

SET-1

**MODEL PAPER - 1**  
**S.S.C. PUBLIC EXAMINATIONS-2021**  
**PHYSICAL SCIENCE**

(English Medium)

Class : X

(Max. Marks : 50)

Time : 2hr.45min.

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**Instructions :**

1. There are four sections and 33 questions in this paper
2. Answer should be written in a given answer booklet
3. There is internal choice in Section - IV
4. Write all the questions visible and legibly
5. 15 Minutes are given for reading the question paper and 2.30 hours for given for answering questions.

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**Section - I**

**Note : 1. Answer all the Questions.**

**2. Each Question carries  $\frac{1}{2}$  mark**

$$12 \times \frac{1}{2} = 6$$

1. What is the shape of V-I graph of Ohmic conductor?
2. S-I unit of heat is \_\_\_\_\_
3. The colour of phenolphthalein indicator in basic solution is \_\_\_\_\_  
A) Yellow    B) Green    C) Pink    D) Orange
4. x : Refractive index  $n = \frac{c}{v}$   
y : Refractive index has no units  
A) Both are correct    B) x is correct, y is wrong  
C) x is wrong, y is wrong    D) Both are wrong
5. Which electronic shell is at a higher energy level K or L?
6. Lithium \_\_\_\_\_ and potassium constitute a Dobereiner's triad.
7. Match the suitable answers of section-B with section-A  
Section-A    Section-B  
x)  $N_2$     P)  $120^\circ$   
y)  $BF_3$     Q)  $180^\circ$   
R) 3 bonds

**[ Turn Over**

## 2

8. The impurity present in the ore is called as \_\_\_\_\_  
A) Gangue      B) Flux      C) Slag      D) Mineral
9. What is the maximum focal length of the human eye lens?
10. The midpoint of a thin lens is called \_\_\_\_\_  
A) Centre of curvature      B) Optic Centre  
C) Focus      D) Radius of curvature
11. Write the name of simplest hydrocarbon
12. Webermeter =  
A) Oersted    B) Tesla      C) Newton    D) Watt

### Section - II

**Note :** 1. Answer all the Questions.

2. Each Question carries 1 Mark

$8 \times 1 = 8$

13. Which rule is violated in the electronic configuration  $1s^0 2s^2 2p^4$ ?
14. What is the flux through the plane taken parallel to the field?
15. Mention any one of the methods of prevention of corrosion.
16. Write the formula of specific heat
17. What is refraction?
18. What are factors which affect the resistance of a material?
19. What is the shape of  $BF_3$ ?
20. Define the modern periodic law.

### Section - III

**Note :** 1. Answer all the Questions.

2. Each Question carries 2 Marks

$8 \times 2 = 16$

21. What role does specific heat play in keeping a watermelon cool for a long time after removing it from a fridge on a hot day?
22. Why does not distilled water conduct electricity?

[ Contd... 3rd

### 3

23. Frame any two questions to understand difference between convex lens and concave lens.
24. Write the materials required to conduct Oersted experiment.
25. Define power of lens and write their unit
26. Write the four quantum numbers for  $1s^1$  electron.
27. When we sit at camp fire, objects beyond the fire are seen swaying. Give reason for it.
28. Define " mineral".

### Section - IV

**Note : 1. Answer all the Questions.**

**2. Each Question carries 4 Marks**

**$5 \times 4 = 20$**

29. How do you correct the eye defect Myopia?

OR

Define the following terms

A) Electric current                      B) Resistance

30. Discuss the construction of the long form of the periodic table

OR

Explain the formation of  $BeCl_2$  molecule using hybridisation.

31. Explain the procedure of finding specific heat of solids experimentally

OR

How do you verify experimentally that  $\sin i / \sin r$  is a constant?

32. Complete the following table

S.No	Sample Solution	Red litmus paper	Blue litmus paper	Phenolphthalein solution	Methyl orange solution
1	Hcl				
2	NaOH				

**[ Turn Over**

## 4

OR

Observe the table and answer the following questions.

Alkane	Methane	Ethane	Propane	Butane
Molecular formula	CH <sub>4</sub>	C <sub>2</sub> H <sub>6</sub>	C <sub>3</sub> H <sub>8</sub>	C <sub>4</sub> H <sub>10</sub>

- What is the general formula of Alkanes?
  - Write the molecular formula of next alkane comes after Butane.
  - How many carbons in Pentane?
  - How many bonds present in Methane?
33. Draw ray diagrams for the following positions of convex lens?
- A) Object is placed at  $F_2$       B) Object is placed at  $2F_2$

OR

Draw the shape of s and p orbitals.

