - A positively charged rod is placed in contact with the disc of electroscope
  - A negatively charged rod is held close to the disc of electroscope
  - A negatively charged rod is placed in contact with the disc of electroscope
- ix. A ray of light moving from an optically rarer to a denser medium
- Bends away from the normal
  - Bends towards the normal
  - Remains undeviated
  - None of the above
- x. Which of the following is the correct image of the English alphabet 'P' when we see through a plane mirror
- P
  - b
  - q
  - a
- xi. Which of the following results in diffused reflection?
- Plane Mirror
  - Shiny surface
  - Silver
  - Wood
- xii. An object with a greater mass but same volume as another object will have
- Lower density
  - Higher density
  - The Same density
  - Double the density
- xiii. Above \_\_\_\_\_ dB the sound becomes physically painful
- 60
  - 40
  - 120
  - 80
- xiv. For a floating body, its weight  $W$  and upthrust  $F_B$  on it are related as below
- $W > F_B$
  - $W < F_B$
  - $W = F_B$
  - Nothing can be said

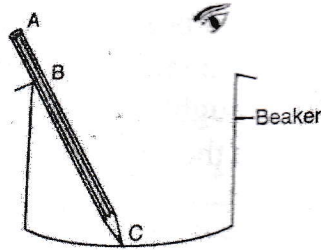
- xv. Which of the following is the angle of Reflection for the light ray given in the figure



- $70^\circ$
- $60^\circ$
- $35^\circ$
- $30^\circ$

Q2.

- A) Refer to the figure below it shows a pencil placed in a beaker  
 What will happen if the beaker is filled with water and the observer sees the pencil below? Why? (2)



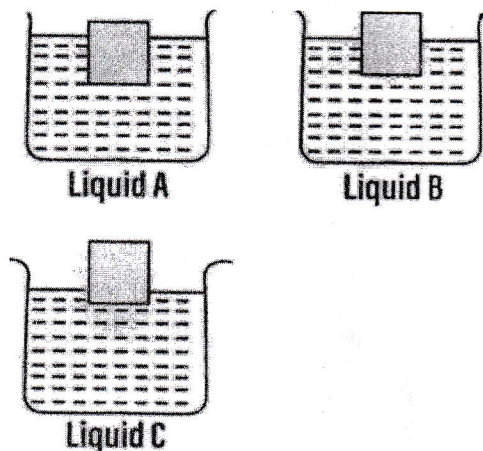
- B) State three safety measures one should take in household electric connection? (3)

Q3.

- A) Match the following : Just write the number on the left column with the Alphabet of the right column. (3)

1. Real Image	a. Occurs when a beam of light falls on a plain mirror
2. Regular reflection	b. Is erect with respect to the object
3. Virtual image	c. Copper strip
4. Lightning conductor	d. Occurs when a beam of light falls on the wall of a room
5. Irregular reflection	e. Alloy of lead and tin
6. Fuse	f. Is inverted with respect to the object

- B) i. State the law of floatation? (3)  
 ii. Observe the figure below where a block of solid is placed in liquids with varying densities



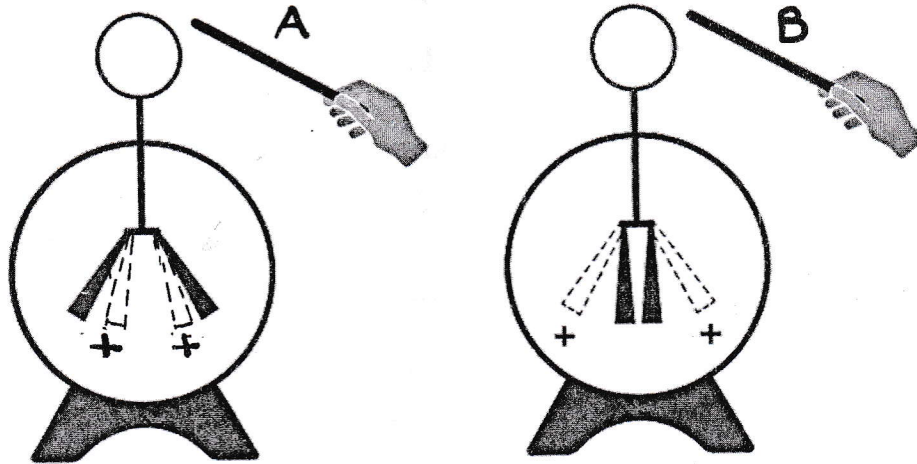
- a) Which liquid has the highest density?  
 b) Arrange the densities of the liquids in descending order? (4)
- C) Distinguish Between (Two Points each) (4)
- i. Neutral wire and Earth wire (Colour, Purpose)  
 ii. Relative Density and Density (Definition, unit)

Q4

A)

(5)

- i. Define an electroscope.
- ii. Name the two ways in which an electroscope can be charged
- iii. Refer to the figure given below. It shows a positively charged gold leaf electroscope. (The dotted lines indicate the initial position of the gold leaf) Two rods A and B are brought near the positively charged gold leaf electroscope. Mention the charge on the rods in A and B respectively.



B) State Whether the following statements are true or false .

(5)

also rewrite the Correct statement.

- i. To find whether a body is charged or not , a charged electroscope is used.
- ii. Sound travels in air in the form of transverse wave
- iii. The density of a solid decreases with increase in its temperature
- iv. The Fuse wire is always connected with the live wire.
- v. When two substances are rubbed on each other, like charges are developed on each.

### SectionB

Attempt all the questions

Q5.

A) Give reasons:

(8)

- i. Sound cannot reach us from space
- ii. An iron needle sinks in water, but a ship made of iron floats on water
- iii. A lightning conductor is used to protect buildings from being damaged due to lightning.
- iv. Water is optically rarer than glass

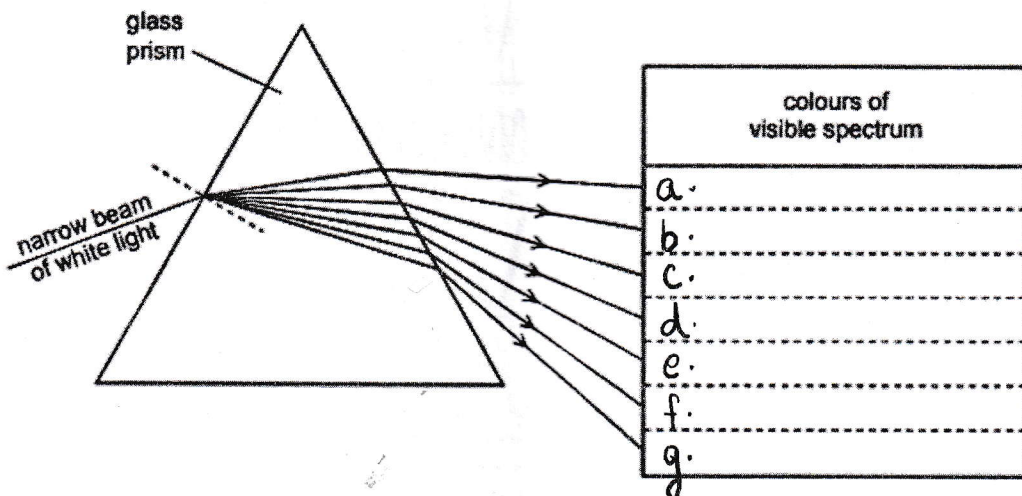
B) Choose the odd one out giving reason:

(2)

- i. Area of vibrating body, Sensitivity of listener, Amplitude, Temperature.
- ii. Wood, cork, iron nail, ice

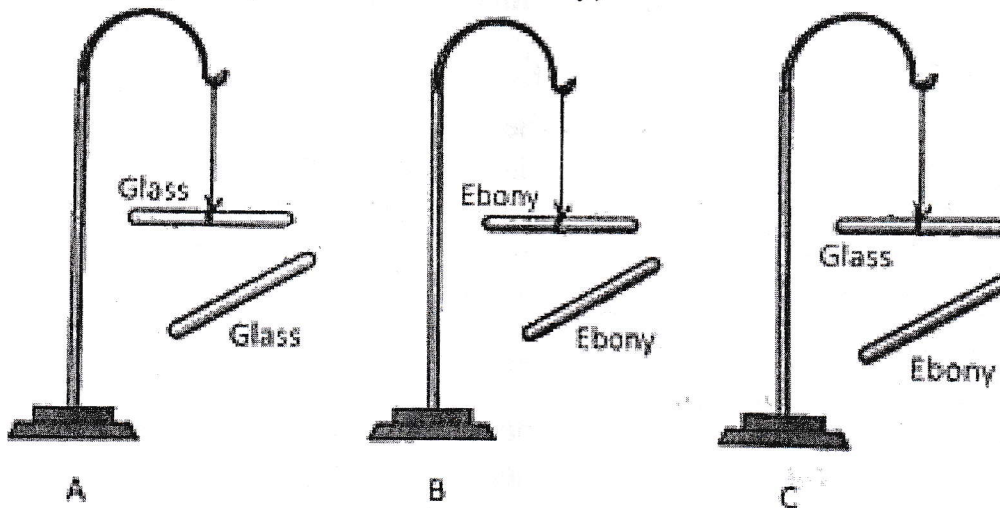
Q6.

A) A narrow beam of white light enters a glass prism and splits into colours of the Visible spectrum. (5)



- Complete the diagram by writing all the colours of the visible spectrum (Do not redraw the diagram. Just mention the colours against the alphabets)
- State the term used to describe the different amount of bending that produce the spectrum. Define this term.
- State the cause of the above phenomenon
- Which colour light is deviated maximum and minimum?

B) Study the pictures A, B and C given below and answer the following questions (3)  
Based on the figure: (write the answers only)



- In the case of 'A' two glass rods rubbed with silk \_\_\_\_\_ each other because both the rods bear \_\_\_\_\_ charge on them
- In the case of 'B' two rubber (Ebony) rods rubbed with fur \_\_\_\_\_ each other because both the rods bear \_\_\_\_\_ charge on them.
- In the case of 'C' two rods (glass and rubber) \_\_\_\_\_ each other because both the rods bear \_\_\_\_\_ charge on them.

C) State the two laws of Reflection?

(2)

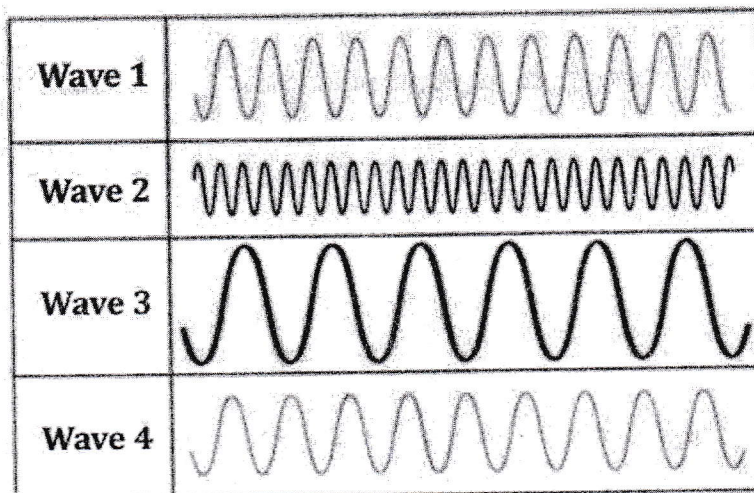
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Q7.

A) Refer to the figure below:

(3)

The picture shows four sound waves.



- Which waveform shows the highest Pitch?
- Which waveform is the loudest?
- Name the source of sound of single frequency?

B) The Volume of an object is  $8 \text{ cm}^3$  and mass of the object is 84 grams. What is the density of the object in  $\text{kg m}^{-3}$ ?

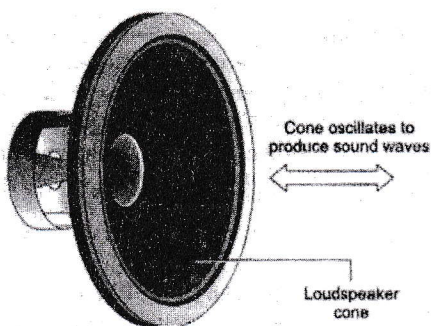
(3)

C) State four characteristics of the image formed by plane mirror

(4)

Q8.

A) Figure below shows a loudspeaker cone oscillating to produce sound waves



i. As the sound wave passes a point, it produces regions of higher and lower Pressure. The regions of higher pressure are known as \_\_\_\_\_ and the Regions of lower pressure are known as \_\_\_\_\_.

(2)

ii. Define a) Amplitude and b) Wavelength of a sound wave produced from the loudspeaker

(2)

B) An insect is sitting in front of a plane mirror at a distance of 2 metre

(2)

- Where is the image of the insect formed
- What is the distance between the insect and its image.

C) The mass of empty density bottle is 35 g, It is 80 g when filled completely with water and 60 g when filled completely with liquid Find:

(4)

- Volume of density bottle
- Density of liquid and
- Relative density of liquid.