

V12C

Virudhunagar District Common Examinations  
Second Revision Test - February 2023

Standard 12

Time Allowed: 3.00 Hours

CHEMISTRY

Maximum Marks: 70

PART - A

Choose the best answer:

15×1=15

- Electrochemical process is used to extract
  - Iron
  - Lead
  - Sodium
  - Silver
- In boric acid,  $[\text{BO}_3]^{-3}$  units are linked by
  - Ionic bond
  - Coordination bond
  - Hydrogen bond
  - All the above
- On hydrolysis,  $\text{PCl}_3$  gives
  - $\text{H}_3\text{PO}_3$
  - $\text{PH}_3$
  - $\text{H}_3\text{PO}_4$
  - $\text{POCl}_3$
- Which of the following has half filled electronic configuration?
  - $\text{Fe}^{+2}$
  - $\text{Fe}^{+3}$
  - $\text{Mn}^{+3}$
  - $\text{Mn}^{+4}$
- Fac-Mer isomerism is shown by
  - $[\text{CO}(\text{en})_3]^{+3}$
  - $[\text{CO}(\text{NH}_3)_4\text{Cl}_2]^+$
  - $[\text{CO}(\text{NH}_3)_3\text{Cl}_3]$
  - $[\text{CO}(\text{NH}_3)_5\text{Cl}]\text{SO}_4$
- $\text{SiO}_2$  is an example for
  - ionic crystal
  - covalent crystal
  - molecular crystal
  - metallic crystal
- The addition of a catalyst during a chemical reaction alters which of the following quantities?
  - Enthalpy
  - Activation energy
  - Entropy
  - Internal energy
- Equal volumes of three acid solutions of pH 1, 2 and 3 are mixed in a vessel. What will be the  $\text{H}^+$  ion concentration in the mixture?
  - $3.7 \times 10^{-2}$
  - $10^{-6}$
  - 0.111
  - None of these
- Faraday constant is defined as
  - charge carried by 1 electron
  - charge carried by 1 mole of electrons
  - charge required to deposit 1 mole of substance
  - charge carried by  $6.22 \times 10^{10}$  electrons
- Which of the following acts as a catalyst in the hydrolysis of ethyl acetate?
  - $\text{C}_2\text{H}_5\text{OH}$
  - $\text{CH}_3\text{COOH}$
  - $\text{H}_2\text{O}$
  - $\text{C}_2\text{H}_5\text{OOCCH}_3$
- Isopropyl benzene on air oxidation in the presence of dilute acid gives
  - $\text{C}_6\text{H}_5\text{COOH}$
  - $\text{C}_6\text{H}_5\text{COCH}_3$
  - $\text{C}_6\text{H}_5\text{COC}_6\text{H}_5$
  - $\text{C}_6\text{H}_5\text{-OH}$
- Which one of the following undergoes haloform reaction?
  - Formaldehyde
  - Benzaldehyde
  - Benzophenone
  - Acetaldehyde
- The product formed by the reaction an aldehyde with a primary amine
  - Carboxylic acid
  - Aromatic acid
  - Schiff's base
  - Ketone
- \_\_\_\_\_ is called a reducing sugar.
  - Glucose
  - Fructose
  - Both a and b
  - Sucrose
- Nylon is an example of
  - Polyamide
  - Polythene
  - Polyester
  - Polysaccharide

PART - B

Answer any SIX questions. Q.No. 20 is compulsory:

6×2=12

- Give the limitations of Ellingham diagram.
- Mention the uses of alum.

Kindly send me your questions and answerkeys to us : Padasalai.Net@gmail.com

V12C

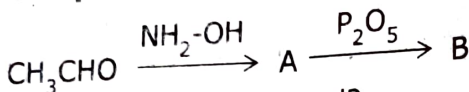
- 18) What is coordination number?
- 19) Define Unit cell.
- 20) Write the expression for the solubility product of  $Hg_2Cl_2$ .
- 21) How can you prepare a colloid by double decomposition method?
- 22) What happens when phenol reacts with nitrous acid?
- 23) How will you identify the primary amine?
- 24) How are vitamins classified?

**PART - C**

Answer any SIX questions. Q.No. 32 is compulsory:

6×3=18

- 25) How is phosphine prepared in the laboratory?
- 26) Write about chromylchloride test.
- 27) What is crystal field stabilisation energy?
- 28) State Faraday's Laws of electrolysis.
- 29) Give the differences between order and molecularity of a reaction.
- 30) Write a note on nano catalysis.
- 31) What happens when benzaldehyde reacts with ammonia?
- 32) **Complete the following reaction:**



- 33) How is Terylene prepared?

**PART - D**

Answer ALL the questions:

5×5=25

- 34) a) Write a note on (i) Froth floatation process. (ii) Fullerene.

(OR)

- b) i) What happens when chlorine reacts with excess ammonia?
- ii) How will you prepare bleaching powder?

- 35) a) Compare lanthanides and actinides.

(OR)

- b) Discuss briefly the nature of bonding in metal carbonyls.

- 36) a) i) Explain metal excess defect.

- ii) Write Arrhenius equation and explain the terms involved.

(OR)

- b) Derive an expression for the hydrolysis constant and degree of hydrolysis of salt of strong acid and weak base.

- 37) a) i) Write about Galvanic cell notation.

- ii) Define Gold number. (OR)

- b) How can you convert?

- i) Ethane - 1, 2 - diol  $\rightarrow$  Ethanal

- ii) But-2-ene  $\rightarrow$  Ethanal

- 38) a) i) What is tautomerism? Explain with an example.

- ii) What are antiseptics?

(OR)

- b) Discuss about the structure of glucose.