



COMMON SECOND REVISION TEST – 2023

Standard XII

Reg.No. :

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

CHEMISTRY

Time: 3.00 hrs.

Part - I

Marks: 70

15 x 1 = 15

I. Choose the correct answer:

1. The Half Life period of a first order reaction is 5 minutes, the time required for 99.9% completion is nearly equal to
a) 99.9 minutes b) 49.95 minutes c) 50 minutes d) 10 minutes
2. What is the pH of the resulting solution when equal volumes of 0.1 NaOH and 0.01 HCl are mixed?
a) 2.0 b) 3 c) 7.0 d) 12.65
3. Among the following cells
I) Leclanche cell II) Nickel-Cadmium cell
III) Lead Storage battery IV) Mercury cell
Primary cells are
a) I & IV b) I & III c) III & IV d) II & III
4. Among the following which one is example for 'Sol' type colloid
a) Fog b) Froth c) Milk d) Paint
5. Which of the following oxidises Glycerol into Meso oxalic acid?
a) con. HNO₃ b) Bi(NO₃)₂ c) Br₂/H₂O d) HIO₄
6. Which one of the following reduces tollen's reagent?
a) formic acid b) acetic acid c) benzoic acid d) picric acid
7. Which of the following amines does not undergo acetylation?
a) t-butylamine b) ethylamine
c) diethylamine d) triethylamine
8. Vitamin B7 is also known as
a) biotin b) pyridoxine c) folic acid d) thiamine
9. The mixture of chloroxylenol and terpenicol is used as
a) antiseptic b) antipyretic c) antibiotic d) analgesics
10. 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 flotation.
d) In the metallurgy of gold, the metal is leached with dilute NaCl solution.
11. Duralumin is an alloy of
a) Cu, Mn b) Cu, Al, Mg c) Al, Mn d) Al, Cu, Mn, Mg
12. The number of bond pair and lone pair present in AX₃ type interhalogen compound
a) 1,3 b) 3,2 c) 5,1 d) 7,0
13. Permanganate ion changes to _____ in acidic medium.
a) MnO₄²⁻ b) Mn²⁺ c) Mn³⁺ d) MnO₂
14. A magnetic moment of 1.73 BM will be shown by one among the following
a) TiCl₄ b) [CoCl₆]⁴⁻ c) [Cu(NH₃)₄]²⁺ d) [Ni(CN)₄]²⁻
15. The vacant space in fcc lattice unit cell is
a) 48% b) 23% c) 32% d) 26%

Part - II

II. Answer any 6 questions. (Q.No.24 is compulsory)

6 x 2 = 12

16. What are the limitations of Ellingham diagram?
17. What happens when PCl₅ is heated?

For answers search this (@vskteaches) in YouTube.

18. Write down the central metal ion and ligand present in coordination complex $[\text{Co}(\text{NH}_3)_6] \text{Cl}_3$
19. Give two examples for zero order reaction.
20. Give any two differences between Lewis acid and Lewis base.
21. Explain Tyndall effect.
22. Draw the molecular structure of Aspirin molecule.
23. Write down the equation for Hofman's degradation.
24. An organic compound (A) having molecular formula $\text{C}_3\text{H}_6\text{O}$ is heated with Zinc amalgam and hydrochloric acid produces compound (B) having molecular formula C_3H_8 . Identify A and B.

Part - III

III. Answer any 6 questions. (Q.No.33 is compulsory)

6 x 3 = 18

25. Differentiate Double salt and Coordination complex.
26. How will you identify borate radical?
27. What are the consequences of Lanthanide contraction?
28. Write down the Bragg's equation and explain it.
29. Define Corrosion? How do you prevent corrosion?
30. Write down three characteristics of catalyst.
31. How do you prepare Terylene? Mention its use.
32. Draw the structures of cellulose and sucrose.
33. An organic compound (A) - $\text{C}_3\text{H}_8\text{O}_3$ used as a sweetening agent, which on oxidation with Fenton's reagent gives a mixture of compounds B and C. identify A, B and C. Write possible reactions.

Part - IV

IV. Answer all the questions.

5 x 5 = 25

34. a) Explain the principle of electrolytic refining of metals with silver as an example. [5]
- (OR)
- b) i) Give the balanced equations for the reaction between chlorine with cold NaOH and hot NaOH [3]
- ii) Write down any two uses of silicones. [2]
35. a) i) Explain Linkage isomerism with an example. [3]
- ii) Write a short notes on "Chromyl chloride" experiment. [2] (OR)
- b) Explain briefly about Scottky and Frenkel defects? [5]
36. a) i) Write down the differences between order and molecularity. [3]
- ii) Write the expressions for the solubility products of Hg_2Cl_2 and $\text{Ca}_3(\text{PO}_4)_2$? [3]
- (OR)
- b) i) State Faraday's first law of electrolysis? [2]
- ii) A copper electrode is dipped in 0.1 M copper sulphate solution at 25°C. Calculate the electrode potential of copper. [Given $E^\circ_{\text{Cu}^{2+}} = 0.34 \text{ V}$]
37. a) Describe Intermediate compound-theory of catalysis. [5] (OR)
- b) i) How will you convert the following? [3]
- 1) phenol \rightarrow benzene 2) phenol \rightarrow aniline
- ii) Write any two uses of anisole. [2]
38. a) i) Explain Popoff's law. [2]
- ii) Write a short notes on Gombery reaction and "Levine and Hauser" acetylation. [3] (OR)
- b) i) How carbohydrates are classified. [3]
- ii) Write a short notes on HVZ reaction.

For answers search this (@vskteaches) in YouTube.