

ONE MARK TEST-I**(FULL PORTION/BOOK BACK)**

CLASS : XII
SUBJECT : CHEMISTRY

TIME : 1.00HRS
MARKS : 40

CHOOSE THE CORRECT ONE**40 X 1 = 40**

- The metal oxide which cannot be reduced to metal by carbon is
 a) PbO b) Al_2O_3 c) ZnO d) FeO
- Electrochemical process is used to extract
 a) Iron b) Lead c) Sodium d) silver
- In the extraction of aluminium from alumina by electrolysis, cryolite is added to
 a) Lower the melting point of alumina b) Remove impurities from alumina
 c) Decrease the electrical conductivity d) Increase the rate of reduction
- Which of the following is used for concentrating ore in metallurgy?
 a) Leaching b) Roasting c) Froth floatation d) Both (a) and (c)
- An aqueous solution of borax is
 a) neutral b) acidic c) basic d) amphoteric
- In diborane, the number of electrons that accounts for banana bonds is
 a) six b) two c) four d) three
- Most easily liquefiable gas is
 a) Ar b) Ne c) He d) Kr
- In which of the following, NH_3 is not used?
 a) Nessler's reagent b) Reagent for the analysis of IV group basic radical
 c) Reagent for the analysis of III group basic radical d) Tollen's reagent
- Which of the following d block element has half filled penultimate d sub shell as well as half filled valence sub shell?
 a) Cr b) Pd c) Pt d) none of these
- Which of the following oxidation states is most common among the lanthanoids?
 a) +4 b) +2 c) +5 d) +3
- Fac-mer isomerism is shown by :
 a) $[\text{Co}(\text{en})_3]^{3+}$ b) $[\text{Co}(\text{NH}_3)_4\text{Cl}_2]^+$ c) $[\text{Co}(\text{NH}_3)_3\text{Cl}_3]$ d) $[\text{Co}(\text{NH}_3)_5\text{Cl}] \text{SO}_4$
- A complex in which the oxidation number of the metal is zero is
 a) $\text{K}_4[\text{Fe}(\text{CN})_6]$ b) $[\text{Fe}(\text{CN})_3(\text{NH}_3)_3]$ c) $[\text{Fe}(\text{CO})_5]$ d) both b and c
- Graphite and diamond are
 a) Covalent and molecular crystals b) ionic and covalent crystals
 c) both covalent crystals d) both molecular crystals
- Solid CO_2 is an example of
 a) Covalent solid b) metallic solid c) molecular solid d) ionic solid
- In calcium fluoride, having the fluorite structure the coordination number of Ca^{2+} ion and F^- ion are
 a) 4 and 2 b) 6 and 6 c) 8 and 4 d) 4 and 8
- The addition of a catalyst during a chemical reaction alters, which of the following quantities
 a) Entropy b) Internal energy c) Activation energy d) Enthalpy

17. The rate constant of a reaction is $5.8 \times 10^{-2} \text{s}^{-2}$. the order of reaction is
a) First order b) Zero order c) second order d) Third order
18. 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
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.
19. The aqueous solutions of sodium formate, anilinium chloride and potassium cyanide are respectively
a) acidic, acidic, basic b) basic, acidic, basic c) basic, neutral, basic d) none of these
20. Which of the following can act as lowery-bronsted acid as well as base ?
a) HPO_4^{2-} b) HCl c) Br^- d) SO_4^{2-}
21. Faraday 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.
22. Among the following cells
I) Leclanche cell
II) Nickel – Cadmium cell
III) Lead storage battery
IV) Mercury cell
Primary cells are
a) I and IV b) I and III c) III and IV d) II and III
23. The number of electrons that have a total charge of 9650 coulombs is :
a) 6.22×10^{23} b) 6.022×10^{24} c) 6.022×10^{22} d) 6.022×10^{-34}
24. Which of the following is incorrect for physisorption?
a) reversible b) increases with increase in temperature
c) low heat of adsorption d) increases with increase in surface area
25. Adsorption of a gas on solid metal surface is spontaneous and exothermic, then
a) ΔH increases b) ΔS increases c) ΔG increases d) ΔS decreases
26. Which of the following compounds on reaction with methyl magnesium bromide will give tertiary alcohol.
a) benzaldehyde b) propanoic acid c) methyl propanoate d) acetaldehyde
27. Which one of the following will react with phenol to give salicyladehyde after hydrolysis.
a) Dichloro methane b) trichloroethane c) trichloro methane d) CO_2
28. Williamson synthesis of preparing dimethyl ether is a / an /
a) SN_1 reactions b) SN_2 reaction
c) electrophilic addition d) electrophilic substitution
29. The formation of cyanohydrin from acetone is an example of
a) nucleophilic substitution b) electrophilic substitution
c) electrophilic addition d) Nucleophilic addition
30. Which one of the following reduces tollens reagent
a) formic acid b) acetic acid c) benzophenone d) none of these

31. The reagent used to distinguish between acetaldehyde and benzaldehyde is
a) Tollens reagent b) Fehling's solution c) 2,4 – dinitrophenyl hydrazine d) semicarbazide
32. The product formed by the reaction an aldehyde with a primary amine
a) carboxylic acid b) aromatic acid c) schiff 's base d) ketone
33. Which of the following amines does not undergo acetylation?
a) t – butylamine b) ethylamine c) diethylamine d) triethylamine
34. Which one given below is a non-reducing sugar?
a) Glucose b) Sucrose c) maltose d) Lactose
35. Which of the following amino acids are achiral?
a) Alanine b) Leucine c) Proline d) Glycine
36. The pyrimidine bases present in DNA are
a) Cytosine and Adenine b) Cytosine and Guanine
c) Cytosine and Thiamine d) Cytosine and Uracil
37. Aspirin is a/an
a) acetylsalicylic acid b) benzoyl salicylic acid
c) chlorobenzoic acid d) anthranilic acid
38. Natural rubber has
a) alternate cis- and trans-configuration b) random cis- and trans-configuration
c) all cis-configuration d) all trans-configuration
39. Which one of the following is a bio-degradable polymer?
a) HDPE b) PVC c) Nylon 6 d) PHBV
40. Which of the following is a co-polymer?
a) Orlon b) PVC c) Teflon d) PHBV

ONE MARK TEST-II

(FULL PORTION/BOOK BACK)

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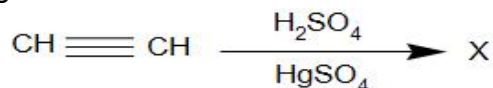
CHOOSE THE CORRECT ONE

40 X 1 = 40

- Which of the metal is extracted by Hall-Heroult process?
a) Al b) Ni c) Cu d) Zn
- Flux is a substance which is used to convert
a) Mineral into silicate b) Infusible impurities to soluble impurities
c) Soluble impurities to infusible impurities d) All of these
- Zinc is obtained from ZnO by
a) Carbon reduction b) Reduction using silver
c) Electrochemical process d) Acid leaching
- The element that does not show catenation among the following p-block elements is
a) Carbon b) silicon c) Lead d) germanium
- Which of the following is not sp^2 hybridised?
a) Graphite b) grapheme c) Fullerene d) dry ice
- The element that does not show catenation among the following p-block elements is
a) Carbon b) silicon c) Lead d) germanium
- The correct order of the thermal stability of hydrogen halide is
a) $HI > HBr > HCl > HF$ b) $HF > HCl > HBr > HI$
c) $HCl > HF > HBr > HI$ d) $HI > HCl > HF > HBr$
- Among the following, which is the strongest oxidizing agent?
a) Cl_2 b) F_2 c) Br_2 d) I_2
- The magnetic moment of Mn^{2+} ion is
a) 5.92BM b) 2.80BM c) 8.95BM d) 3.90BM
- The most common oxidation state of actinoids is
a) +2 b) +3 c) +4 d) +6
- The magnetic moment of 1.73 BM will be shown by one among the following
a) $[Cu(NH_3)_4]^{2+}$ b) $[Ni(CN)_4]^{2-}$ c) $TiCl_4$ d) $[CoCl_6]^{4-}$
- IUPAC name of the complex $K_3[Al(C_2O_4)_3]$ is
a) Potassiumtrioxalatoaluminium(III) b) Potassiumtrioxalatoaluminate(II)
c) Potassiumtrisoalatoaluminate(III) d) Potassiumtrioxalatoaluminate(III)
- The vacant space in bcc lattice unit cell is
a) 48% b) 23% c) 32% d) 26%
- The yellow colour in NaCl crystal is due to
a) excitation of electrons in F centers b) reflection of light from Cl^- ion on the surface
c) refraction of light from Na^+ ion d) all of the above
- Schottky defect in a crystal is observed when
a) unequal number of anions and cations are missing from the lattice
b) equal number of cations and anions are missing from the lattice
c) an ion leaves its normal site and occupies an interstitial site
d) no ion is missing from its lattice.

16. The rate constant of a reaction is $5.8 \times 10^{-2} \text{ s}^{-1}$. The order of reaction is :
a) First order b) Zero order c) Second order d) Third order
17. If 75% of a first order reaction was completed in 60 min, 50% of the same reaction under the same conditions would be completed in :
a) 35 minutes b) 20 minutes c) 75 minutes d) 30 minutes
18. The decomposition of phosphine (PH_3) on tungsten at low pressure is a first order reaction. It is because the
a) rate is proportional to the surface coverage
b) rate is inversely proportional to the surface coverage
c) rate is independent of the surface coverage
d) rate of decomposition is slow
19. The pH of an aqueous solution is Zero. The solution is
a) slightly acidic b) strongly acidic c) neutral d) basic
20. Which of these is not likely to act as Lewis base ?
a) BF_3 b) PF_3 c) CO d) F^-
21. How many faradays of electricity are required for the following reaction to occur
 $\text{MnO}^{4+} \rightarrow \text{Mn}^{2+}$.
a) 7F b) 5F c) 3F d) 1F
22. Zinc can be coated on iron to produce galvanized iron but the reverse is not possible. It is because
a) Zinc is lighter than iron
b) Zinc has lower melting point than iron
c) Zinc has lower negative electrode potential than iron
d) Zinc has higher negative electrode potential than iron
23. In H_2 - O_2 fuel cell the reaction occurs at cathode is
a) $2\text{H}_2(\text{g}) + \text{O}_2(\text{g}) \rightarrow 2\text{H}_2\text{O}(\text{g})$ b) $\text{H}^+ + \text{e}^- \rightarrow 1/2 \text{H}_2$
c) $\text{O}_2(\text{g}) + 2\text{H}_2\text{O}(\text{l}) + 4\text{e}^- \rightarrow 4\text{OH}^-(\text{aq})$ d) $\text{H}^+(\text{aq}) + \text{OH}^-(\text{aq}) \rightarrow \text{H}_2\text{O}(\text{l})$
24. Fog is colloidal solution of
a) solid in gas b) gas in gas c) liquid in gas d) gas in liquid
25. Which one of the following is an example for homogeneous catalysis?
a) manufacture of ammonia by Haber's process
b) manufacture of sulphuric acid by contact process
c) hydrogenation of oil
d) Hydrolysis of sucrose in presence of dil HCl
26. Which one of the following is the strongest acid
a) 2 - nitrophenol b) 4 - chlorophenol c) 4 - nitrophenol d) 3 - nitrophenol
27. Assertion : Phenol is more acidic than ethanol
Reason: Phenoxide ion is resonance stabilized
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.
28. On reacting with neutral ferric chloride, phenol gives
a) red colour b) violet colour c) dark green colour d) no colouration.

29. In the following reaction



Product 'X' will not give

- a) Iodoform test b) Tollen's test
c) Fehling solution test d) Victor Meyer test.
30. Which one of the following reaction is an example of disproportionation reaction
a) Aldol condensation b) Cannizzaro reaction c) Benzoin condensation d) None of these
31. In which of the following reactions new carbon – carbon bond is not formed?
a) Aldol condensation b) Friedel-Craft reaction c) Kolbe's reaction d) Wolff-Kishner reduction
32. When aniline reacts with acetic anhydride the product formed is
a) o - aminoacetophenone b) m-aminoacetophenone
c) p - aminoacetophenone d) acetanilide
33. Which one of the following is most basic?
a) 2,4 - dichloroaniline b) 2,4 - dimethyl aniline
c) 2,4 - dinitroaniline d) 2,4 - dibromoaniline
34. Which of the following reagent can be used to convert nitrobenzene to aniline
a) Zn/Hg/NaOH b) Zn/NH₄Cl c) Sn/HCl d) All of these
35. Among the following the achiral amino acid is
a) 2-ethylalanine b) 2-methylglycine c) 2-hydroxymethylserine d) Tryptophan
36. Which of the following vitamins is water soluble?
a) Vitamin E b) Vitamin K c) Vitamin A d) Vitamin B
37. Drugs that bind to the receptor site and inhibit its natural function are called
a) antagonists b) agonists c) enzymes d) molecular targets
38. Nylon is an example of
a) polyamide b) polythene c) polyester d) polysaccharide
39. Non stick cook wares generally have a coating of a polymer, whose monomer is
a) ethane b) prop-2-enenitrile c) chloroethene d) 1,1,2,2-tetrafluoroethane
40. Regarding cross-linked or network polymers, which of the following statement is incorrect?
a) Examples are Bakelite and melamine
b) They are formed from bi and tri-functional monomers
c) They contain covalent bonds between various linear polymer chains
d) They contain strong covalent bonds in their polymer chain

ONE MARK TEST-III

(FULL PORTION/BOOK BACK)

CLASS : XII
SUBJECT : CHEMISTRY

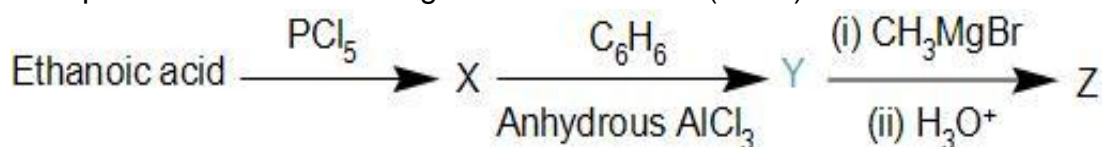
TIME : 1.00HRS
MARKS : 40

CHOOSE THE CORRECT ONE

40 X 1 = 40

- Wolframite ore is separated from tinstone by the process of
a) Smelting b) Calcination c) Roasting d) Electromagnetic separation
- Which one of the following ores is best concentrated by froth – floatation method?
a) Magnetite b) Haematite c) Galena d) Cassiterite
- Extraction of gold and silver involves leaching with cyanide ion. silver is later recovered by
a) Distillation b) Zone refining c) Displacement with zinc d) liquation
- The compound that is used in nuclear reactors as protective shields and control rods is
a) Metal borides b) metal oxides c) Metal carbonates d) metal carbide
- The geometry at which carbon atom in diamond are bonded to each other is
a) Tetrahedral b) hexagonal c) Octahedral d) none of these
- Which of the following is strongest acid among all?
a) HI b) HF c) HBr d) HCl
- The basicity of pyrophosphorous acid ($\text{H}_4\text{P}_2\text{O}_5$) is
a) 4 b) 2 c) 3 d) 5
- 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
- In acid medium, potassium permanganate oxidizes oxalic acid to
a) oxalate b) Carbon dioxide c) acetate d) acetic acid
- Which one of the following is not correct?
a) $\text{La}(\text{OH})_3$ is less basic than $\text{Lu}(\text{OH})_3$
b) In lanthanoid series ionic radius of Ln^{3+} ions decreases
c) La is actually an element of transition metal series rather than lanthanoid series
d) Atomic radii of Zr and Hf are same because of lanthanoid contraction
- How many geometrical isomers are possible for $[\text{Pt}(\text{Py})(\text{NH}_3)(\text{Br})(\text{Cl})]$?
a) 3 b) 4 c) 0 d) 15
- Oxidation state of Iron and the charge on the ligand NO in $[\text{Fe}(\text{H}_2\text{O})_5\text{NO}]\text{SO}_4$
a) +2 and 0 respectively b) +3 and 0 respectively
c) +3 and -1 respectively d) +1 and +1 respectively
- The crystal with a metal deficiency defect is
a) NaCl b) FeO c) ZnO d) KCl
- The cation leaves its normal position in the crystal and moves to some interstitial position, the defect in the crystal is known as
a) Schottky defect b) F center c) Frenkel defect d) non-stoichiometric defect
- Assertion: due to Frenkel defect, density of the crystalline solid decreases.
Reason: in Frenkel defect cation and anion leaves the crystal.
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

16. 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
17. zero order reaction $X \rightarrow \text{product}$, with an initial concentration 0.02M has a half life of 10 min. if one starts with concentration 0.04M, then the half life is
 a) 10 s b) 5 min c) 20 min d) cannot be predicted using the given information
18. The correct difference between first and second order reactions is that
 a) A first order reaction can be catalysed; a second order reaction cannot be catalysed.
 b) The half life of a first order reaction does not depend on $[A_0]$; the half life of a second order reaction does depend on $[A_0]$.
 c) The rate of a first order reaction does not depend on reactant concentrations; the rate of a second order reaction does depend on reactant concentrations.
 d) The rate of a first order reaction does depend on reactant concentrations; the rate of a second order reaction does not depend on reactant concentrations.
19. Conjugated base for bronsted acids H_2O and HF are :
 a) OH^- and H_2FH^+ respectively b) H_3O^+ and F^- respectively
 c) OH^- and F^- respectively d) H_3O^+ and H_2F^+ respectively
20. Which of the following fluoro compounds is most likely to behave as a lewis base ?
 a) BF_3 b) PF_3 c) CF_4 d) SiF_4
21. Which of the following electrolytic solution has the least specific conductance
 a) 2N b) 0.002N c) 0.02N d) 0.2N
22. Assertion : pure iron when heated in dry air is converted with a layer of rust.
 Reason : Rust has the composition Fe_3O_4
 a) if both assertion and reason are true and reason is the correct explanation of assertion.
 b) if 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
23. The phenomenon observed when a beam of light is passed through a colloidal solution is
 a) Cataphoresis b) Electrophoresis c) Coagulation d) Tyndall effect
24. Hair cream is
 a) gel b) emulsion c) solid sol d) sol
25. Carboic acid is
 a) Phenol b) Picric acid c) benzoic acid d) phenylacetic acid
26. Which of the following compound can be used as antifreeze in automobile radiators?
 a) methanol b) ethanol c) Neopentyl alcohol d) ethan -1, 2-diol
27. $HO-CH_2-CH_2-OH$ on heating with periodic acid gives
 a) methanoic acid b) Glyoxal c) methanal d) CO_2
28. Predict the product Z in the following series of reactions(20)



- a) $(CH_3)_2C(OH)C_6H_5$ b) $CH_3CH(OH)C_6H_5$ c) $CH_3CH(OH)CH_2CH_3$ d) $C_6H_5-CH_2-OH$
29. Which one of the following undergoes reaction with 50% sodium hydroxide solution to give the corresponding alcohol and acid
 a) Phenylmethanal b) ethanal c) ethanol d) methanol

30. Which of the following represents the correct order of acidity in the given compounds
 a) $\text{FCH}_2\text{COOH} > \text{CH}_3\text{COOH} > \text{BrCH}_2\text{COOH} > \text{ClCH}_2\text{COOH}$
 b) $\text{FCH}_2\text{COOH} > \text{ClCH}_2\text{COOH} > \text{BrCH}_2\text{COOH} > \text{CH}_3\text{COOH}$
 c) $\text{CH}_3\text{COOH} > \text{ClCH}_2\text{COOH} > \text{FCH}_2\text{COOH} > \text{BrCH}_2\text{COOH}$
 d) $\text{ClCH}_2\text{COOH} > \text{CH}_3\text{COOH} > \text{BrCH}_2\text{COOH} > \text{ICH}_2\text{COOH}$
31. Secondary nitro alkanes react with nitrous acid to form
 a) red solution b) blue solution c) green solution d) yellow solution
32. Aniline + benzoyl chloride $\xrightarrow{\text{NaOH}}$ $\text{C}_6\text{H}_5\text{-NH-COC}_6\text{H}_5$. this reaction is known as
 a) Fridel- crafts reaction b) HVZ reaction
 c) Schotten-Baumann reaction d) Kolbe's reaction
33. Assertion : Acetamide on reaction with KOH and bromine gives acetic acid
 Reason : Bromine catalyses hydrolysis of acetamide.
 a) if both assertion and reason are true and reason is the correct explanation of assertion.
 b) if 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
34. Which one of the following rotates the plane polarized light towards left?
 a) D(+) Glucose b) L(+) Glucose c) D(-) Fructose d) D(+) Galactose
35. Which one of the following is not produced by body?
 a) DNA b) Enzymes c) Hormones d) Vitamins
36. If one strand of the DNA has the sequence ATGCTTGA then the sequence of complementary strand would be
 a) TACGRAGT b) TACGAACT c) TCCGAACT d) TACGTACT
37. Which of the following is an analgesic?
 a) Streptomycin b) Chloromycetin c) Aspirin d) Penicillin
38. Terylene is an example of
 a) polyamide b) polythene c) polyester d) polysaccharide
39. The polymer used in making blankets (artificial wool) is
 a) polystyrene b) PAN c) polyester d) polythene
40. Assertion : p-N,N- dimethyl amino benzaldehyde undergoes benzoin condensation
 Reason : the aldehydic(CHO)group is meta directing.
 a) Both Assertion and reason are false
 b) Both assertion and reason are true but reason is the correct explanation of assertion
 c) Both assertion and reason are true but reason is not the correct explanation of assertion
 d) Assertion is true but Reason is false
