CLASS-10 **GENERAL SCIENCE , Paper – I** **S.A.-2**

(Physical Sciences)

(English Version)

Time: 3 Hours **Parts A and B** **Maximum Marks : 50**

Instructions :

1. The Question paper contains 4 printed pages in Part-A and also in Part-B.
2. ½ hour is allotted for reading the question paper.
3. Answer the questions under Part-A on a separate answer booklet.
4. Write the answers to the questions under Part-B on the question paper itself and attach it to the answer booklet of Part-A.

Time : 2 hours **PART-A** **Max. Marks : 35**

Section - I 5 x 2 = 10

Note :

1. Answer any five questions choosing at least two from each group.
2. Each question carries two marks.

Group -A

1. Write the differences between *evaporation* and *boiling*.

2. What happened when a light ray travels from denser medium to rarer medium?

Explain with a neat diagram.

3. Write the lens maker's formula and explain the terms in it.

4. Explain why the sky appears blue in colour.

Group -B

5. Write the components in the following alloys.

(i) Brass (ii) Bronze

6. Comment on the position of Helium in modern periodic table.

7. Explain the formation of $BeCl_2$ molecule with a neat diagram.

8. Electron does not enters 3d orbital after filling 3p orbital. It occupies 4s orbital first and then it enters in to 3d orbital. Why?

Section - I I

4 x 1 = 4

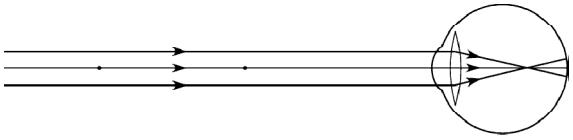
Note :

1. Answer any four questions from the following.
2. Each question carries one mark.

9. Define fog.

10. Write about magnification.

11. What can we do to correct the following eye defect.



12. How can we prevent rancidity?

13. What is the p^H value for distilled water?

14. State Hund's law of maximum multiplicity.

Section - III

4 x 4 = 16

Note :

1. Answer any four questions choosing at least two from each group.
2. Each question carries four marks.

Group -A

15. What is thermal equilibrium? If we mix 100 ml of water at 90^oC to 200 ml of water at 60^oC. Then find the temperature of the system at thermal equilibrium?

16. Explain the process of making solar cooker with a neat diagram.

17. Explain the refraction of light through a glass slab with a neat diagram.

18. Draw the ray diagrams to obtain images of objects for the following conditions for given lens/mirrors. Also write the characteristics of images.

(i) Object is placed between centre of curvature and optical centre, on the principal axis in front of a convex lens.

(ii) Object is placed at centre of curvature, on the principal axis in front of a concave lens.

Group -B

19. Balance the following chemical equations.

(a) $H_2SO_4 + NaOH \rightarrow Na_2SO_4 + H_2O$

(b) $Ag + H_2S + O_2 \rightarrow Ag_2S + H_2O$

(c) $C_4H_{10} + O_2 \rightarrow CO_2 + H_2O$

(d) $NaHCO_3 + HCl \rightarrow NaCl + H_2O + CO_2$

20. Write any two chemical properties of acids and bases. Give examples.

21. Write the differences between sigma bond and pi bond.

22. Define the following terms.

(a) atomic radius (b) ionization energy

(c) electron affinity (d) electro negativity

Section - IV

1 x 5 = 5

Note :

1. Answer any one question from the following.
2. Each question carries five marks.

23. Draw the different types of mirrors and lenses (at least eight).

24. Draw the shapes of five d- orbitals.

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Time: 3 Hours **Parts A and B** **Maximum Marks : 50**

Instructions :

5. ½ hour is allotted for reading the question paper.
6. Answer the questions under Part-A on a separate answer booklet.
7. Write the answers to the questions under Part-B on the question paper itself and attach it to the answer booklet of Part-A.

PART-B

This Question paper contains 4 printed pages.

Attach **Part-B** question paper to the main answer booklet of **Part-A**.

Time : ½ hours **Marks : 15**

Instructions :

1. Answer **all** questions.
2. Each question carries ½ marks.
3. Answers are to be written in the question paper only.
4. Marks will not be awarded in case of any overwriting and rewriting or erased answers.

I. Write the 'CAPITAL LETER' showing the correct answer for the following questions in the brackets provided against them. **10 x ½ = 5**

1. The amount of water vapour present in air is called [ ]

(A) fog (B) haze

(C) humidity (D) mist

2. Relation between power of lens and focal length of the lens is [ ]

(A) $P = \frac{1}{f\ (in\ cm)}$ (B) $P = \frac{100}{f\ (in\ cm)}$

(C) $P = \frac{10}{f\ (in\ m)}$ (D) $P = \frac{1}{f\ (in\ m)}$

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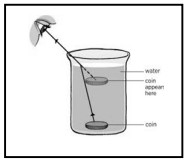
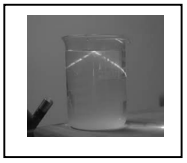
3. A ray which seems to be travelling through the focus of a convex mirror, moves ……. After reflection. [ ]

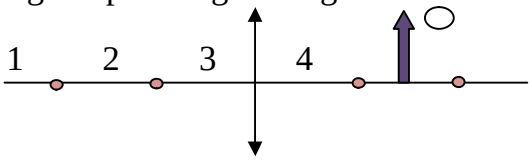
(A) parallel to the axis
(B) along the same path in opposite direction
(C) through Focus
(D) through Centre of curvature

4. This is not example for refraction [ ]

(A)  (B) 

(C)  (D) 

5. Find the place of image as per the given figure. [ ]



(A) 4 (B) 2

(C) 3 (D) 1

6. "If I hold it in my hand, it will melt." Said Mendeleeff. What is it? [ ]

(A) Silicon (B) Gallium

(C) Germanium (D) Scandium

7. "The least energy orbitals are filled first." – This was stated by [ ]

(A) Aufbau (B) Hund

(C) Pauli (D) Sommerfeld

8. Green coating on copper articles was formed due to formation of ……[ ]

(A) CuO (B) Cu_2O

(C) $CuCO_3$ (D) Cu_2S

9. Adding water to quick lime is an ……reaction. [ ]

(A) Exothermic (B) Endo thermic

(C) Photo chemical (D) Electro chemical

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10. The element in 3^{rd} period and in 13^{th} group is …….. [ ]

(A) Scandium (B) Germanium

(C) Gallium (D) Phosphorous

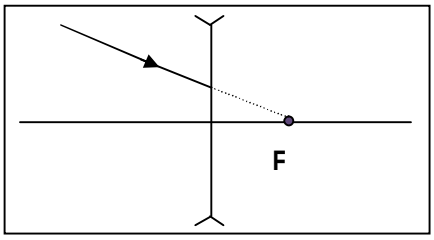
II. Fill in the following blanks with suitable answers. 10 x ½ = 5

Each question carries ½ marks.

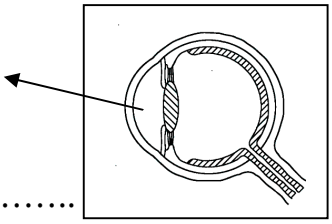
11. …….. transfer from a body at higher temperature to a body at lower temperature.

12. s-specific heat, Q-amount of heat, m-mass of the body, ΔT- difference in temperature. Then Q = ……..

13. Complete the refracted ray in the diagram.



14. The distance between Pole and Centre of curvature of a lens/mirror is called ……



15. Identify the part shown in the figure**:**……..

16. …….group elements are called Chalcogens.

17. Boron tri fluoride (BF_3) has ……..…… shape.

18. The total number of electrons can be placed in L-shell is ……

19. …… sigma bonds present in Hydrogen cyanide (H-CN)

20. Valence electronic configuration of copper is ……

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III. Match the following by writing the letter of the correct answer in the brackets, choosing from **Group-B**. 10 x ½ = 5

Each question carries ½ marks.

PHYSICS

(i)	**Group-A**			**Group-B**
21.	Mirror	[ ]	(A)	Refraction
22.	Lens	[ ]	(B)	Total internal reflection
23.	Prism	[ ]	(C)	Reflection
24.	Optical fibre	[ ]	(D)	Dispersion
25.	Glass slab	[ ]	(E)	Shift
			(F)	Polarisation

CHEMISTRY

(i)	**Group-A**			**Group-B**
26.	Bleaching powder	[ ]	(G)	$CaSO_4.\ 2H_2O$
27.	Washing soda	[ ]	(H)	$NaHCO_3$
28.	Plaster of Paris	[ ]	(I)	$CaSO_4.\ ½\ H_2O$
29.	Baking soda	[ ]	(J)	Na_2CO_3
30.	Gypsum	[ ]	(K)	$CaOCl_2$
			(L)	$CuSO_4.\ 5H_2O$

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