MODEL PAPER-2
S.S.C. PUBLIC EXAMINATIONS-2021
PHYSICAL SCIENCE
(English Medium)

Class: X **(Max.Marks: 50)** **Time: 2 Hr. 45 Min**

Instructions:

1. **There are four sections an 33 questions in this papers.**
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 questions paper and 2.30 hours for given for answering questions.**

SECTION-1

NOTE:1. Answer all the questions/
2. Each question carries ½ mark **12 x ½ = 6 M**

1. C.G.S. unit of specific heat
2. Complete the following equation

   $2\ NaHCO_3 \xrightarrow{Heat} \ldots\ldots\ldots\ldots + H_2O + CO_2$
3. Which of the following is snell's law

   A) $n_2 \sin i = \sin r / n_2$ B) $n_1/n_2 = \text{Sin } r / \text{Sin } i$

   c) $n_2 / n_1 = \text{Sin } r / \text{Sin } i$ D) $n_2 \text{ Sin } i = \text{constant}$
4. Which one of the following materials cannot be used to make a lens?

   a) Glass b) Water c) Plastic d) Clay
5. Match the following

	Material		Refractive index
1.	Rock Salt	a.	1.71
2.	Ruby	b.	2.42
		c.	1.54

6. K – shell: 2 :: M – Shell : ☐

   a) 2 b) 8 c) 18 d) 32
7. Number of elements present in period-4 of the Long form of periodic table.
8. What is the effective resistance of an appliance marked 240V, 4A
9. Magnetic flux is the product of magnetic field induction and……
10. Galena is an ore of ……

    a) Zn b) Pb c) Hg d) AP
11. which of the following is not an alkane

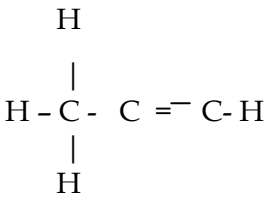
    $CH_4, C_3H_8, C_2H_4, C_5H_{12}$

12. Write the shape of NH_3 Molecule

SECTION-II

NOTE: **1. Answer all the questions** **8x1=8M**
3. Each question carries 1 Mark

13. Write the formula of specific heat
14. Which gas evolves when acids react with metals.
15. What is the cause of refraction of light.
16. Write lens formula
17. Which rule is violated in the electronic configuration $1S^0 2S^2 P^4$
18. Define chemical bond.
19. What is the shape of V-I graph of ohmic conductor.
20. Name the compound



SECTION-III

NOTE: **1. Answer all the questions** **8x2=16M**
2. Each question carries 2 Marks

21. What happens when an acid or base is mixed with water.
22. The focal length of a converging lens is 20cm. Where will the image be formed if an object is placed at 60 cm from the lens? Write characteristics of the image.
23. Draw the diagram of a lens which will be recommended by an eye doctor to a long signated patient.
24. The electronic configuration of sodium is $1s^2\ 2s^2\ sp^6\ 3s^1$ What information does it give
25. Why do elements form chemical bonds.
26. Write any two differences between Ohmic conductors and non-ohmic conductors.
27. What is an ore? On what basis a mineral is choosen as an ore?
28. What are alkenes ? write the general formula of alkenes? Give an example for alkanes?

SECTION-IV

NOTE: **1. Answer all the questions** **5x4=20M**
2. Each question carries 4 Marks

29. a) What would be the final temperature of a mixture of 50 gms of water at 20^0C temperature and 50 g of water 40^1C temperature. (or)

b) Explain how electron flow causes electronic current with Lorentz -0 Drude theory of electrons.

30. a) Write any four importance of pH in every day life.

(OR)

b) How many elliptical orbits are added by sommerfeld in third Bohr's orbit? What was the purpose of adding these elliptical orbits

31. a) How do you verify experimentally that the angle of refraction is more than angle of incidence when light ray travel from denser to rarer medium

(OR)

b) How do you verify that resistance of a conductor is proportional to the length of the conductor for constant cross section area and temperature.

32. a) Five solutions A, B,C,D and E when tested with universal indicator showed pH as 4,1,11,7 and 9, respectively which solution is

a) neutral b) strongly alkaline c) strongly acid
d) weakly acidic e) weakly alkaline

(or)

a) Write down the characteristics of the elements having atomic number 17.

i) Electronic configuration : ……..
ii) Period number : ……
iii) Group number : …….
iv) Element family : ……..
v) No. of valence electrons : ……..
vi) Valency : ……
vii) Metal (or) non metal : ……

33 a) Draw ray diagrams for the following positions and explain he nature and positions of image.

i) Objected placed at the focal point
ii) Objected placed between focal point and optic centre.

(or)

b) Draw a neat diagram of d-orbitals