

CLASS: VII

Time 1hr 30mins

Marks 80

PHYSICS

I. Name the following

(10X1=10)

1. The maximum displacement of a wave on either side of its mean position:
2. The characteristic by which an acute or shrill sound can be distinguished from a flat sound:
3. Vibrations of frequency less than 20Hz :
4. Sound heard as a result of reflected sound wave:
5. The minimum temperature required by a substance to catch fire and starts to burn:
6. The process of changing liquid into solid state:
7. Transfer of heat without the help of a medium:
8. The source of light which is of the size of a pin head:
9. Materials which do not allow light to pass through them:
10. A collection of rays:

II. Write the SI units of the following

(4X1/2=2)

1. Wavelength 2. Frequency 3. Heat energy 4. Temperature

III. Define the following

(8X1=8)

1. Time period 2. Audible frequency 3. Persistence of hearing 4. Calorie 5. Insulators of heat
6. Sublimation 7. Superficial expansion 8. Rectilinear propagation of light

IV. Give reason

(6X2=12)

1. The voice of a woman is shriller than that of a man.
2. In auditoriums and cinema halls, walls are covered with heavy curtains.
3. Small gaps are left between successive rail pieces.
4. Cooking utensils are made of metals whereas handles are made of ebonite or wood.
5. The clothes worn by fire fighters are bright and shiny.

6. On an extremely cold day it is easier to walk on a mat than on marble floor. Similar is the case during summers also. (4X2=8)

V. Differentiate between the following

1. Transparent and translucent materials 2. Heat and Temperature 3. Conduction and Convection
4. Luminous and Non luminous bodies

(8x2=16)

VI. Answer the following in short

1. Write two uses of ultrasonic waves in medical field.
2. If a body vibrates 50 times in one second what is its frequency and time period?
3. What are the conditions for a clear echo?
4. What is meant by Green house effect?
5. In a thermos flask why there is vacuum between the two walls? Also write the use of the silvered surface.
6. Draw a convergent beam of light and a divergent beam of light.
7. Write two health hazards caused by noise.
8. Car radiators and solar cookers are painted black. Why?

VII. Answer the following in detail

(4X3=12)

1. Write the advantages and disadvantages of using alcohol in thermometer.
2. With the help of a diagram show that equal lengths of different solids expand by different amounts when heated equally.
3. What is meant by land breeze? How it is caused?
4. In summer we wear light coloured clothes whereas in winter we wear dark coloured clothes. Explain.

VIII. Solve the following

(2x3=6)

1. A girl stands at a distance of 540m away from a wall. She shoots a rifle and hears an echo after 1.5s. Calculate the velocity of sound.
2. A sonar signal sent down from a machine, is reflected from an ocean floor and detected by a hydrophone 0.8s later. Calculate the depth of the ocean. (speed of sound in water=1500m/s)

IX. Convert the following

(6)

- a) 58°C to $^{\circ}\text{F}$ b) 392°F to $^{\circ}\text{C}$ c) 29°C to Kelvin scale d) Ice point on Kelvin scale.