

MODEL PAPER-1
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 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 questions paper and 2.30 hours are given for answering questions.

SECTION-1

NOTE:1. Answer all the questions/

2. Each question carries 1/2 mark

12 x 1/2 = 6 M

1. S.I. unit of specific heat is
2. What is the shape of V-I graph of non ohmic conductor
3. The colour of Methyl orange indicator in basic solution is
a) Green b) Yellow c) Red d) Orange
4. Choose the correct statement
X: violet has lowest wavelength in VIBGYOR
Y: Red has lowest Wavelength in VIBGYOR
5. Which electronic shell is at lower energy level L (or) M
6. Lithium, Sodium and constitute a Dobereiner's triad.
7. Match the suitable answer of Section-B with Section -A

SECTION-A

SECTION-B

- | | |
|---------------------|----------------|
| 1. CH ₄ | a. Angular |
| 2. H ₂ O | b. Linear |
| | c. Tetraheptal |
8. The most abundant metal in the earth's crust is....
a) Oxygen b) Aluminium c) Zinc d) Iron
 9. What is the unit of Refractive index
 10. According to sign conventions, the focal length of a convex lens is
 11. Name the first organic compound to be prepared in the Laboratory.
 12. Magnetic Flux density (B) :
A) Area/Magnetic Flux B) Length/Magnetic Flux
C) Magnetic Flux / Length D) Magnetic Flux / Area

SECTION-II

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

13. Convert 20^o C into Kelvin scale
14. What is range of pH scale
15. Refractive index of glass relative to water is 9/8. What is the refractive index of water relative to glass.
16. How do correct the defect presbyopia
17. What is meant by gangue
18. What is n^lx method
19. An element has atomic number 19. Where would you expect this element in the periodic table.
20. What are factors which affect the resistance of a material.

SECTION-III

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

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. What is a neutralization reaction? Give two examples
23. Frame any two questions to understand different between real and virtual images.
24. Preetham can see the name boards of buses clearly from long distance. But she cannot read newspaper clearly.
 - i) What type of eye defects does preetham have
 - ii) What kind of Lens does Preetham use to correct his eye defect.
25. What is the speciality of carbon.
26. How many typs of eye defects? What are they
27. An element is an atom has the following set of four quantum numbers

n	l	m _l	m _s
2	0	0	+ 1/2

- i) Name the Element
 - ii) which orbital it belongs to
28. Based on the modern periodic table, state the group number and period number of each element given in the table below.

Element	Group number	Period number
Phosphorous		
Alumnium		

SECTION-IV

NOTE: 1. Answer all the questions

5x4=20M

2. Each question carries 4 Marks

29. a) Explain the correction of the eye defect Myopia

(or)

b) Define the following terms

a) Refractive index

(b) Laws of Refraction

30. Explain the significance of three quantum numbers in predicting the positions of an electron in an atom

(or)

b) Explain the formation of Sodium chloride on the basis of the concept electron transfer.

31. a) Explain the procedure of finding specific heat of solid experimentally.

(or)

b) 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
1.	HCl				
2.	NaOH				

(or)

b) Observe the table and answer the following question

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

a) What is the general formula of Alkanes

b) Write the molecular formula of next alkane comes after butane

c) How many carbons in pentane

d) How many bonds present in Ethane.

33. Draw the ray diagrams for the following positions of objects in front of a convex lens and mention the characteristics of the image.

a) Object is placed beyond $2F_2$

b) Object is placed between focal point and optic centre

(OR)

Draw neat diagrams of S and P orbital.

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 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 questions paper and 2.30 hours are given for answering questions.

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

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

$$2 \text{NaHCO}_3 \xrightarrow{\text{Heat}} \dots\dots\dots + \text{H}_2\text{O} + \text{CO}_2$$
3. Which of the following is Snell's law
 A) $n_2 \sin i = \sin r / n_2$ B) $n_1 / n_2 = \sin r / \sin i$
 C) $n_2 / n_1 = \sin r / \sin i$ D) $n_2 \sin i = \text{constant}$
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

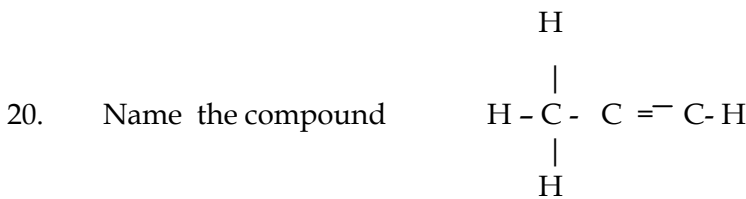
Material	Refractive index
1. Rock Salt	a. 1.71
2. Ruby	b. 2.42
	c. 1.54
6. K - shell: 2 :: M - Shell :
 a) 2 b) 8 c) 18 d) 32
7. Number of elements present in period-4 of the Long form of periodic table.
8. What is the effective resistance of an appliance marked 240V, 4A
9. Magnetic flux is the product 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
 $\text{CH}_4, \text{C}_3\text{H}_8, \text{C}_2\text{H}_4, \text{C}_5\text{H}_{12}$

12. Write the shape of NH₃ 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 1S⁰2S²P⁴
- 18. Define chemical bond.
- 19. What is the shape of V-I graph of ohmic conductor.



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 sighted patient.
- 24. The electronic configuration of sodium is 1s² 2s² sp⁶ 3s¹ 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 chosen 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°C temperature and 50 g of water 40°C 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