Sir Cv Raman Coaching Centre – Idappadi, Salem -637101

Xll Chemistry First Term Model Question Paper – 2026

Time : 3 Hrs   Total Mark : 50m

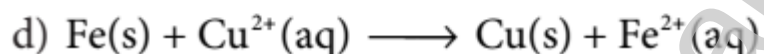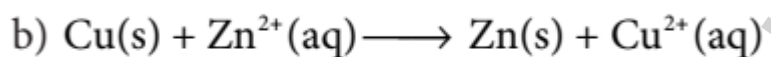**Prepared By Dr.G.Thirumoorthi,M.Sc ,B.Ed , Ph.D , Physics ,**

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Section – A (10 X 1 = 10 M)

Choose The Correct Best Answer

1. Which one of the following is not feasible

a) $Zn(s) + Cu^{2+}(aq) \longrightarrow Cu(s) + Zn^{2+}(aq)$

b) $Cu(s) + Zn^{2+}(aq) \longrightarrow Zn(s) + Cu^{2+}(aq)$

c) $Cu(s) + 2Ag^{+}(aq) \longrightarrow 2Ag(s) + Cu^{2+}(aq)$

d) $Fe(s) + Cu^{2+}(aq) \longrightarrow Cu(s) + Fe^{2+}(aq)$

2. The incorrect statement among the following is

a) Nickel is refined by Mond's process

b) Titanium is refined by Van Arkel's process

c) Zinc blende is concentrated by froth floatation

d) In the metallurgy of gold, the metal is leached with dilute sodium chloride solution

3. Which of the following is not true with respect to Ellingham diagram?

a) Free energy changes follow a straight line. Deviation occurs when there is a phase change.

b) The graph for the formation of CO2 is a straight line almost parallel to free energy axis.
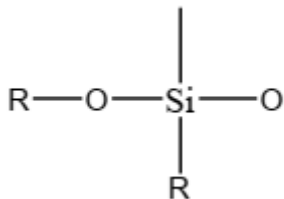
c) Negative slope of CO shows that it becomes more stable with increase in temperature.

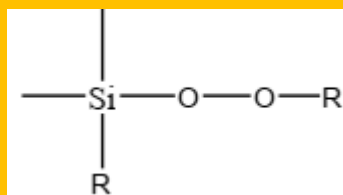d) Positive slope of metal oxides shows that their stabilities decrease with increase in temperature.

4. The repeating unit in silicone is
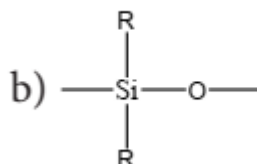
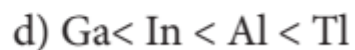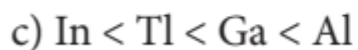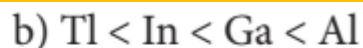a) Sio_2

c)   d)

5. Match items in column - I with the items of column – II and assign the correct code.

Column-I		Column-II	
A	Borazole	1	$B(OH)_3$
B	Boric acid	2	$B_3N_3H_6$
C	Quartz	3	$Na_2[B_4O_5(OH)_4]8H_2O$
D	Borax	4	SiO_2

	A	B	C	D
(a)	2	1	4	3
(b)	1	2	4	3
(c)	1	2	4	3
(d)	None of these			

6. The stability of +1 oxidation state increases in the sequence

a) Al < Ga < In < Tl   b) Tl < In < Ga < Al

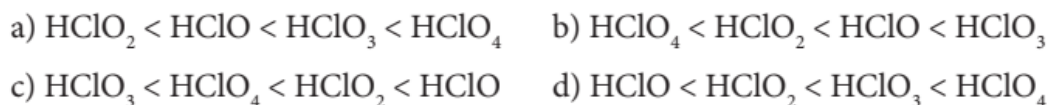c) In < Tl < Ga < Al   d) Ga< In < Al < Tl
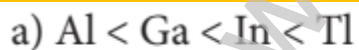
7. Assertion : bond dissociation energy of fluorine is greater than chlorine gas

Reason: chlorine has more electronic repulsion than fluorine

a) Both assertion and reason are true and reason is the correct explanation of assertion.

b) Both assertion and reason are true but reason is not the correct explanation of assertion.

c) Assertion is true but reason is false.

d) Both assertion and reason are false.

8. Among the following the correct order of acidity is

a) $HClO_2 < HClO < HClO_3 < HClO_4$ b) $HClO_4 < HClO_2 < HClO < HClO_3$

c) $HClO_3 < HClO_4 < HClO_2 < HClO$ d) $HClO < HClO_2 < HClO_3 < HClO_4$

9. The fraction of total volume occupied by the atoms in a simple cubic is

a) $\left(\dfrac{\pi}{4\sqrt{2}}\right)$ b) $\left(\dfrac{\pi}{6}\right)$

c) $\left(\dfrac{\pi}{4}\right)$ d) $\left(\dfrac{\pi}{3\sqrt{2}}\right)$

10. The yellow colour in NaCl crystal is due to a) excitation of electrons in F centers b) reflection of light from Cl- ion on the surface

c) refraction of light from Na+ ion d) all of the above

Section – B (5 X 2 = 10 M)

Answer Any Five Qustions

11. What are point defects?

12. What is meant by the term "coordination number"? What is the coordination number of atoms in a bcc structure?

13. Complete the following reactions.

$KClO_3 \xrightarrow{\Delta}$
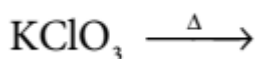
14. Why fluorine is more reactive than other halogens?

15. Give the uses of Borax

16. Write a short note on hydroboration.

17. Explain the following terms with suitable examples. Gangue

18.What is minerals

Section – C (5 X 3 = 15 M)

Answer Any Five Questions

19. The selection of reducing agent depends on the thermodynamic factor: Explain with an example.

20. Give the limitations of Ellingham diagram.

21. CO is a reducing agent. Justify with an example

22. A double salt which contains fourth period alkali metal (A) on heating at 500K gives (B).Aqueous solution of (B) gives white precipitate with BaCl2 and gives a red colour compound with alizarin. Identify A and B

23. Write the molecular formula and structural formula for the following molecules. Phosphine

24. Deduce the oxidation number of oxygen in hypofluorous acid – HOF.

25. Distinguish between hexagonal close packing and cubic close packing.

26. Aluminium crystallizes in a cubic close packed structure. Its metallic radius is 125pm. calculate the edge length of unit cell

Section – D (3 X 5 = 15 M)
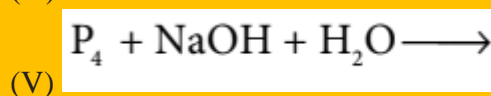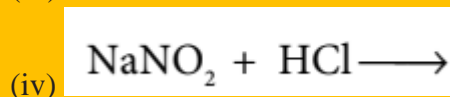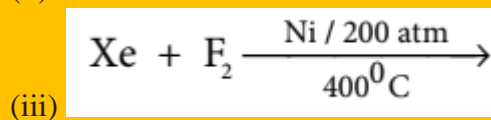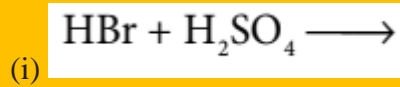
Answer Any Three Questions

27.a) Write short note on metal excess and metal deficiency defect with an example

(OR)

b) Write a note on zeolites.

28.a) Explain magnetic separation method

(OR)

b) Complete the following reactions.

(i) $HBr + H_2SO_4 \longrightarrow$

(ii) $XeO_6^{4-} + Mn^{2+} + H^+ \longrightarrow$

(iii) $Xe + F_2 \xrightarrow[400^0C]{Ni / 200 \text{ atm}}$

(iv) $NaNO_2 + HCl \longrightarrow$

(V) $P_4 + NaOH + H_2O \longrightarrow$

29.a) Explain diamond and Graphite

(OR)

b) Calculate the percentage efficiency of packing in case of body centered cubic crystal.

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