

Gurudas College
Internal Examination, 2020
Chemistry (Honours), SEM – II
Paper: CC-2-4

F.M. – 50, Time – 2 hrs

(Answers should be brief and to the point. Each question carries five marks.)

Group – A (CC-2-4-TH)

(answer any five questions)

1. BaO is much more soluble in water than MgO but MgSO₄ is more soluble in water than BaSO₄. Explain.
2. Give reasons why ZnCl₂ is soluble in organic solvents while MgCl₂ is insoluble.
3. Give the geometry of the following mentioning the hybridization of the central atom (any one):
BrF₄⁻, TeCl₄
4. Explain the bond angle : Cl - O - Cl > F - O - F
5. Give the formal charge and hybridization of the central atom (any one): NO₃⁻, BH₄⁻
6. SnCl₄ hydrolyses more than SnCl₂ –justify.
7. Draw the MO diagram of NO and comment on its magnetic behaviour.
8. Write an example of fission reaction and explain it's mechanism with the simplest model.

Group – B (CC-2-4-P)

(answer any three questions)

9. Write the equation of the oxidation of vitamin-C by I₂.
10. What is the role of starch in iodometry/iodimetry?
11. Write the reaction of iodine and thiosulphate during estimation of vitamin-C.
12. What happens when bleaching powder is treated with dilute acids?

13. Write the concerned equations of Cu^{2+} estimation in brass.

14. Write the role of NH_4HF_2 in Cu^{2+} estimation in brass.

Group – C (Internal Assessment)

(answer any two questions)

15. Explain the bond angle: $\text{NH}_3 > \text{NF}_3$.

16. Solubility of $\text{CaCl}_2 \gg \text{CaF}_2$ - Justify.

17. Why CN^- is a better ligand than CO ?

18. Give one example and role of: i. moderator ii. Coolant iii. Shield in nuclear reactor.