

Class : 12Register
Number**COMMON QUARTERLY EXAMINATION 2024-25**

Time Allowed : 3.00 Hours]

CHEMISTRY

[Max. Marks : 70

PART - A

- I. Choose the correct answer.** **15x1=15**
- Which of the following is used for concentrating ore in metallurgy?
a) Leaching b) Roasting c) Froth floatation d) Both (a) and (c)
 - Heating of carbonate ores to remove carbon is called as -----
a) Roasting b) Calcination c) Smelting d) Fluxing
 - Carbon atoms in fullerene with formula C_{60} have
a) sp^3 hybridised b) sp hybridised
c) sp^2 hybridised d) partially sp^2 and partially sp^3 hybridised
 - P_4O_6 reacts with cold water to give
a) H_3PO_3 b) $H_4P_2O_7$ c) HPO_3 d) H_3PO_4
 - Shape of ClF_3
a) Linear b) T- shape c) Pyramidal d) Square planar
 - The actinoid elements which show the highest oxidation state of +7 are
a) Np, Pu, Am b) U, Fm, Th c) U, Th, Md d) Es, No, Lr
 - Solid CO_2 is an example of
a) Covalent solid b) metallic solid c) Molecular solid d) Ionic solid
 - The coordination no of B_2O_3 is -----
a) 3 b) 4 c) 6 d) 8
 - After 2 hours, a radioactive substance becomes $(1/16)$ th of original amount Then the half life (in min) is
a) 60 minutes b) 120 minutes c) 30 minutes d) 15 minutes
 - The aqueous solutions of sodium formate, anilinium chloride and potassium cyanide are respectively
a) Acidic, acidic, basic b) Basic, acidic, basic
c) Basic, neutral, basic d) None of these
 - $H_2PO_4^-$ - the conjugate base of
a) PO_4^{3-} b) P_2O_5 c) H_3PO_4 d) HPO_4^{2-}
 - Which of the following compound can be used as antifreeze in automobile radiators?
a) Methanol b) Ethanol c) Neopentyl alcohol d) Ethan -1, 2-diol
 - How many carboxylic acid groups are present in picric acid
a) 4 b) 3 c) 1 d) 0
 - Which one of the following reduces Tollens reagent
a) Formic Acid b) Acetic acid c) Benzophenone d) None of these
 - Which one of the following is used as, an urinary antiseptic?
a) Urotropine b) Formalin c) Aldimine d) hexa methylene diamine

PART - II

- II. Note: Answer any Six questions. Question No.24 is compulsory.** **6x2=12**
- What is the role of Limestone in the extraction of Iron from its oxide Fe_2O_3 ?
 - How will you identify Borate Radical?
 - How will you prepare Phosphine from white Phosphorous.

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19. Define unit cell.
20. Give two examples for Zero order Reaction.
21. What is metamerism? Give examples.
22. What is Trans esterification?
23. What is Formalin? Give its use?
24. Write the expression for the solubility product of $\text{Ca}_3(\text{PO}_4)_2$

PART - III

III. Note: Answer any Six questions. Question No.33 is compulsory.

6x3=18

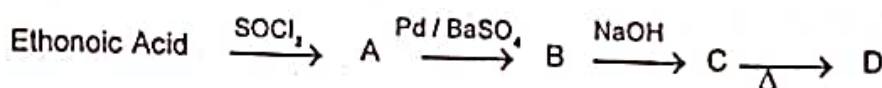
25. Explain Magnetic Separation method.
26. What are Interhalogen compounds? Give examples.
27. What is Zeigler- Natta catalyst? Give its use.
28. Distinguish between Isotropy and Anisotropy in solids.
29. Explain Pseudo first order Reaction with an example.
30. Define Buffer solution. Give example.
31. Write the Saponification reaction.
32. Write any one method of preparation for Diethyl Ether.
33. How will you prepare Lactic Acid from Ethanal.

PART - IV

IV. Note: Answer ALL the questions.

5x5=25

34. a) Explain the Electrometallurgy of Aluminium. (Hall-Heroult Process)
(OR)
b) i) Describe the structure of Diborane.
ii) Write note on McAfee process.
35. a) Give the balanced equation for the reaction between chlorine with cold NaOH and hot NaOH.
(OR)
b) Compare lanthanides and actinides.
36. a) Calculate the percentage efficiency of packing in bcc crystal.
(OR)
b) i) A first order reaction is 40% complete in 50 minutes. Calculate the value of the rate constant. In what time will the reaction be 80% complete?
ii) Define half life of a reaction?
37. a) Derive an expression for Ostwald's dilution law.
(OR)
b) How is Phenol Prepared from
i) Chloro Benzene ii) Isopropyl Benzene
38. a) Explain the mechanism of Cannizzaro reaction.
(OR)
b) Identify A, B, C and D



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