

XII - CHEMISTRY

Maximum Marks: 70

Time Allowed: 2.00 Hrs.

Part - I

15 x 1 = 15

I. Choose the correct answer:

- Zinc is obtained from ZnO by
 - carbon reduction
 - reduction using silver
 - electrochemical process
 - acid leaching
- The element that does not show catenation among the following p-block element is
 - carbon
 - silicon
 - lead
 - germanium
- Most easily liquefiable gas is _____.
 - Ar
 - Ne
 - He
 - Kr
- Alloy contains zinc and copper
 - monel metal
 - bronze
 - bell metal
 - brass
- [Pt(Py) (NH₃) (Br) (Cl)] has _____ number of possible geometrical isomers.
 - 3
 - 4
 - 0
 - 15
- The crystal with a metal deficiency defect is
 - NaCl
 - FeO
 - ZnO
 - KCl
- The addition of a catalyst during a chemical reaction alters which of the following quantities?
 - enthalpy
 - activation energy
 - entropy
 - internal energy
- H₂PO₄⁻ the conjugate base of
 - PO₄³⁻
 - P₂O₅
 - H₃PO₄
 - HPO₄²⁻
- Laptops have
 - Lead Storage battery
 - Fuel cell
 - Mercury button cell
 - Lithium ion battery
- Fog is colloidal solution of
 - solid in gas
 - gas in gas
 - liquid and gas
 - gas in liquid
- Ethylene glycol reacts with periodic acid to give _____.
 - formaldehyde
 - acetaldehyde
 - benzaldehyde
 - ethanol
- Benzoyl chloride reacts with benzene in presence of anhydrous AlCl₃
 - acetophenone
 - benzophenone
 - acetone
 - benzaldehyde
- What happens when benzene diazonium chloride is added with boiling water
 - chloro benzene
 - phenol
 - benzene
 - benzyl alcohol
- Pellagra disease is caused by deficiency of which of the following Vitamin?
 - Vitamin C
 - Vitamin D
 - Vitamin B₃
 - Vitamin B₁
- Sucralose is an example for
 - sugar substitutes
 - artificial sweetening agents
 - antiseptic
 - antioxidants

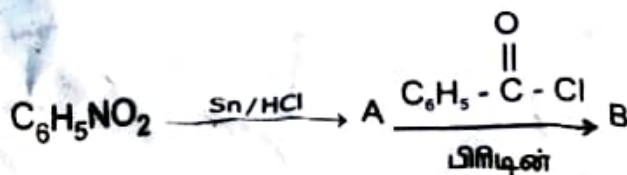
Part - II

6 x 2 = 12

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

- Explain the gravity separation method of concentration of ores?
- What is inert pair effect?
- Define co-ordination sphere in co-ordination complexes.
- Write a short note on Metallic crystals.
- What is Lewis base? Give example.

21. Define Gold number.
 22. How will you Prepare acetophenone from acetyl chloride?
 23. Write any four types of food additives.
 24. Identify the compounds A and B in the following sequence of reactions.



Part - III

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

6 x 3 = 18

25. What are interhalogen compounds? Give example.
 26. Among Fe^{3+} and Fe^{2+} which is more stable? Why?
 27. Give the difference between double salts and co-ordination compounds?
 28. What are promoters? Give example.
 29. Find out the OH^- ion concentration present in a fruit juice which contains $2 \times 10^{-3} \text{ M}$ concentrations H_3O^+ ion. What is its nature?
 30. What is globular proteins? Give example.
 31. How will you convert propane from acetone?
 32. How is Teflon prepared? Give its use.
 33. Ionic conductance at infinite dilution of Al^{3+} and SO_4^{2-} are 189 and 160 $\text{mho cm}^2 \text{equiv}^{-1}$. Calculate the equivalent and molar conductance of the electrolyte $\text{Al}_2(\text{SO}_4)_3$ at infinite dilution.

Part - IV

5 x 5 = 25

IV. Answer all the questions.

34. a) i) Describe a method for refining Nickel. (3 marks)
 ii) What is auto reduction? (2 marks) (OR)
 b) i) How will you identify borate radical? (2 marks)
 ii) Write a short note on hydroboration. (3 marks)
 35. a) What is lanthanide contraction? What are the effects of lanthanide contraction?
 (OR)
 b) i) For the complex $[\text{Co}(\text{NH}_3)_4 \text{Cl}_2] \text{Cl}$, identify the following
 1) Central metal atom / ion 2) Co-ordination number
 3) Oxidation number of Central metal ion
 4) Ligand 5) Name of the complex
 36. a) Differentiate crystalline and amorphous solids. (OR)
 b) Derive integrated rate law for a zero order reaction $\text{A} \rightarrow \text{product}$
 37. a) Derive Henderson equation of a acidic buffer solution. (OR)
 b) i) How will you prepare primary amines by Gabriel pthalimide synthesis. (3 marks)
 ii) How nylon 6, 6 manufactured? (2 marks)
 38. a) i) Explain the reducing property of formic acid. (3 marks)
 ii) Write Stephen's reaction. (2 marks) (OR)
 b) i) Write Saytzeff's rule. (2 marks)
 ii) Write the swern oxidation reaction. (3 marks)