

Model Paper-3
SSC PUBLIC EXAMINATIONS-2020
PHYSICAL SCIENCE – PAPER-1

(English medium)
(Max. Marks: 50)

Class: X

Time: 2.45 Hrs.

Instructions:

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

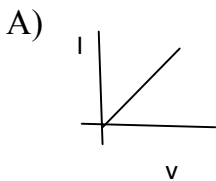
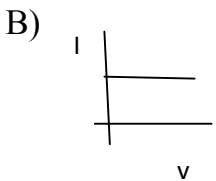
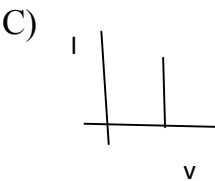
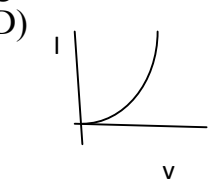
Section-I

Note:- 1. Answer all the questions

2. Each question carries 1/2 mark

12x1/2=6

1. Write the S.I unit of specific heat of a substance
2. Saketh is doing an experiment with glass slab. He focused a laser light towards the glass slab at an angle 45° . What would be the angle of emergence?
3. During refraction _____ will not change
A)Wavelength B) Speed of light C)Frequency D)Both wavelength and Frequency
4. Principle quantum number: Orbit: : Magnetic quantum number: _____
A) Spin B) Orbitals C)Elliptical orbits D)Angular momentum
5. X: Mendeleev's eka-aluminium is Gallium
Y: Mendeleev's eka-silicon is Germanium .
Which statement is correct?
A)Both X and Y incorrect B)Both X and Y correct
C) X correct and Y incorrect D) X incorrect and Y correct
6. Match the molecules in Set-A with their shapes in Set-B

Set-A	Set-B
A)Ammonia	P)Tetrahedral
B)Methane	Q)V-shape
C)Water	R)Pyramidal
7. Pick the correct graph, When an LED is connected while verifying ohm's law
A)  B)  C)  D) 
8. Name the electric device which converts mechanical energy into electric energy.
9. In which the pyrochemical process smelting is carried out?
10. According to IUPAC, what is the suffix for naming an aldehyde?
11. The correct observation when blue coloured copper sulphate crystals heated
A)crystals becomes liquid B)flames comes out
C) colour disappears D)Brisk effervescence took place
12. The refractive index of a medium is inversely proportion to speed of light. If the refractive indices of water and kerosene 1.33 and 1.44 respectively, in which of them the velocity of light is more?

Section-II

Note:- 1. Answer all the questions

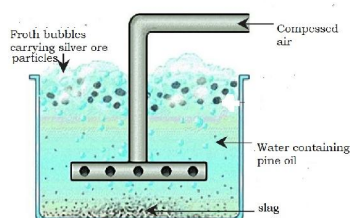
2. Each question carries 1 mark

8X1=8

13. Find the speed of light in glass whose refractive index is 1.5?
14. Doctor advised Mohith to use 2D lens. What is the focal length of that lens?
15. On what basis a mineral is chosen as an ore?
16. Take a bright metal ball and make it black with soot in a candle flame, immerse it in water. How does it appears? Why?
17. List out the apparatus required to prove magnetic field exerts force on current carrying conductor
18. Complete the following table based on quantum numbers

n	l	Sub shell	No. of degenerated orbitals
1	0	s	
2	1		3
3	2	d	

19. Observe the figure. Identify the error and correct it



20. Give two uses of baking soda in our daily life

Section-III

Note:- 1. Answer all the questions

2. Each question carries 2 marks

8X2=16

21. Write any two differences between Mendeleev's periodic table and Modern periodic table
22. How do you say evaporation depends on the surface area of the liquid?
23. Your friend has two lenses. They are bi-convex lens and bi-concave lens. But she could not distinguish them. She asked you to help her. You cleared her doubt by asking two questions to her. What are they?
24. Sandeep added few milli liters of dilute hydrochloric acid to zinc granules. What would be his observations?
25. Though there is sp^3 -hybridization in Nitrogen of Ammonia, the bond angle is $107^\circ 48'$. Justify
26. Resistivity of various materials are given under. Study and answer the questions

Material	Silver	Copper	Tungsten	Nichrome	Silicon
P at 20°C	1.59×10^{-8}	1.68×10^{-8}	5.60×10^{-8}	1.10×10^{-6}	6.40×10^2

- a) Write the S.I unit of Specific resistance
- b) Nichrome is used as heating elements. Why?
27. How do you appreciate the role of Fermat principle in drawing ray diagrams.
28. Mention the applications of the thermite process in daily life.

Section-IV

Note:- 1. Answer all the questions

2. Each question carries 4 marks

5X4=20

29. What are eye defects? Explain the correction of Hypermetropia.

(OR)

Define the principle of method of mixtures. What would be the final temperature of a mixture of 50g of water at 20⁰ C temperature and 50g of water at 40⁰ C temperature?

30.Explain the covalent bond formed between the two same atoms and two different atoms

(OR)

Explain Pauli's exclusion principle with suitable example.

31. How do you prove that the focal length of double convex lens increases when it is kept in water?

(OR)

Suggest an experiment to verify that V/I is constant

32.Electronegativity values of elements of second period are given under. Study and answer the questions

Element	Li	Be	B	C	N	O	F
EN value	1.0	1.47	2.0	2.5	3.0	3.5	4.0

a)Name the elements with highly electronegative and least electronegative in the periodic table

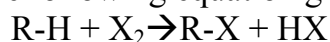
b)What is the trend of electronegativity in groups? Why?

c)Give the reason for decrease of electronegativity values in a period?

d)Write the relation between electronegativity, electropositivity and ionization energy

(OR)

The following equation given the substitution reaction of alkanes



Answer the following questions based the above reaction

a)What is the necessary condition for the above reaction ?

b)What would be the final product when methane and chlorine take part in the above reaction?

c)Why alkanes gives substitution reactions, but not addition reactions ?

d)Is it a chain reaction ? if so, why?

33.Draw a neat diagram which shows the electric conductivity of acidic solution. What happens glucose is used instead of acidic solution?

(OR)

Name the electric device which converts electric energy into mechanical energy. Draw its diagram and lable the parts

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