

HALF YEARLY EXAMINATION - 2024		Exam No.	404	135
Time: 3-00 Hrs.	XII - CHEMISTRY		Marks : 70	

## PART - I

Note : 1) Answer all the questions.

(15x1=15)

2) Choose the best answer and write option code with corresponding answer.

- Bauxite has the composition
  - $\text{Al}_2\text{O}_3$
  - $\text{Al}_2\text{O}_3 \cdot n\text{H}_2\text{O}$
  - $\text{Fe}_2\text{O}_3 \cdot 2\text{H}_2\text{O}$
  - None of these
- The correct IUPAC name of the compound  $\text{CH}_3 - \underset{\text{Cl}}{\text{CH}} - \underset{\text{CH}_3}{\text{CH}} - \underset{\text{CH}_3}{\text{CH}} - \text{CH}_2 - \text{OH}$ 
  - 4-Chloro -2, 3- dimethyl pentan - 1- ol
  - 2, 3 - dimethyl-4-Chloro pentan -1- ol
  - 2, 3, 4 - trimethyl - 4- Chloro butan - 1- ol
  - 4-chloro-2, 3, 4 - trimethyl pentan - 1- ol
- Which of the following oxidation states is most common among the lanthanoids?
  - +4
  - +2
  - +5
  - +3
- If one stand of the DNA has the sequence ATGCTTGA then the sequence of complementary stand would be
  - TACGAAC
  - TCCGAAC
  - TACGTACT
  - TACGRAGT
- Packing efficiency of Body centred cube (BCC)
  - 52.32%
  - 68%
  - 86%
  - 52.13%
- Assertion:** Pure iron when heated in dry air is converted with a layer of rust  
**Reason:** Rust has the composition  $\text{Fe}_3\text{O}_4$ 
  - If both assertion and reason are true and reason is the correct explanation of assertion
  - If both assertion and reason are true but reason is not the correct explanation of assertion
  - assertion is true but reason is false
  - both assertion and reason are false
- Duralumin is an alloy of
  - Cu, Mn
  - Cu, Al, Mg
  - Al, Mn
  - Al, Cu, Mn, Mg
- Predict the rate law of the following reaction based on the data given below  
 $2\text{A} + \text{B} \rightarrow \text{C} + 3\text{D}$ 

Reaction number	[A] (min)	[B] (min)	Initial rate ( $\text{MS}^{-1}$ )
1	0.1	0.1	x
2	0.2	0.1	2x
3	0.1	0.2	4x
4	0.2	0.2	8x

  - rate =  $\text{K}[\text{A}]^2[\text{B}]$
  - rate =  $\text{K}[\text{A}][\text{B}]^2$
  - rate =  $\text{K}[\text{A}][\text{B}]$
  - rate =  $\text{K}[\text{A}]^{1/2}[\text{B}]^{3/2}$
- The medicinal value of a drug is measure in terms of its \_\_\_\_\_
  - Deoxy ribose
  - Gold number
  - Therapeutic index
  - Equilibrium constant
- Which of the following is paramagnetic in nature?
  - $[\text{Zn}(\text{NH}_3)_4]^{2+}$
  - $[\text{CO}(\text{NH}_3)_6]^{3+}$
  - $[\text{Ni}(\text{H}_2\text{O})_6]^{2+}$
  - $[\text{Ni}(\text{CN})_4]^{2-}$

11. Which one of the following pairs is not correctly matched.

	Reducing Agent	Name of the reaction
a)	Zn/Hg + Con HCl	Clemenson reduction
b)	$\text{LiAlH}_4$	Wolf kishner's reduction
c)	$\text{Pd}/\text{BaSO}_4$	Rosenmund's reduction
d)	$\text{SnCl}_2 / \text{Con HCl}$	Stephen's reduction

12-Chemistry-1

## COMMON HALF YEARLY EXAMINATION - 2024

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Standard XII

Reg No

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## CHEMISTRY

Time : 3.00 hrs

Part - A

Marks : 70

15 x 1 = 15

## I. Choose the correct answer:

- Bauxite has the composition
  - $\text{Al}_2\text{O}_3 \cdot n\text{H}_2\text{O}$
  - $\text{Fe}_2\text{O}_3 \cdot 2\text{H}_2\text{O}$
  - $\text{Al}_2\text{O}_3$
  - None of these
- The vacant space in bcc lattice unit cell is
  - 26%
  - 48%
  - 23%
  - 32%
- How many Faradays of electricity are required for the following reaction to occur  
 $\text{MnO}_4^- \rightarrow \text{Mn}^{2+}$ 
  - 7 F
  - 5 F
  - 3 F
  - 1 F
- Which of the following reagent can be used to convert nitrobenzene to aniline?
  - Zn Hg / NaOH
  - Zn /  $\text{NH}_4\text{Cl}$
  - Sn / HCl
  - All of these
- A complex in which the oxidation number of the metal is zero is
  - $\text{K}_4[\text{Fe}(\text{CN})_6]$
  - $[\text{Fe}(\text{CN})_3(\text{NH}_3)_3]$
  - $\text{Fe}(\text{CO})_5$
  - Both (b) and (c)
- An aqueous solution of borax is
  - Basic
  - Neutral
  - Amphoteric
  - Acidic
- Williamson synthesis of preparing dimethyl ether
  - Electrophilic substitution reaction
  - $\text{SN}_1$  reaction
  - $\text{SN}_2$  reaction
  - Electrophilic addition reaction
- Fog is colloidal solution of
  - liquid and gas
  - solid in gas
  - gas in liquid
  - gas in gas
- The transition element which has only +3 oxidation state is
  - Ni
  - Mn
  - Cr
  - Sc
- Time required for the reactant concentration to reach one half of its initial value is called
  - Half Life period
  - First order
  - Zero order
  - Second order
- The aqueous solution of sodium formate, anilinium chloride and potassium cyanide are respectively
  - acidic, acidic, acidic
  - acidic, acidic, basic
  - basic, acidic, basic
  - basic, neutral, basic
- Assertion : P-N,N-dimethyl aminobenzaldehyde undergoes benzoin condensation  
 Reason : The aldehydic (-CHO) group is meta directing.
  - Both Assertion and Reason are false
  - Both assertion and reason are true
  - Assertion is true, but Reason is false
  - Both Assertion and Reason are true, but Reason is not correct.
- The medicinal value of drug is measured in terms of its
  - Deoxyribose
  - Gold number
  - Therapeutic index
  - Equilibrium constant
- If one strand of the DNA has the sequence 'ATGCTTGA' then the sequence of complementary strand would be
  - TACGRAGT
  - TACGAACT
  - TCCGAACT
  - TACGTACT
- Which one of the following is most basic?
  - 2,4-dibromo aniline
  - 2,4-dichloro aniline
  - 2,4-dimethyl aniline
  - 2,4-dinitro aniline

