

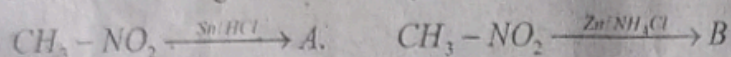
12. Which one of the following undergoes reaction with 50% sodium hydroxide solution to give the corresponding alcohol and acid
a) Phenylmethanal b) ethanal c) ethanol d) methanol
13. Which one of the following is most basic?
a) 2, 4 - dichloroaniline b) 2, 4 - dimethyl aniline c) 2, 4 - dinitroaniline d) 2, 4 - dibromoaniline
14. Vitamin B2 is also known as
a) Riboflavin b) Thiamine c) Nicotinamide d) Pyridoxine
15. Which of the following is an analgesic?
a) Streptomycin b) Chloromycetin c) Aspirin d) Penicillin

PART - II

Answer any six questions. (Q.No. 24 compulsory) :-

6 X 2 = 12

16. Give the limitations of Ellingham diagram.
17. How is pure Phosphine prepared from Phosphorus acid.
18. $K_4[Fe(CN)_6]$ in this complex mention the
(i) ligand (ii) Central metal ion (iii) geometry (iv) hybridization.
19. Differentiate molecularity from Order.
20. From the following reaction identify A and B.



21. Write the preparation of teflon and its uses?
22. Out of $Lu(OH)_3$ and $La(OH)_3$ which is more basic and why?
23. State Faraday first law of electrolysis.
24. Convert ethene to ethane - 1, 2 - diol.

PART - III

Answer any six questions. (q. No. 33 compulsory)

6 X 3 = 18

25. Write a note on Fischer Tropsch synthesis?
26. What are interstitial compounds?
27. Aluminum crystallizes in a cubic close packed structure its metallic radius is 125pm. Calculate the edge length of unit cell?
28. The compound having molecular formula $C_6H_{12}O_6$ on partial reduction with Na-Hg/ H_2O gives two compounds. Name and write a note on it.
29. Write a note on sacrificial protection?
30. Differentiate physisorption and chemisorption?
31. How is phenol prepared from (i) chloro benzene (ii) isopropyl benzene?
32. Write a note on Rosenmund reaction?
33. Calculate the pH of 0.04M HNO_3 solution?

PART - IV

Answer the following questions :-

5 X 5 = 25

34. a) Explain zone refining process with an example? (OR)
b) Differentiate Lanthanides and Actinides.
35. a) (i) What is linkage isomerism explain with an example?
(ii) Write the structure and uses of Urotropine. (OR)
b) (i) Why HF cannot be stored in glass bottles? (ii) Give the uses of silicones.
36. a) Derive an expression for Oswald's dilution law? (OR)
b) Derive the integrated rate law for a first order reaction.
37. a) How will you distinguish the primary, secondary and tertiary alcohols by Victor Meyer's method?
b) (i) Define catalytic poison? Give an example. (ii) State Kohlrausch law?
38. a) Elucidate the structure of glucose? (OR)
b) (i) How is Nylon - 6, 6 prepared? Give its uses? (ii) Give characteristics of ionic crystals?

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