

KV IIT CHENNAI

XII CHEMISTRY REVISION QS. FOR HALF YEARLY

1. What is leaching?
2. Name the refining technique for Ge
3. Distinguish diamagnetic behaviour from paramagnetic.
4. Why is alkyl amine is more basic than aryl amine
5. A) Write the formula for first order rate constant
B) Fluorine does not exhibit any positive oxidation state why?
7. Write a short note on iodoform reaction with equation
8. Illustrate the following with an example each a) solvate and coordination isomerism.
9. State Kolrasuch law of independent migration and explain
10. Suggest a possible reason for the following observations: a) Ethers have low boiling points B) neopentyl chloride (CH₃)₃CCH₂Cl does not follow SN₂ mechanism
11. I) Complete the following-
 - a. (CH₃)₃C-OH $\xrightarrow{20\%H_3PO_4/358K}$
 - b. C₆H₅-OH + Zn \longrightarrow
 - c) CH₃ COCH₃ + CH₃MgBr \longrightarrow
12. What is elementary reaction? Calculate the rate constant of the following first order reaction, C₂H₅I (g) \longrightarrow C₂H₄(g) + HI(g) at 900K. Given that the rate constant for the reaction at 700K is 3.40x10⁻⁸ and the activation energy is 567 KJ/mol. (1+2)
13. Explain the following terms with example-
 - a. Froth stabilisers
 - b. Mond process
 - c. liquation
14. Arrange the following in decreasing order of property mentioned.
(3)

- a. HClO_2 , HClO_4 , HClO_3 , HClO (acidic character)
- b. H_2Se , H_2O , H_2Te , H_2S (Bond angle)
- c. PH_3 , SbH_3 , NH_3 , AsH_3 , BiH_3 (basic nature)

(OR)

Reason out the following:

- i) Why helium is used in diving apparatus?
- ii) F-F bond is weaker than Cl-Cl bond. Why?
- iii) PCl_5 exist but NCl_5 does not exist Why?

15.a. explain the formation of nickel tetra carbonyl based on VBT

- b. What do you mean by the terms- i.denticity ii.Synergic effect

16. Give reason why?

- i. Name any two poisonous gases of halogen
- ii. In Finkelstein reaction along with NaI dry acetone is also used.
- iii. Aryl halides do not easily undergo nucleophilic substitution reaction.

17. Answer the following about d-block elements.

- i. They form alloys easily.
- ii. These elements variable oxidation state
- iii. They have high melting point

18. i) Write the equation for the preparation of KMnO_4 from MnO_2 .

- ii) Write any three differences between lanthanoids and actinoids

19. A) write the chemical equation for each: etard reduction, cannizaro reaction, kolbe's reaction

20. Distinguish: a) aniline and N,N,dimethyl aniline

- b) Prepare the following compounds from benzene diazonium chloride iodobenzene, phenol

21. Explain the following a) macromolecular and multi molecular colloids

- b) What happens when ferric chloride is added to ferric hydroxide sol.

22. a) What are ambident functional groups. Give example

b) Compound A with molecular formula $\text{C}_4\text{H}_9\text{Br}$ is treated with aqueous KOH solution the rate of this reaction depends upon the concentration of compound A only, when another optically active isomer B of this compound was treated with aqueous KOH solution the rate of the reaction was found to be

dependent on concentration of compound and KOH a) Write down the structural formula A and B

b) out of these two compounds which one will be converted to the product with inverted configuration

23. Amit is an industrialist. His chemical factory needs ethanol as a solvent. He suggested to purchase denatured spirit for the above purchase.

a) What is wood alcohol?

b) Why ethanol is used as a solvent?

c) What are the values associated? Comment on it.

24. a) With the help of diagram explain the role of catalyst in a reaction? (2)

b) Half life for decay of radioactive C_{14} is 6552 years on archaeological artefact containing wood had only 40% of C_{14} activity as found in the living tree. Calculate the age of the artefact? (OR)

a) Explain what is observed when i) an electric current is passed through sol.

b) Why sky appears blue?

c) Define the following: a) electro osmosis b) decantation c) Craft temperature

25. i. Write the structure of all the 'aldols' formed when ethanal and propanal mixture is treated with NaOH.

ii. Give reason why?

a. Benzoic acid does not undergo Friedel - craft's reaction.

b. Ethanoic acid is less acidic than benzoic acid.

c. How can you bring the conversion of benzoic acid from ethyl benzene

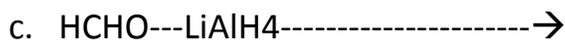
OR

i. What is decarboxylation reaction? What is its use?

ii. Complete the following -

a.





26. a) Why is copper(II) paramagnetic and copper(I) diamagnetic?

b) why do transition metals have high enthalpy of atomisation?

c) What are misch metals? What is their uses

d) Why Sc^{+3} and Zn^{+2} complexes are colourless where as Fe^{+3} , Co^{+3} complexes are coloured?

e) Cr^{+2} is stronger reducing than Fe^{+2} . Why? (OR)

a) Which one of them PCl_4^+ and PCl_4^- is not likely to exist and why?

b) Draw the structure of the $\text{H}_2\text{S}_2\text{O}_7$, BrF_3

c) Complete the following: i) $\text{P}_4 + \text{SO}_2\text{Cl}_2 \rightarrow$

ii) $\text{XeF}_2 + \text{H}_2\text{O} \rightarrow$

27. Account reason for the following: a) Phosphorus as P_4 unit but Nitrogen as N_2 .

b) Write the preparatory equations of Ostwald's nitric acid.

c) Draw the structure of H_2SO_4

d) Why phosphoric acid tribasic acid?

e) Explain the bleaching action of Chlorine.

28. a) Write the differences between lyophilic and lyophobic colloids?

b) What is ultra filtration?

c) Name the characters of a catalyst.

