

Tsi12C

Tenkasi District



Common First Revision Test - January 2025

06-01-2025.

Standard 12

Time Allowed: 3.00 Hours

CHEMISTRY

Maximum Marks: 70

PART - A

I. Choose the best answer:

15×1=15

- The pH of  $10^{-5}$  M KOH solution will be
  - 9
  - 5
  - 19
  - None of these
- During electrolysis of molten sodium chloride, the time required to produce 0.1 mole of chlorine gas using a current of 3A is
  - 55 minutes
  - 107.2 minutes
  - 220 minutes
  - 330 minutes
- Match the following:
 

A) $V_2O_5$	-	i) High density poly ethylene
B) Ziegler Natta	-	ii) PAN
C) Peroxide	-	iii) $NH_3$
D) Finely divided Fe	-	iv) $H_2SO_4$

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
a) (iv)	(i)	(ii)	(iii)	b) (i)	(ii)	(iv)	(iii)
c) (ii)	(iii)	(iv)	(i)	d) (iii)	(iv)	(ii)	(i)
- Williamson synthesis of preparing dimethyl ether is a / an
  - $SN^2$  reaction
  - $SN^1$  reaction
  - electrophilic addition
  - electrophilic substitution
- The acid which reduces Tollen's reagent is
  - Acetic acid
  - Benzoic acid
  - Formic acid
  - Oxalic acid
- Zinc is obtained from ZnO by
  - Carbon reduction
  - Reduction using silver
  - Electro chemical process
  - Acid leaching
- The repeating unit in silicone is
 

a) $SiO_2$	b) $\begin{array}{c} R \\   \\ -Si-O- \\   \\ R \end{array}$	c) $R-O-Si-O$	d) $\begin{array}{c} R \\   \\ -Si-O-O-R \\   \\ R \end{array}$
------------	--	---------------	---
- On oxidation with Iodine, sulphite ion is transformed to
  - $S_4O_6^{2-}$
  - $S_2O_6^{2-}$
  - $SO_4^{2-}$
  - $SO_3^{2-}$
- The correct order of increasing, oxidising power in the series.
  - $VO_2^+ < Cr_2O_7^{2-} < MnO_4^-$
  - $Cr_2O_7^{2-} < VO_2^+ < MnO_4^-$
  - $Cr_2O_7^{2-} < MnO_4^- < VO_2^+$
  - $MnO_4^- < Cr_2O_7^{2-} < VO_2^+$
- A magnetite moment of 1.73 BM will be shown by one among the following
  - $TiCl_4$
  - $[CoCl_6]^{4-}$
  - $[Cu(NH_3)_4]^{2+}$
  - $[Ni(CN)_4]^{2-}$
- Aniline + Benzoyl chloride  $\xrightarrow{NaOH}$   $C_6H_5 + 5NHCOOC_6H_5$  this reaction is known as
  - Friedel - crafts reaction
  - HV<sub>2</sub> reaction
  - Schotten Baumann reaction
  - None of these
- C-2 epimers are
  - D-Glucose and D-Galactose
  - D-Glucose and D-Fructose
  - D-Glucose and D-Mannose
  - D-Glucose and D-Raffinose
- An example for biodegradable polymer is
  - Buna-N
  - Terylene
  - Polylactic acid
  - Urea-formaldehyde polymer
- The vacant space in fcc lattice unit cell is
  - 48%
  - 26%
  - 23%
  - 32%
- Assertion** : Rate of reaction doubles when the concentration of the reactant is doubles if it is a first order reaction.  
**Reason** : Rate constant also doubles.

Tsi12C

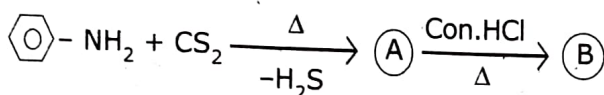
2

- Assertion is true but reason is false.
- Both assertion and reason are false.
- Both assertion and reason are true and reason is the correct explanation of assertion.
- Both assertion and reason are true but reason is not the correct explanation of assertion.

**PART - B****II. Answer any six questions: (Q.No. 24 is compulsory)**

6×2=12

- Give the basic requirement for vapour phase refining.
- What is the hybridisation of Iodine in  $IF_7$ ? Give its structure.
- What is crystal field splitting energy?
- What is pseudo first order reaction?
- Define Ionic product of water.
- Addition of Alum purifies water. Why?
- Explain Kolbe's reaction.
- What are narcotic and non-narcotic drugs? Give examples.
- Identify A and B:

**PART - C****III. Answer any SIX questions: (Q.No. 33 is compulsory)**

6×3=18

- Write the uses of zinc.
- Write a short note on hydroboration.
- Out of  $\text{Lu}(\text{OH})_3$  and  $\text{La}(\text{OH})_3$  which is more basic and why?
- Explain metal excess and metal deficiency defect with an example.
- Peptising agent is added to convert precipitate in to colloidal solution. Explain with an example.
- How is Acrolein formed?
- Write a short note on peptide bond.
- Convert Benzaldehyde in to cinnamic acid.
- Calculate the molar conductance of 0.025 M aqueous solution of calcium chloride at  $25^\circ\text{C}$ . The specific conductance of calcium chloride is  $12.04 \times 10^{-2} \text{ sm}^{-1}$ .

**PART - D****IV. Answer ALL the questions:**

5×5=25

- Explain Froth Floatation process.
  - Describe the structure of diborane.
- What are hydrata isomers? Explain with an example.
    - What is crystal field stabilization energy?
  - What is Lanthanoid contraction and what are the consequences of Lanthanoid contraction?
- Calculate the percentage efficiency of packing in case of body centred cubic crystal.
  - Define pH.
    - Derive an expression for Ostwald's dilution law.
- State Kohlrausch law. How is it useful to determine the molar conductivity of weak electrolyte at infinite dilution?
  - Write notes on Victor Meyer's test.
- Write notes on
    - Rosenmund reduction
    - Knoevenagel reaction
  - Give the differences between primary and secondary structure of proteins.
    - How the tranquilizers work in body?

SIVAKUMAR.M,  
Sri Rammatric IITSS,  
Valluvu - 627 809  
Tenkasi Dist.