

V12C

Virudhunagar District Common Examinations
Common Half Yearly Examination - December 2022

12001

Standard 12
CHEMISTRY
Part - I

Time: 3.00 hrs

Marks: 70

Note: i) Answer all the questions. ii) Choose the correct answer:

15 × 1 = 15

- Which of the following is used as acidic flux?
 - FeO
 - CaO
 - SiO₂
 - FeSiO₃
- In organic benzene is
 - B₂H₆
 - B₃N₃H₆
 - B₃O₃H₆
 - (BH₃)₃
- In which of the following, NH₃ is not used?
 - Nessler's reagent
 - Reagent for the analysis of IV group basic radical
 - Reagent for the analysis of III group basic radical
 - Tollen's reagent
- Which of the following Lanthanoid ions is diamagnetic?
 - Eu²⁺
 - Yb²⁺
 - Ce²⁺
 - Sm²⁺
- Wilkinson's Catalyst is used in
 - Polymerization
 - Condensation
 - Halogenation
 - Hydrogenation
- Graphite and diamond are
 - Covalent and Molecular crystals
 - Ionic and Covalent crystals
 - both covalent crystals
 - both molecular crystals
- The decomposition of phosphine (PH₃) on tungsten at low pressure is a first order reaction. It is because the
 - rate is proportional to the surface coverage
 - rate is inversely proportional to the surface coverage
 - rate is independent of the surface coverage
 - rate of decomposition is slow
- Which of the following fluoro compounds is most likely to behave as a Lewis base?
 - BF₃
 - PF₃
 - CF₄
 - SiF₄
- While charging lead storage battery
 - PbSO₄ on cathode is reduced to Pb
 - PbSO₄ on anode is oxidised to PbO₂
 - PbSO₄ on anode is reduced to Pb
 - PbSO₄ on cathode is oxidised to Pb
- The most effective electrolyte for the coagulation of As₂S₃ sol is
 - NaCl
 - Ba(NO₃)₂
 - K₃[F₂(CN)₆]
 - Al₂(SO₄)₃
- Which of the following compounds could not be easily oxidised by K₂Cr₂O₇ and sulphuric acid?
 - CH₃CH₂OH
 - (CH₃)₂CHOH
 - (CH₃)₃C-OH
 - CH₃CHO
- Perspex is
 - smokeless power
 - food preservative
 - thermo softening plastic
 - antiseptic
- Which one of the following will not undergo Hofmann Bromamide reaction
 - CH₃CO NH CH₃
 - CH₃CH₂CO NH₂
 - CH₃CO NH₂
 - C₆H₅CO NH₂
- Among the following the achiral amino acid is
 - 2-ethylalanine
 - 2-methylglycine
 - 2-hydroxymethyl serine
 - Tryptophan
- Which of the following is an analgesic?
 - Streptomycin
 - Chloromycetin
 - Aspirin
 - Pencillin

Part - II

Answer any six questions. Q.No. 24 is compulsory:

6 × 2 = 12

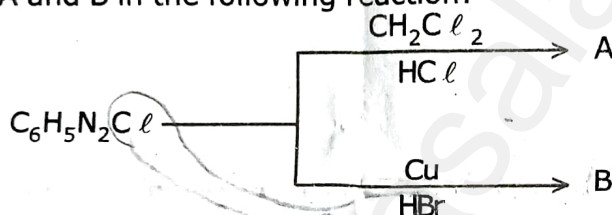
- 16) What is meant by burnt alum?
- 7) What is meant by Ziegler-Natta catalyst?
- 3) Why ionic crystals are hard and brittle?
- 4) Define ionic product of water.
- 5) State Kohlrausch Law.
- 1) Write esterification reaction.
- 2) What is urotropine? Write its uses.
- 3) What are food Preservatives?
- 4) Write the structure of α -D(+) glucose.

Part - III

Answer any six questions. Q.No. 33 is compulsory:

6 × 3 = 18

- 25) Write note on Gravity separation method.
- 26) Give the uses of silicones.
- 27) What are hydrate isomers? Explain with an example.
- 28) Give the differences between order and molecularity of
- 29) Calculate the pH of 0.001 M NaOH solution.
- 30) Why are lyophilic colloidal sols are more stable than lyophobic colloidal sol?
- 31) Aniline does not undergo Friedel - Craft's reaction.
- 32) What are reducing and non-reducing sugars? with an example.
- 33) Identify A and B in the following reaction:



Part - IV

Answer all the questions:

5 × 5 = 25

- 34) a) i) Write any two applications of the Ellingham diagram.
ii) What are the various steps involved in extraction of pure metals from their ores? (OR)
- b) Describe the structure of Diborane.
- 35) a) i) Give a reason to support that sulphuric acid is a dehydrating agent.
ii) Why Europium (II) is more stable than Cerium (II)? (OR)
- b) i) What are the limitations of VB theory?
ii) Write a note on Schottky defect.
- 36) a) i) Explain pseudo first order reaction with an example.
ii) What are buffer solutions? (OR)
- b) Describe the construction of Daniel cell. Write the cell reactions.
- 37) a) Differentiate Physisorption and Chemisorption. (OR)
- b) Write the following reactions.
i) Williamson eth
ii) Write tests f
ii) How will you convert $\begin{array}{c} -\text{C}-\text{NH}_2 \\ || \\ \text{O} \end{array}$ group into $-\text{NH}_2$ group? Give one example. (OR)
- b) i) Give any three differences between DNA and RNA.
ii) What are antibiotics?