Tsi12C

Tenkasi District Common Examinations
Third Revision Test - February 2023

15-02-2023

Standard 12

CHEMISTRY

Time Allowed: 3.00 Hours

Maximum Marks: 70

PART - A

I. Choose the correct answer: **15×1=15**

1) In the electolytic refining of copper, which one of the following is used as anode?
a) Pure copper b) Impure copper c) Carbon rod d) Platinum electrode

2) *Assertion* : Aqueous solution of potash Alum is acidic
Reason : Aluminium sulphate undergo hydrolysis
a) Both assertion and reason are true and reason is the correct explanation of assertion
b) Both assertion and reason are true but reason is not the correct explanation of assertion
c) Assertion is true but reason is false
d) Both assertion and reason are false

3)

Column I		**Column II**
I. Fluorine	-	A] Identification of coloured metal ion
II. Borax	-	B] Strong Oxidizing agent
III. Aluminium	-	C] Chalgogens present in volcanic ashes
IV. Sulphur	-	D] Most abundant element

	I	*II*	*III*	*IV*
a)	C	B	D	A
b)	B	A	D	C
c)	D	C	B	A
d)	B	D	A	C

4) The catalytic behaviour of transition metals and their compounds is ascribed mainly due to
a) their magnetic behaviour b) their unfilled d orbitals
c) their ability to adopt variable oxidation states d) their chemical reactivity

5) Formula of tris(ethane-1,2-diamine) iron (II) phosphate
a) $[Fe(CH_3–CH(NH_2)_2)_3](PO_4)_3$ b) $[Fe(H_2N\text{-}CH_2\text{-}CH_2\text{-}NH_2)_3)](PO_4)$
c) $[Fe(H_2N\text{-}CH_2\text{-}CH_2\text{-}CH_2\text{-}NH_2)_3](PO_4)_2$ d) $[Fe(H_2N\text{-}CH_2\text{-}CH_2\text{-}NH_2)_3]_3(PO_4)_2$

6) The number of close packed spheres is 'n'. The number of tetrahedral voids generated is equal to
a) n b) 2n c) $2n^2$ d) 3n

7) If the initial concentration of the reactant is doubled, the time for half reaction is also doubled. Then the order of the reaction is
a) zero b) one c) Fraction d) none

8) Dissociation constant of NH_4OH is 1.8×10^{-5} the hydrolysis constant of NH_4Cl would be
a) 1.8×10^{-19} b) 5.55×10^{-10} c) 5.55×10^{-5} d) 1.8×10^{-5}

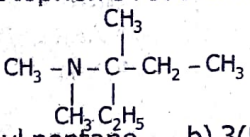
9) Faradays constant is defined as
a) charge carried by 1 electron
b) charge carried by one mole of electrons
c) charge required to deposit one mole of substance
d) charge carried by 6.22×10^{10} electrons

10) The blue colour of water in the sea is due to
a) Scattering of blue light by water molecules
b) Reflection of blue sky by sea water
c) Refraction of blue light by the impurities in sea water
d) Adsorption of other colours, except the blue colour by water molecules

11) $HOCH_2CH_2–OH$ on heating with periodic acid gives
a) methanoic acid b) glyoxal c) methanol d) CO_2

12) Which one of the following pairs is not correcly matched?

Reducing agent		*Name of the reaction*
a] $Zn/Hg/Con.HCl$	-	Clemension reduction
b] $LiAlH_4$	-	Wolf-Kishner's reduction
c] $Pd/BaSO_4$	-	Rosenmund's reduction
d] $SnCl_2/Con.HCl$	-	Stephen's reduction

13) IUPAC name for the amine: 

a) 3-Bimethylamino-3-methyl pentane b) 3(N,N-Triethyl)-3-amino pentane
c) 3-N,N-trimethyl pentanamine d) N,N-dimethyl-3-methyl-pentan-3 amine

14) Which one given below is a non reducting sugar?
a) glucose b) sucrose c) maltose d) lactose

15) The medicinal value of a drug is measured in terms of its
a) De oxyribose b) gold number c) Therapeutic index d) equilibrium constant

PART - B

Answer ANY SIX . Q.No. 24 is compulsory: **6×2=12**

16) Define Calcination.
17) What is Zeigler - Natta catalyst? Mention its uses.
18) Define Ambidentate ligand.
19) Distinguish b/w isotropy and anisotropy
20) Define buffer index (β)
21) Gas in gas colloid does not. Why?
22) How you prepared benzoic acid using Grignard reagent?
23) How is chloropicrin prepared?
24) The half life of the homogeneous gaseous reaction $SO_2Cl_2 \rightarrow SO_2\ Cl_2$ which obeys first order kinetic is 8.0 minutes. How long will it take for the concentration of SO_2Cl_2 to be reduced to 1% of the initial value?

PART - C

Answer ANY SIX. Question No. 33 is compulsory: **6×3=18**

25) Write a note on anomalous properties of the first element of p-block.
26) Mention the consequences of lanthanoid contraction.
27) In an Octahedral field, draw the figure to show splitting of d-orbitals.
28) The dissociation of water is an endothermic reaction. Why?
29) What is intercalation?
30) Write Tollen's Reagent Test.
31) Name the vitamins whose deficiency cause (i) Cheilosis (ii) Ber-Beri
32) What are bio-degradable polymers? Give an example.
33) Identify the enzyme catalyst in the following reactions:
a] Oxidation of ethanol into acetic acid b] Hydrolysis of starch into maltose
c] Hydrolysis of urea

PART - IV

Answer ALL the questions: **5×5=25**

34) a) Explain the zone refining. b) Write any 3 uses of borax. **(OR)**
c) Differentate lanthanide and actinides.
d) Explain the properties of inter halogen compounds.

35) a) What are the assumptions of Werner Theory? **(OR)**
b) Differentate frenkal and schotty defect?

36) a) Integrated rate law for a first order reaction.
b) Write any two examples for zero order reactions. **(OR)**
c) Derive Ostwald dilution law.
d) Define electro chemical equivalent

37) a) Derive an expression for Nernst equation
b) Explain Faraday's 1st Law. **(OR)**
c) Describe adsorption theory of catalysis. d) Explain tyndall effect.

38) a) Carbylamine reaction b) Preparation of Urotropine **(OR)**
c) Write short note on peptide bond?
d) What is vulcanization (cross linking) of rubber?
