

TNJ

## SECOND REVISION TEST - 2024

12 - Std

## CHEMISTRY

Time : 3.00 Hrs

Marks : 70

15 x 1 = 15

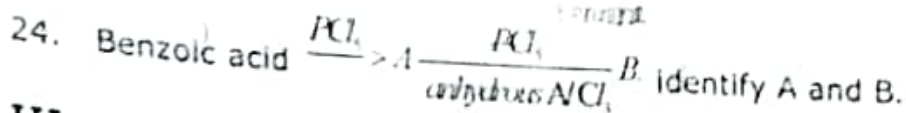
I Answer all the questions.

- Laptops have
  - lead storage battery
  - fuel cell
  - mercury button cell
  - lithium ion battery
- The pH of  $10^{-5}M$  KOH solution will be
  - 9
  - 5
  - 19
  - 6
- Which one of the following is correctly matched?
  - Emulsion - smoke
  - Gel - butter
  - Foam - Mist
  - Whipped cream - sol
- Cold dilute alkaline  $KMnO_4$  is known as
  - Schiff's Reagent
  - Fenton's reagent
  - Bayer's Reagent
  - Nessler's Reagent
- $RCOCl \xrightarrow[Pd - BaSO_4]{H_2} X$ 
  - RCOOH
  - RCHO
  - RCH<sub>3</sub>
  - RCH<sub>2</sub>OH
- The product formed by the reaction an aldehyde with a primary amine
  - Carboxylic acid
  - Aromatic acid
  - Schiff's base
  - Ketone
- Insulin, a hormone chemically is
  - Fat
  - Steroid
  - Protein
  - Carbohydrates
- Which of the following is co - polymer?
  - Orion
  - PVC
  - Teflon
  - PHBV
- Which of the following pairs of metal is purified by Van - Arkel method?
  - Ga, In
  - Ni, Fe
  - Ag, Au
  - Zr, Ti
- According to thermodynamics the most stable form of carbon is .....
  - Diamond
  - Graphite
  - Fullerences
  - None of these
- The Basicity of pyrophosphoric acid ( $H_4P_2O_5$ ) is
  - 4
  - 2
  - 3
  - 5
- Which of the compound is colourless
  - $Fe^{3+}$
  - $Ti^{4+}$
  - $Co^{2+}$
  - $Ni^{2+}$
- The number of carbon atom is one unit cell of diamond
  - 8
  - 6
  - 1
  - 4
- In which of the following coordination entities the magnitude of  $\Delta_o$  will be maximum?
  - $[Co(CN)_6]^{3-}$
  - $[Co(C_2O_4)_3]^{3-}$
  - $[Co(H_2O)_6]^{3+}$
  - $[Co(NH_3)_6]^{3+}$
- The addition of a catalyst during chemical reaction alters which of the following quantities?
  - Enthalpy
  - Entropy
  - Internal Energy
  - Activation Energy

6 x 2 = 12

**Answer any six only. q.No. 24 is compulsory.**

16. What are the various steps involved in extraction of permetal from their ores?
17. Write a note on Fisher - tropch synthesis.
18. What is crystal field splitting energy?
19. Calculate the number of atoms in Fcc unit cell.
20. Define electro chemical series.
21. Write the uses of emulsions.
22. Write the tests to differentiate alcohol and phenols.
23. Differentiate Hormones and vitamins.



**III Answer any six only. Answer Q.No. 33 is compulsory.**

6 x 3 = 18

25. Describe the method for refining Nickel.
26. Write the reason for the anomalous behaviour of nitrogen.
27. Why d block elements form coordination compounds.
28. Write Arrhenius equation and explain the terms.
29. State Ostwald's Dilusion law.
30. Explain Debye - Huckel Onsagar equation.
31. Write Kolbe's reaction.
32. How Buna - S is prepared and write the uses.



**IV Answer all the questions.**

5 x 5 = 25

34. a) Explain zone refining process with an example. (OR)  
b) (i) H<sub>2</sub>SO<sub>4</sub> is a dehydrating agent. Give equation. (ii) Write the uses of Sillicones.
35. a) What is Zigler - Natta catalyst? How polypropylene polymer is obtained.  
ii) What is lanthanide contraction? Given its causes. (OR)  
b) In the complex [Pt (NO<sub>2</sub>) (CH<sub>2</sub>O) (NH<sub>3</sub>)<sub>2</sub>]Br. Identify the following i) Central metal atom Icon  
2) Ligands and types 3) Coordinating Entity  
4) Oxidation number 5) Coordination number
36. a) Differentiate crystalline solids and amorphous solids. (OR)  
b) Explain the Henderson - Hassel berch equation.
37. a) Explain Nernst equation. (OR)  
b) Differentiate Activated adsorption and Vanderwalls adsorption.
38. a) Explain the reaction mechanism of cannizaro reaction. (OR)  
b) i) What is mutrotation. Identify A, B and C. Name it.