

MCQs ON CLASS 12 CHEMISTRY

[Prepared by:K.Sreenivasulu,PGT Chemistry,KV Idukki]

1. Which of following is not a Colligative property?
(a)Relative lowering of vapour pressure (b) Elevation in boiling point (c)Osmotic pressure
(d) Atmospheric pressure

2. If solute do not undergo neither association nor dissociation, its Van't Hoff factor (i) will be
(a)less than unity (b)greater than unity (c)unity (d)zero

3. Who proposed the law of independent migration of ions of an electrolyte?
(a) Raoult (b)Van't Hoff (c)Kohlrausch(d)Hess

4. Units for rate constant (k) for all pseudo first order reactions is
(a) mol⁻¹ L s⁻¹ (b) mol⁻¹ L⁻¹ s⁻¹ (c) mol L⁻¹ s⁻¹ (d)s⁻¹

5. Standard electrode potential (E°) for Hydrogen electrode is
(a) 0.00V (b)1.00V (c) 0.01V (d) 1.01V

6. Leaching of silver and gold ores are done by
(a) NaCN/KCN (b) NaOH/Na₂CO₃ (c)NaCl/KCl (d)C/CO

7. Half-life of a first order chemical reaction is 5.0×10^{-3} sec. What is its rate constant (k_1) value? (a)200s⁻¹ (b) 138.6 s⁻¹ (c) 500 s⁻¹ (d)0.005 s⁻¹

8. Denticity of EDTA⁴⁻ is
(a) four (b)six (c)two (d)one

9. DDT is a/an
(a) pesticide (b)Insecticide(c) fungicide (d)germicide

10. Which artificial sweetener has limited use (only to cold foods)
(a) Aspartame (b) Alitame (c)Saccharin (d)Sucralose

Answers:

1.(d)	2.(c)	3.(c)	4.(d)	5.(a)	6.(a)	7.(b)	8.(b)	9.(b)	10.(a)
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MULTIPLE CHOICE QUESTIONS – CHEMISTRY CLASS XII – ORGANIC CHEMISTRY

1. The reagent which doesnot react with benzaldehyde is			
A. NaHSO_3	B. Phenyl hydrazine	C. Fehling's solution	D. Grignard reagent
2.The IUPAC name of salicylic acid is			
3. The product formed when phenol is treated with CHCl_3 and NaOH is.....			
4. Two forms of D-glucopyranose are called			
A. enantiomers	B. anomers	C. Epimers	D. Diastereomers
5. Ketone upon treatment with Grignard reagent gives			
A. Primary alcohol	B. Secondary alcohol	C. Tertiary alcohol	D. Aldehyde
6. Cyanohydrin of which of the following forms lactic acid			
A. HCHO	B. CH_3COCH_3	C. CH_3CHO	D. $\text{CH}_3\text{CH}_2\text{CHO}$
7. On heating aniline with chloroform with ethanolic KOH, the product obtained is			
8. Reduction of aniline with acetyl chloride in presence of NaOH produce.....			
9. Which one of the following is the strongest base in aqueous solution			
A. Trimethylamine	B. Dimethylamine	C. Aniline	D. Methylamine
10. What is obtained when acetyl chloride is heated with benzene in presence of anhydrous AlCl_3 ?			

ANSWERS

1. C
2. 2-Hydroxy benzoic acid
3. Salicylaldehyde
4. B
5. C
6. C
7. Phenyl isocyanide
8. Acetanilide
9. B
10. Acetophenone

CLASS XII- CHEMISTRY MCQ QUESTIONS

- 1) Among the following cells

 - i) Leclanche cell ii) Lead storage battery
 - iii) Mercury cell iv) Nickel-Cadmium cell

primary cells are

 - a) i&iv (b) ii&iii (c) I &iii (d) ii &iv

2) The quantity of electricity in coulombs needed to reduce 1 mole of Cr_2O_7 in the following reaction is

$$\text{Cr}_2\text{O}_7 + 14\text{H}^+ + 6e^- \dots \rightarrow 2 \text{Cr}^{3+} + 7 \text{H}_2\text{O}$$
 - a) 14F b) 2F C) 6F d) 7F

3) A First order reaction is 50% completed in 1.26×10^{14} seconds. How much time would be needed for the completion of 75% of the reaction

 - a) 1.26×10^{15} b) 2.52×10^{14} s c) 2.52×10^{28} s d) Infinite

4) Extent of adsorption of adsorbate from solution phase increases with -----

 - (a) Increase in amount of adsorbate in solution (b) Decrease in surface area of adsorbent
 - (c) Increase in temperature of solution (d) Decrease in amount of adsorbate in solution

5) Phenol can be distinguished from ethanol by the reaction with

 - (a) $\text{Br}_2/\text{H}_2\text{O}$ (b) Na
 - (c) $\text{CHCl}_3/\text{Aq.KOH}$ (d) $\text{Br}_2/\text{Red.P}_4$

6) For the following compounds

 - i) Aniline ii) p-nitro aniline iii) p-methyl aniline

the correct order of increasing basic strength

(a) I< II< I (b) III<I<iii C)III<II<I d)ii<i<iii

7) The deficiency of vitamin B6 causes the disease _____

- a) Sterility b)beri-beri c) cheielog d) convulsion

8)(NH(CH₂)₆-NH-CO-(CH₂)₄-CO--)_n is an

- a) Addition polymer b)homopolymer c)co-polymer d)
Thermosetting polymer

9) The compound that doesnot undergo hydrolysis by SN1 mechanism

- a)C₆H₅CH₂Cl b)C₆H₅Cl c)CH₂=CH-Cl d)C₆H₅-C(CH₃)-Cl

10) The organic detergent that is used in hair conditioners

- (a) sodium dodecyl benzene sulphonate (b)sodium lauryl sulphate
(c) cetyl trimethyl ammonium bromide (d) tetra methyl ammonium chloride.

Answers:

1 .c

2 .c

3 .a

4 .a

5 ..a

6 .b

7 .b

8 .c

9 .b

10. d

MCQ'S IN THE SUBJECT CHEMISTRY OF CLASS XII

Q.1 Which of the following aqueous solutions would have the highest boiling point?

- (a) 1.0 M NaOH (b) 1.0 M Na_2SO_4 (c) 1.0 M NH_4NO_3 (d) 1.0 M KNO_3

ANS - (b)

Q.2 The set with the correct order of acidity is :-

- (a) $\text{HClO} < \text{HClO}_2 < \text{HClO}_3 < \text{HClO}_4$ (b) $\text{HClO}_4 < \text{HClO}_3 < \text{HClO}_2 < \text{HClO}$
(c) $\text{HClO}_4 < \text{HClO}_3 < \text{HClO , HClO}_2$ (d) $\text{HClO}_3 < \text{HClO}_2 < \text{HClO} < \text{HClO}_4$

ANS – (a)

Q.3 Each polypeptide in a protein has aminoacids linked with each other in a specific sequence . This sequence of amino acids is said to be-

- (a) Secondary structure of Protein (b) Tertiary structure of Protein
(c) Primary structure of Protein (d) Quartenary structure of Protein

ANS- (c)

Q.4 Which of the following electrolytes will have maximum coagulating value

For AgI/Ag^+ sol ?

- (a) Na_2S (b) Na_3PO_4 (c) Na_2SO_4 (d) NaCl

ANS - (b)

Q.5 Which of the following alkyl halides will undergo $\text{SN}1$ reaction most readily?

- (a) $(\text{CH}_3)_3\text{C}-\text{F}$ (b) $(\text{CH}_3)_3\text{C}-\text{Cl}$ (c) $(\text{CH}_3)_3\text{C}-\text{Br}$ (d) $(\text{CH}_3)_3\text{C}-\text{I}$

ANS- (d)

Q.6 The rate constant of a reaction is $2.0 \times 10^{-6} \text{ mol}^{-2} \text{ L}^2 \text{ s}^{-1}$. The order of the reaction is

- (a) zero (b) Two (c) One (d) Three

Q.7 Methylamine reacts with HNO_2 to form

- (a) $\text{CH}_3-\text{O}-\text{N}=\text{O}$ (b) $\text{CH}_3-\text{O}-\text{CH}_3$ (c) CH_3OH (d) CH_3CHO

ANS - (c)

Q.8 The quantity of charge required to obtain one mole of Aluminium from Al_2O_3 is

- (a) 1 F (b) 6 F (c) 3 F (d) 2 F

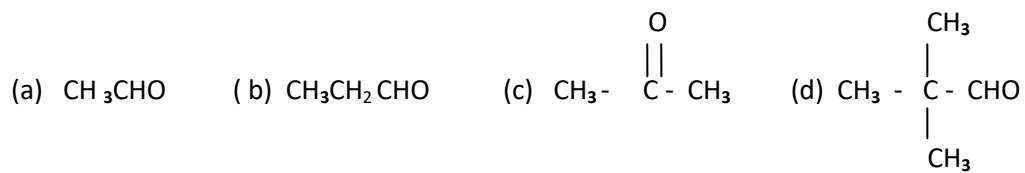
ANS - (c)

Q.9 Which of the following statements is not correct ?

- (a) Terylene is a polyester polymer
- (b) Caprolactum is the monomer of Nylon - 6
- (c) Phenol Formaldehyde resin is known as Bakelite
- (d) The monomer of natural rubber is Butadiene

ANS - (d)

Q.10 Which of the following compounds does not undergo aldol condensation: ----



ANS -(d)

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CLASS XII CHEMISTRY

MCQ/OBJECTIVE QUESTIONS

1. The system that forms maximum boiling azeotrope is

- (a) Ethanol-Water (b) Benzene –toluene (c) Nitric acid –water (d) CS_2 –Acetone

2. The standard emf of a Galvanic cell involving 3 moles of electrons in a redox reaction is 0.59V. The equilibrium constant for the reaction is

- (a) 10^{10} (b) 10^{20} (c) 10^{30} (d) 10^{15}

3. The half life of first order reaction is 69.35s. The value of rate constant of the reaction is

- (a) 1.0s^{-1} (b) 0.1 s^{-1} (c) 0.01 s^{-1} (d) 0.001 s^{-1}

4. The emulsifying agent present in milk which makes it stable is

- (a) maltose (b) casein (c) lactose (d) lactic bacilli

5. Which of the following is not a basic flux

- (a) CaCO_3 (b) CaO (c) SiO_2 (d) MgO

6. The spin only magnetic moment value of Cr^{3+} is

- (a) 2.87BM (b) 3.87BM (c) 3.47BM (d) 3.57BM

7. Alkyl halides undergoing nucleophilic biomolecular substitution involve

- (a) retention of configuration (b) racemic mixture (c) inversion of configuration (d) formation of carbocation

8. The compound that reacts fastest with Lucas reagent at room temperature is

- (a) Butan-1-ol (b) Butan-2-ol (c) 2-Methyl propan-1-ol (d) 2-Methyl propan- 2-ol

9. Vitamin C is

- (a) Lactic acid (b) citric acid (c) aspartic acid (d) Ascorbic acid

10. Which among the following is not an antibiotic

- (a) Penicillin (b) Oxytocin (c) Tetra cycline (d) Erythromycin

MULTIPLE CHOICE QUESTIONS-----CHEMISTRY---CLASS XII

- 1)The difference between the electrode potentialals of the electrode when no current is drawn through the cell is called 1) cell potential 2) cell emf 3) potential difference 4) cell voltage
- 2)Molar conductivity of ionic solution depends on 1)pressure 2) distance between electrodes 3) concentration of electrolytes 4) surface area of electrodes
- 3) The vitamin absorbed from intestine along with fats are 1)A,D 2)A,B 3)A,C 4)D,B
- 4) The functional group which is found in aminoacid is 1)- COOH 2) -NH₂ 3) -CH₃ 4) both 1 and 2
- 5)Which base is present in RNA but not in DNA 1) Uracil 2) Cytosine 3) Guanine 4) Thymine
- 6)Zeigler Natta catalyst is used for 1) synthesis of methanol 2) polymerization of olefins 3) cracking of hydrocarbons 4) hydrogenation of alkenes
- 7)The number of moles ions produced on dissolving one mole Mohr's salt is
1)4 2) 5 3) 6 4) 3
- 8) Silica is used as a flux in the extraction of metals which is an example of 1) basic 2) neutral 3) acidic 4) amphoteric
- 9) Which metal is obtained by reacting the ore with dilute cyanide solution
1) gold 2) aluminium 3) zinc 4) lead
- 10) Which of the following polymer need atleast one diene monomer for their preparation
1) Bakelite 2) Buna -S 3) Neoprene 4) Novolac

CHAPTER -SOLUTIONS

(PREPARED BY ANITHA P S PGT CHEMISTRY KV CRPF PALLIPURAM)

1. Which of the following units is useful in relating concentration of solution with its vapour pressure?
 - (i) mole fraction
 - (ii) parts per million
 - (iii) mass percentage
 - (iv) molality
2. On dissolving sugar in water at room temperature solution feels cool to touch.
Under which of the following cases dissolution of sugar will be most rapid?
 - (i) Sugar crystals in cold water.
 - (ii) Sugar crystals in hot water.
 - (iii) Powdered sugar in cold water.
 - (iv) Powdered sugar in hot water.
3. At equilibrium the rate of dissolution of a solid solute in a volatile liquid solvent is _____.
 - (i) less than the rate of crystallisation
 - (ii) greater than the rate of crystallisation
 - (iii) equal to the rate of crystallisation
 - (iv) zero
4. A beaker contains a solution of substance ‘A’. Precipitation of substance ‘A’ takes place when small amount of ‘A’ is added to the solution. The solution is _____.
 - (i) saturated
 - (ii) supersaturated
 - (iii) unsaturated
 - (iv) concentrated
5. Maximum amount of a solid solute that can be dissolved in a specified amount of a given liquid solvent does not depend upon _____.
 - (i) Temperature
 - (ii) Nature of solute
 - (iii) Pressure
 - (iv) Nature of solvent
6. Low concentration of oxygen in the blood and tissues of people living at high altitude is due to _____.
 - (i) low temperature
 - (ii) low atmospheric pressure
 - (iii) high atmospheric pressure
 - (iv) both low temperature and high atmospheric pressure
7. Considering the formation, breaking and strength of hydrogen bond, predict which of the following mixtures will show a positive deviation from Raoult’s law?
 - (i) Methanol and acetone.

(ii) Chloroform and acetone.

(iii) Nitric acid and water.

(iv) Phenol and aniline.

8. Colligative properties depend on .

(i) the nature of the solute particles dissolved in solution.

(ii) the number of solute particles in solution.

(iii) the physical properties of the solute particles dissolved in solution.

(iv) the nature of solvent particles.

9. Which of the following aqueous solutions should have the highest boiling point?

(i) 1.0 M NaOH

(ii) 1.0 M Na_2SO_4

(iii) 1.0 M NH_4NO_3

(iv) 1.0 M KNO_3

10. The unit of ebullioscopic constant is _____.

(i) K kg mol^{-1} or K $(\text{molality})^{-1}$

(ii) mol kg K^{-1} or K $^{-1}(\text{molality})$

(iii) kg $\text{mol}^{-1} \text{K}^{-1}$ or K $^{-1}(\text{molality})^{-1}$

(iv) K mol kg^{-1} or K (molality)

Answers

1. (i) 2. (iv) 3. (iii) 4. (ii) 5. (iii) 6. (ii) 7. (i) 8. (ii) 9. (ii) 10. (i)

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MULTIPLE CHOICE QUESTIONS

SUB: CHEMISTRY

CLASS: XII

1. The reddish brown coloured gas formed when nitric oxide is oxidised by air is

- a) N_2O_5
- b) N_2O_4
- c) NO_2
- d) N_2O_3

ans: NO_2

2. Which of the following is most stable to heat.

- a) HCl
- b) HOCl
- c) HBr
- d) HI

ans:HCl

3. Bromine can be liberated from potassium bromide solution by the action of

- a) Iodine solution
- b) Chlorine water
- c) NaCl
- d) KI

Ans: b

4. Which one of the following oxide is neutral

- a)CO
- b) SnO_2
- c) ZnO
- d) SiO_2

ans: a

5. On Heating ammonium dichromate the gas evolved is

- a) Oxygen
- b) Nitrogen
- c) Nitrous oxide
- d) All of the above

ans:b

6. In the metallurgy of iron when lime stone is added to the blast furnace the calcium ion ends up in as

- a) slag
- b) gangue
- c) metallic calcium
- d) calcium carbonate

ans: a

7. Amongst [Ni(CO)₄] and [Ni(CN)₄]²⁻ and [NiCl₄]²⁻

a) [Ni(CO)₄] and [NiCl₄]²⁻ are diamagnetic and [Ni(CN)₄]²⁻ is paramagnetic

b) [NiCl₄]²⁻, [Ni(CN)₄]²⁻ are diamagnetic and [Ni(CO)₄] is paramagnetic

c) [Ni(CO)₄] and [Ni(CN)₄]²⁻ are diamagnetic and [NiCl₄]²⁻ is paramagnetic

d) [Ni(CO)₄] is diamagnetic and [Ni(CN)₄]²⁻, [NiCl₄]²⁻ are paramagnetic

ans : C

8. The product of oxidation of I⁻ with MnO₄⁻ in alkaline medium is

a) IO₃⁻ b) I₂ c) IO⁻ d) IO₄⁻ ans:a

9. The compound which react fastest with Lucas reagent at room temperature is

a) Butan-1-ol b) Butan-2-ol c) 2-methylpropan-1-ol d) 2-methylpropan-1-ol

Ans: d

10. An industrial method of preparation of methanol is

a) catalytic reduction of carbon monoxide in presence of ZnO-Cr₂O₃

b) By reacting steam with nickel catalyst at 900°C

c) By reducing formaldehyde with LiAlH₄

d) BY reacting formaldehyde with aq. NaOH solution.

Ans: A

11. Reagent with which acetaldehyde and acetone reacts easily is

a) Fehlings reagent b) Grignards reagent c) Schiff's reagent d) Tollens reagent. Ans: B

12. The cannizzaro reaction is not given by a) trimethyl acetaldehyde
b) acetaldehyde c) benzaldehyde d) formaldehyde

Ans:B

13. The formation of cyanohydrin from ketone is an example of
a) electrophilic addition b) Nucleophilic addition c) Nucleophilic
substitution d) electrophilic substitution ans: B

14. Hydrogenation of benzoyl chloride in the presence of Pd/BaSO₄
gives a) Benzyl alcohol B) Benzaldehyde c) benzoic acid d)
Phenol ans: B

15. When propionic acid is treated with aq. NaHCO₃, CO₂ is
liberated, c of CO₂ comes from

- a) Methyl group b)Carboxylic acid group c) Methylene group
d)bicarbonate group. Ans: d

16. Chlorobenzene can be prepared by reacting aniline with
a) HCl b) Cuprous chloride c) Chlorine in presence of AlCl₃
d)Nitrous acid followed by heating with Cuprous chloride

ans:d

17. n-propyl bromide on treatment with ethanolic potassium
hydroxide produces

- a) Propane b) Propene c) Propyne d) Propanol ans: b

18. Acetamide is treated separately with the following
reagents. which one of these would give methylamine

- a)PCl₃ b) NaOH +Br₂ c) Sodalime d) Hot conc H₂SO₄

ans:b

19. Carbyl amine test is performed in alcoholic KOH by heating a
mixture of

a) Chloroform and Ag powder b) Trihalogenated methane and primary amine c) an alkyl halide and primary amine d) an alkyl cyanide and primary amine

ans : b

20.amongst the following the most basic compound is

- a) Benzylamine b)aniline c)acetanilide d) p-nitroaniline

Ans:a

KV ADOOR SHIFT 1
CLASS- XII
CHEMISTRY

SET-1

1. Which of the following aqueous solutions should have the highest freezing point?

(a) 1.0 M NaOH

(b) 1.0 M Na_2SO_4

(c) 1.0 M NH_4NO_3

(d) 1.0 M Urea

2. How many Faradays of electricity is needed to completely reduce 1mol of permanganate ion in acid medium

(a) 2F

(b) 4F

(c) 6F

(d) 5F

3. What is the hybridization of Xe in XeOF_4

(a) sp^3d

(b) sp^3d^2

(c) sp^2

(d) sp^3

4. Which of the following is correct regarding product formation for the reaction of ethanol with con H_2SO_4 ?

(a) At 413 K the product formed is methoxy ethane

(b) At 443 K the product formed is ethoxy ethane

(c) At 413 K the product formed is ethoxy ethane

(d) At 443 K the product formed is butane

5. Which of the following can cause coagulation of the negatively charged As_2S_3 sol most effectively

(a) 1.0 M NaCl

(b) 1.0 M Na_2SO_4

(c) 1.0 M AlCl_3

(d) 1.0 M Urea

6 The values of Van't Hoff factors for sucrose, NaCl and K_2SO_4 , respectively, are _____.

(a) 6, 2 and 2

(b) 2, 2 and 3

(c) 1, 2 and 3

(c) 1, 1 and 7

7. The ionisation isomer of $[\text{Cr}(\text{H}_2\text{O})_4\text{Cl}(\text{NO}_2)]\text{Cl}$ is

(a) $[\text{Cr}(\text{H}_2\text{O})_4(\text{O}_2\text{N})]\text{Cl}_2$

(b) $[\text{Cr}(\text{H}_2\text{O})_4\text{Cl}_2](\text{NO}_2)$

(C) $[\text{Cr}(\text{H}_2\text{O})_4\text{Cl}(\text{ONO})\text{Cl}]$

(d) $[\text{Cr}(\text{H}_2\text{O})_3\text{Cl}_2(\text{NO}_2)]\text{H}_2\text{O}$

8. . Name the simplest amino acid

a. Alanine

b. Tyrosine

c. Asparagine

d. Glycine

9. Which of the following is the correct IUPAC name of $(\text{CH}_3 \text{ CH}_2)_2 \text{NH}$

(a) Butanamine

(b) N-ethyl ethanamine

(c) Di methyl amine

(d) N,N- di ethyl ethanamine

10. The reaction of aniline with chloroform under alkaline conditions leads to the formation of

(a) ethyl cyanide

(b) methyl cyanide

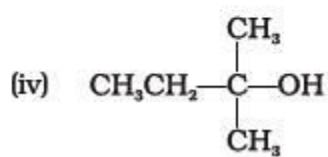
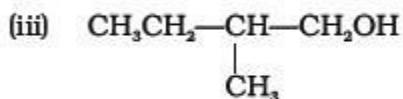
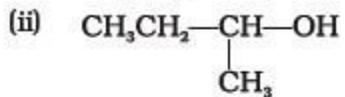
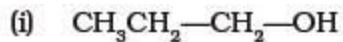
(c) methyl isocyanide

(d) phenyl isocyanide

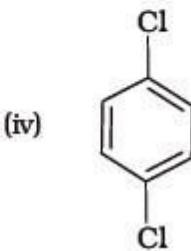
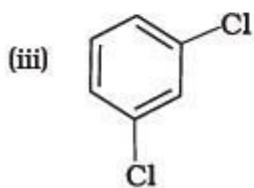
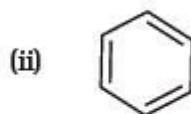
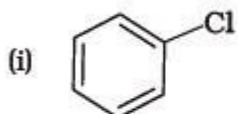
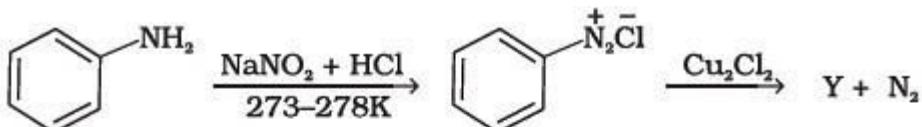
Answers QU.NO. **1.d ,2.d ,3.b,4.c, 5 .c ,6 . c 7. b ,8 d , 9 b, 10 .d**

SET-2

1. Which of the following alcohols will yield the corresponding alkyl chloride on reaction with concentrated HCl at room temperature?



2. Identify the compound Y in the following reaction.



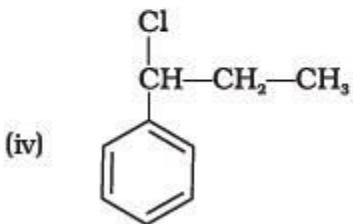
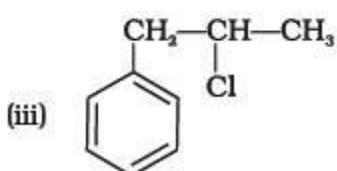
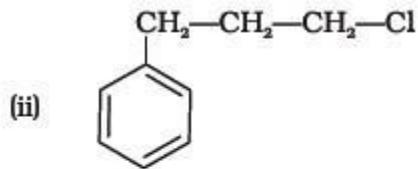
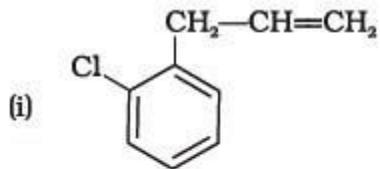
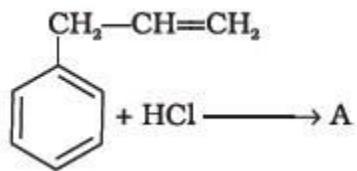
3. Toluene reacts with a halogen in the presence of iron (III) chloride giving ortho and para halo compounds. The reaction is

- (i) Electrophilic elimination reaction
- (ii) Electrophilic substitution reaction
- (iii) Free radical addition reaction
- (iv) Nucleophilic substitution reaction

4. Which of the following is an example of vic-dihalide?

- (i) Dichloromethane
- (ii) 1,2-dichloroethane
- (iii) Ethylidene chloride
- (iv) Allyl chloride

5. What is 'A' in the following reaction?



6. A primary alkyl halide would prefer to undergo _____.

- (i) S_N1 reaction
- (ii) S_N2 reaction
- (iii) α -Elimination
- (iv) Racemisation

7. Which is the correct IUPAC name for $\text{CH}_3\text{---}\overset{\text{C}_2\text{H}_5}{\text{CH}}\text{---CH}_2\text{---Br}$?

- (i) 1-Bromo-2-ethylpropane
- (ii) 1-Bromo-2-ethyl-2-methyl ethane
- (iii) 1-Bromo-2-methylbutane
- (iv) 2-Methyl-1-bromobutane

8. Which is the correct increasing order of boiling points of the following compounds?

1-Iodobutane, 1-Bromobutane, 1-Chlorobutane, Butane

- (i) Butane < 1-Chlorobutane < 1-Bromobutane < 1-Iodobutane
- (ii) 1-Iodobutane < 1-Bromobutane < 1-Chlorobutane < Butane
- (iii) Butane < 1-Iodobutane < 1-Bromobutane < 1-Chlorobutane
- (iv) Butane < 1-Chlorobutane < 1-Iodobutane < 1-Bromobutane

9. Which is the correct increasing order of boiling points of the following compounds?

1-Bromoethane, 1-Bromopropane, 1-Bromobutane, Bromobenzene

- (i) Bromobenzene < 1-Bromobutane < 1-Bromopropane < 1-Bromoethane
- (ii) Bromobenzene < 1-Bromoethane < 1-Bromopropane < 1-Bromobutane
- (iii) 1-Bromopropane < 1-Bromobutane < 1-Bromoethane < Bromobenzene
- (iv) 1-Bromoethane < 1-Bromopropane < 1-Bromobutane < Bromobenzene

10. Ethylidene chloride is a/an _____.

- (i) vic-dihalide
- (ii) gem-dihalide
- (iii) allylic halide
- (iv) vinylic halide

Answer Key

1.4 2.A 3.B 4.B 5.C 6.B 7.C 8.A 9.D 10.B

ONE WORD QUESTIONS :

1. Name any two biomolecules made of proteins /aminoacids [1]
2. Differentiate between keratin and insulin [1]
3. Name the types of bonds responsible for the stability of secondary structure of protein [1]
4. What do you mean by denaturation of proteins? [1]
5. What are essential amino acids? Give one example [1]

Questions 6 to 10 are one word answers:

6. $[\text{Fe}(\text{H}_2\text{O})_6]^{3+}$ is strongly paramagnetic . Explain. [1]
7. Chloroform is stored in closed dark coloured bottles. Why? [1]
8. Write the equation for the preparation of propan-1-ol from propene [1]
9. Name and give the structure of the monomer of Teflon [1]
10. Name the process which stabilizes colloids [1]

Questions 11 to 15 are multiple choice questions:

11. Which one of the following pairs show a positive deviation from Raoult's law?
 - a) Methanol and acetone
 - b) Chloroform and acetone
 - c) Nitric acid and water
 - d) Phenol and Aniline[1]
12. What is the electrolysis product of solution of dilute sulphuric acid using Pt electrodes at Cathode?
 - a) Oxygen
 - b) Hydrogen
 - c) Sulphur
 - d) Sulphur Di Oxide[1]

13. Give the number of unpaired electrons in $[\text{Ni}(\text{CN})_4]^{2-}$. (Atomic no of Ni = 28)
 - a. 3
 - b. 2
 - c. 0
 - d. 1[1]

14. The polymer which has least strength
 - a) PVC,
 - b) Nylon 66
 - c) vulcanized rubber
 - d) polythene[1]
15. Which gives **product with** inverted configuration on reaction with aq.KOH
 - a) 2-bromo pentane

- b) 1-bromopentane
- c) 2,2-dibromopentane
- d) 2,3 dibromopentane

[1]

Questions 16 to 20:

- a) Both assertion and reason are correct statements, and reason is the correct explanation of the assertion
- b) Both assertion and reason are correct statements, but reason is not the correct explanation of the assertion
- c) Assertion is correct, but reason is wrong statement
- d) Assertion is wrong, but reason is correct statement

16. Assertion: EDTA is used to treat lead poisoning.

Reason: EDTA forms very stable complexes with lead

17. Assertion: Fluorine forms only one oxo acid HOF.

Reason: Fluorine does not have d-orbitals in its valence shell

18. Assertion: A beam of light passed through the colloidal solution will illuminate the path traced by it in the colloid.

Reason: Colloids have particle size in between that of solution and suspension.

19. Assertion: Keeping an electric field during dialysis enhances the process.

Reason: The dialysis process involves removing old solvent for new pure solvent

20. Assertion: Pine oil is added to the powdered ore and water during froth floatation.

Reason: Pine oil enhances the non-wettability of the ore particles in water.

KENDRIYA VIDYALAYA ADOOR SHIFT 2
CLASS XII CHEMISTRY MCQ
SET -1

1. Value of Henry's constant K_H _____ .
(a) increases with increase in temperature.
(b) decreases with increase in temperature.
(c) remains constant.
(d) first increases then decreases.
2. The difference between the electrode potentials of two electrodes when no current is drawn through the cell is called _____.
(a) Cell potential
(b) Cell emf
(c) Potential difference
(d) Cell voltage
3. In the preparation of compounds of Xe, Bartlett had taken O_2^+ Pt F_6^- as a base compound. This is because
(a) both O_2 and Xe have same size.
(b) both O_2 and Xe have same electron gain enthalpy.
(c) both O_2 and Xe have almost same ionisation enthalpy.
(d) both Xe and O_2 are gases.
4. Molecules whose mirror image is non superimposable over them are known as chiral. Which of the following molecules is chiral in nature?
(a) 2-Bromobutane
(b) 1-Bromobutane
(c) 2-Bromopropane
(d) 2-Bromopropan-2-ol
5. The correct order of increasing acidic strength is _____.
(a) Phenol < Ethanol < Chloroacetic acid < Acetic acid
(b) Ethanol < Phenol < Chloroacetic acid < Acetic acid
(c) Ethanol < Phenol < Acetic acid < Chloroacetic acid
(d) Chloroacetic acid < Acetic acid < Phenol < Ethanol
6. The correct IUPAC name for $CH_2 = CHCH_2NHCH_3$ is
1. Allylmethylamine
2. 2-amino-4-pentene
3. 4-aminopent-1-ene

4. N-methylprop-2-en-1-amine

7. Which of the following statements is not true about glucose?

- (a) It is an aldohexose.
- (b) On heating with HI it forms n-hexane.
- (c) It is present in furanose form.
- (d) It does not give 2,4-DNP test.

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- (a) It is an aldohexose.
- (b) On heating with HI it forms n-hexane.
- (c) It is present in furanose form.
- (d) It does not give 2,4-DNP test.

9. Equanil is _____.

- (a) artificial sweetener
- (b) tranquilizer
- (c) antihistamine
- (d) antifertility drug

10. What kind of isomerism exists between $[\text{Cr}(\text{H}_2\text{O})_6]\text{Cl}_3$ (violet) and $[\text{Cr}(\text{H}_2\text{O})_5\text{Cl}]\text{Cl}_2 \cdot \text{H}_2\text{O}$ (greyish-green)?

- (a) linkage isomerism
- (b) solvate isomerism
- (c) ionisation isomerism
- (d) coordination isomerism

ANSWERS

1.a 2.c 3.c 4. a 5. c 6. d 7. c8.c 9. b 10. B

CLASS XII MCQ CHEMISTRY SET 2

Teflon , Nylon , Bakelite , polyethene etc. are polymers very useful in our daily life.
Answer the three questions below

1. Name the monomer of polythene. Ans) ethene

2. What is the monomer of nylon-6. Ans) Caprolactum

3. Name a polymer used in making non stick cookware. Ans) Melamine

4. Which of the following undergoes nucleophilic substitution exclusively by SN 1 mechanism?

- (a) Benzyl chloride
- (b) Ethyl chloride
- (c) Chlorobenzene
- (d) Isopropyl chloride

Answer :: a).

5. RNA and DNA are chiral molecules, their chirality is due to

- (a) chiral bases
- (b) chiral phosphate units
- (c) D-sugar component
- (d) L-sugar component

Answer:: (c) D-sugar component.

6. The glycosidic linkage involved in linking the glucose units in amylose part of starch is

- (a) C1 -C4 β -linkage
- (b) C1 -C6 α -linkage
- (c) C1 -C4 α -linkage
- (d) C1 -C6 β -linkage

Answer: (c) C1-C4 α -linkage

7. Which one of the following is antihistamine?

- (a) Chloramphenicol
- (b) Diphenyl hydramine
- (c) Norethindrone
- (d) Omeprazole

Answer: (b)

8. An organic compound C₇H₉N forms clear solution when dissolved in KOH after reacting with C₆H₅SO₂Cl, 'A' on diazotisation at 0°C and then reaction with β -naphthol gives orangish red dye. 'A' on electrophilic substitution gives single product. 'A' is

- (a) 4-Methyl aniline
- (b) 2-Methyl aniline
- (c) 3-Methyl aniline
- (d) N-Methyl aniline

9. Which of the following is not soluble in NaHCO₃?

- (a) 2, 4, 6-Trinitrophenol
- (b) Benzoic acid
- (c) o-Nitrophenol
- (d) Benzene sulphonic acid

Answer: c

10. Correct order of decreasing reactivity of nucleophilic addition in case of HCHO, CH₃CHO and CH₃COCH₃ is

- (a) CH₃COCH₃ > CH₃CHO > HCHO
- (b) HCHO > CH₃CHO > CH₃COCH₃
- (c) CH₃COCH₃ > HCHO > CH₃CHO
- (d) CH₃CHO > HCHO > CH₃COCH₃

Answer: b

P BLOCK ELEMENTS

ASSERTION - REASON TYPE QUESTIONS

1. Assertion: Oxygen has less negative electron gain enthalpy than Sulphur
Reason: Oxygen is more electronegative than Sulphur.
2. Assertion: H₂Se is more acidic than H₂Te.
Reason: Bond enthalpy decrease with increase in atomic size.
3. Assertion: Halogens have characteristic colour.
Reason: Halogens readily accept electrons to form halide ion.
4. Assertion: Fluorine forms only one Oxo acid.
Reason: Fluorine does not have d orbitals in its valence shell.
5. Assertion: Ozone is a powerful oxidising agent.
Reason: Ozone easily decomposes to oxygen gas and oxygen atoms.

Answers:

1. Both A and R are correct, but R is not the correct explanation of A
2. Both A and R are correct, R is the correct explanation of A
3. Both A and R are correct, but R is not the correct explanation of A
4. Both A and R are correct, but R is not the correct explanation of A
5. Both A and R are correct, R is the correct explanation of A

PARAGRAPH BASED QUESTION

A binary compound of oxygen with another element is called oxide. Oxygen reacts with most of the elements of the periodic table to form oxides. In many cases one element forms two or more oxides. The oxides vary widely in their nature and properties.

1. Write the formula of neutral oxides of Nitrogen.
2. Why is Sulphur dioxide called acidic oxide?
3. What is the nature of Aluminium oxide?
4. Which is more acidic , Mn₂O₇ or MnO₂?
5. Generally What is the chemical nature of metal oxides?

Answers

1. NO, N₂O
2. It dissolves in water to give sulphurous acid.
3. Amphoteric
4. Mn₂O₇
5. Basic

OBJECTIVE TYPE QUESTIONS

1. Sulphur dioxide molecule is _____ in shape.
2. Name the acid and normal salts of sulphuric acid.
3. What is the hybridisation of Xe in XeF₂.
4. Name the main commercial source of Helium.
5. Write the products formed by hydrolysis of ICl.

Answers

1. Angular or bent
2. Sulphates and Hydrogen sulphates
3. sp³d
4. Natural gas
5. HCl and HOI

MULTIPLE CHOICE QUESTIONS

1. The molecular shape of ClF_3 is
 - a. Triagonal planar
 - b. T – Shaped
 - c. Pyramidal
 - d. None of these
2. Ozone is thermodynamically unstable because
 - a. $\Delta H=+ve$, $\Delta S=-ve$
 - b. $\Delta H=-ve$, $\Delta S=-ve$
 - c. $\Delta H=+ve$, $\Delta S=+ve$
 - d. $\Delta H=-ve$, $\Delta S=+ve$
3. Above 1000K, Sulphur shows paramagnetism due to presence of
 - a. S_8
 - b. S_6
 - c. S_2
 - d. S
4. Oleum is
 - a. $\text{H}_2\text{S}_2\text{O}_8$
 - b. $\text{H}_2\text{S}_2\text{O}_7$
 - c. H_2SO_3
 - d. None of the above
5. Composition of Aqua regia is
 - a. Three parts of Conc. HNO_3 and one part of Conc. HCl
 - b. Three parts of Conc. HCl and one part of Conc. HNO_3
 - c. One part of Conc. HNO_3 and two parts of Conc. HCl
 - d. Two parts of Conc. HNO_3 and one part of Conc. HCl

CLASS XII
CHEMISTRY

1. The oxidation state of iron on brown ring complex is
(a) +1 (b) +3 (c) +2 (d) 0
2. The hybridization of Cu in $[\text{Cu}(\text{NH}_3)_4]^{+2}$ is
(a) Sp3 (b) dsp2 (c) sp3d (d) d2sp2
3. The platinum complex which is used in cancer treatment is
(a) (b) (c) (d)
4. Name the gas that readily decolorizes acidified potassium dichromate
(a) CO_2 (b) SO_2 (c) NO_2 (d) P_2O_5
5. The correct order of adsorption of the following gases on the same mass of charcoal at the same temperature and pressure is
(a) $\text{CH}_4 < \text{H}_2 < \text{SO}_2$ (b) $\text{H}_2 < \text{CH}_4 < \text{SO}_2$ (c) $\text{CH}_4 < \text{SO}_2 < \text{H}_2$ (d) $< \text{SO}_2 < \text{H}_2 < \text{CH}_4$
6. Which of the following is/are during adsorption?
(a) ΔH (b) ΔS (c) ΔG
(a) a only (b) c only (c) a and c (d) a, b and c
7. Aspirin is
(a) salicylic acid (b) salicylaldehyde
(c) acetyl salicylic acid (d) methyl salicylate
8. Which of the following shows both Schottky and Frenkel defect
(a) AgBr (b) NaCl (c) CsCl (d) AgI
9. Which one has the highest boiling point.
(a) He (b) Ne (c) Xe (d) Ar
10. The shape of $(\text{I}_3)^-$ is
(a) Linear (b) see-saw (c) triagonal planar (d) pyramidal

CLASS XII
CHEMISTRY

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10. The shape of $(\text{I}_3)^-$ is
(a) Linear (b) see-saw (c) triagonal planar (d) pyramidal

Multiple Choice Questions in Chemistry Class -XII

1.	Which of the following amines has largest value of pK_b ? (a) p-Toluidine (b)Aniline (c)p- Nitro aniline(d) Methylamine
2.	The commercial name of poly acrylonitrile is..... (a)Dacron(b) Orlon (acrilan)(c)PVC(d)Bakelite
3.	Increasing the temperature of an aqueous solution will cause: (a)decrease in molality (b)decrease in mole fraction (c)decrease in % w/w (d)decrease in molarity
4.	In the presence of a catalyst ,the heat evolved or absorbed during the reaction..... (a)increases(b)decreases(c) remains unchanged (d) may increase or decrease.
5.	The term sorption stands for ... (a)absorption(b)adsorption(c)both adsorption and absorption(d) desorption
6.	Which of the following compound is chiral? (a)3-Pentanol (b)1- Pentanol (c) 3-Methyl-1-butanol(d) 3-Methyl-2-butanol
7.	Among the following ,the optically active compound is (a) $\text{CH}_3\text{CH}_2\text{OH}$ (b) $\text{CH}_3\text{CH}=\text{CHCH}_3$ (c) CH_3CHO (d) CH_3CHDOH
8.	Which of the following interface cannot be obtained? (a)liquid-liquid (b)solid-liquid(c)liquid-gas(d)gas-gas
9.	Which of the following 0.1M aqueous solution is likely to have the highest boiling point? (a) Na_2SO_4 (b) KCl (c) Glucose (d) Urea
10.	The drug Tegamet is (a) Analgesic (b) Antibiotic (c) Anaesthetic (d) Antacid.
11.	What is the mole fraction of the solute in a 1.00 m aqueous solution? (a)0.0354 (b) 0.0177 (c) 0.177 (d)1.770
12.	Use of chemicals for therapeutic effect is called : (a) Medicine (b)Chemotherapy (c) Drugtarget interaction (d) Phototherapy.
13.	Which of the following units is useful in relating concentration of solution with its vapour pressure?(a) mole fraction (b) parts per million (c) mass percentage (d) molality .

14	In the structure of ClF_3 , the number of lone pairs of electrons on central atom ‘Cl’ is (a) one (b) four (c) two (d) three
15.	The compound A on treatment with Na gives B, and with PCl_5 gives C. B and C react together to give diethyl ether. A, B and C are in the order (a) $\text{C}_2\text{H}_5\text{OH}$, C_2H_6 , $\text{C}_2\text{H}_5\text{Cl}$ (b) $\text{C}_2\text{H}_5\text{Cl}$, C_2H_6 , $\text{C}_2\text{H}_5\text{OH}$ (c) $\text{C}_2\text{H}_5\text{OH}$, $\text{C}_2\text{H}_5\text{Cl}$, $\text{C}_2\text{H}_5\text{ONa}$ (d) $\text{C}_2\text{H}_5\text{OH}$, $\text{C}_2\text{H}_5\text{ONa}$, $\text{C}_2\text{H}_5\text{Cl}$

KENDRIYA VIDYALAYA KALPETTA

Multiple Choice Questions

Class XII - CHEMISTRY

- Electrolysis of aqueous solution of NaCl gives
 - H₂ at cathode and O₂ at anode.
 - H₂ at cathode and Cl₂ at anode.
 - O₂ at cathode and H₂ at anode.
 - 'Na' at cathode and Cl₂ at anode.
 - The number of 'faradays' required to deposit 1 gram-equivalent of aluminium (atomic mass=27u) from a solution of AlCl₃ will be
 - 1
 - 2
 - 3
 - 4
 - What is the value of magnetic moment of central metal ion in KMnO₄?

(A) 0.0BM	(B) 1.73BM
(C) 283BM	(D) 3.87BM
 - Name the monomer of polythene
 - Ethane
 - Methane
 - Ethene
 - Ethyne
 - Which one of the following is Lucas reagent
 - Ammoniacal silver nitrate
 - ZnCl₂ and HCl
 - Anhydrous AlCl₃
 - CrO₃ and H₂SO₄
 - What is the hybridization of central metal ion in complex [CoF₆]³⁻?
 - Sp³d²
 - d²sp³
 - sp³
 - dsp²
 - Transition metals and its compounds are generally coloured due to
 - s-s transition
 - p-p transition
 - f-f transition
 - d-d transition
 - Acetone reacts with HCN to form a cyanohydrins. It is an example of
 - Electrophilic substitution
 - Nucleophilic Addition
 - Nucleophilic substitution
 - Electrophilic addition
 - Which of the following is acid?
 - Aspartic acid
 - Ascorbic acid
 - adipic acid
 - Saccharic acid
 - Which of the following polymer is stored in the liver of animals?
 - Amylose
 - Amylopectin
 - Glycogen
 - Cellulose

MULTIPLE CHOICE QUESTIONS

CLASS XII

SUBJECT CHEMISTRY- Prepared By- Mrs.RAJANI P (PGT-Chemistry)

CHOOSE THE CORRECT ANSWER

1 Glycogen is a branched chain polymer of α -D-glucose units in which chain is formed by C1—C4 glycosidic linkage whereas branching occurs by the formation of C1-C6 glycosidic linkage. Structure of glycogen is similar to _____.

- (i) Amylose
- (ii) Amylopectin
- (iii) Cellulose
- (iv) Glucose

2 Which of the following polymer is stored in the liver of animals?

- (i) Amylose
- (ii) Cellulose
- (iii) Amylopectin
- (iv) Glycogen

3 Sucrose (cane sugar) is a disaccharide. One molecule of sucrose on hydrolysis gives

-
- (i) 2 molecules of glucose
 - (ii) 2 molecules of glucose + 1 molecule of fructose
 - (iii) 1 molecule of glucose + 1 molecule of fructose
 - (iv) 2 molecules of fructose

4 Proteins are found to have two different types of secondary structures viz. α -helix and β -pleated sheet structure. α -helix structure of protein is stabilised by :

- (i) Peptide bonds
- (ii) van der Waals forces
- (iii) Hydrogen bonds
- (iv) Dipole-dipole interactions

5 Which of the following acids is a vitamin?

- (i) Aspartic acid
- (ii) Ascorbic acid
- (iii) Adipic acid

- (iv) Saccharic acid
- ANSWER 1 (i) 2(iv) 3(iii) 4(iii) 5(ii)

Assertion and Reason Type Questions

Note : In the following questions a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices.

- (i) Assertion and reason both are correct statements and reason explains the assertion.
- (ii) Both assertion and reason are right but reason is not correct explanation for assertion
- (iii) Assertion is correct statement and reason is wrong statement.
- (iv) Assertion is wrong statement and reason is correct statement.

- 1. Assertion : NH₂ and COOH groups of amino acid are ionisable
Reason : In solution of different PH , the structure changes
 - 2. Assertion : Vitamin D can be stored in our body.
Reason : Vitamin D is fat soluble vitamin.
 - 3. Assertion : Starch is a homopolymer
Reason : starch is made of many fructose molecule
 - 4. Assertion : All naturally occurring α-amino acids except glycine are optically active.
Reason : Most naturally occurring amino acids have L-configuration.
 - 5. Assertion : structural and functional unit of proteins are amino acid
 - 6. Reason : polypeptide chain is homopolymer
- ANSWER 1.(ii) 2(i) 3(iii) 4(iii) 5(iii)

ONE WORD QUESTION

1 starch and cellulose are made of many units of

2 Name a disaccharide

3 Final product of starch digestion is

4 Simple form of carbohydrate is

5 Give the hydrolysis product of protein

Answer: 1) simple sugar 2) maltose 3) glucose 4) monosaccharide 5) amino acid

PARAGRAPH TYPE QUESTION:

You are aware that our body, plants and other animals are made up of many chemical substances. There are certain complex organic molecules which form the basis of life. These build up living organisms and are also required for their growth and maintenance. Such molecules are called biomolecules. The main classes of biomolecules are carbohydrates, proteins, lipids, nucleic acids, enzymes, hormones etc.

1. Give the difference between DNA and RNA.

ANS: double strand , single strand (any one correct ans)

2 Define biomolecule

Ans: they are large macromolecules like protein , lipids , carbohydrates , fats etc

3 Give the hydrolysis product of protein

Ans: Amino acids

4 Classify carbohydrate

Ans: monosaccharide , polysaccharide , oligosaccharide

5 Give one example of polysaccharide

Ans: Starch

Set-2

MULTIPLE CHOICE QUESTIONS

CLASS XII

SUBJECT CHEMISTRY- Prepared By- Mr.PURUSHOTAMAN (PGT-Chemistry)

1) Number of moles of solute in one kilogram of solvent is called

- a) Molarity b) Molality c) Normality

2) The unit of Ebulloscopic constant is a) KKg/mol b) K Kg/mol c) K/Kg/mol d) Kg/mol

3) The boiling point of a solution containing a nonvolatile solute is a) greater than the solvent b) less than that of solvent c) same as that of solvent.

4) Freezing point of a solution containing a nonvolatile solute is

- a) less than that of solvent b) greater than solvent c) same as that of solvent.

5) Colligative properties depend on a) Number of moles of solvent b) number of moles of solute c) nature of solute.

6) Solubility of gases in liquids a) decreases with increasing Temp b) Increases with increasing Temp c) Does not change with Temp.

1) In electrolytic conduction conductivity is due to a) movement of ions b) movement of electrons c) movement of both

2) In electronic conduction conductivity is due to a) the movement of ions b) electrons movement or both

3) In an electrochemical cell a) chemical energy is converted to electrical energy b) electrical energy is converted to chemical energy c) enthalpy of combustion is converted to electrical energy

4) Conductivity of an electrolyte a) increases with dilution b) decreases with dilution c) remains same

5) Molar conductivity of acetic acid increases with dilution due to a) increase in ability of ions b) increase in degree of dissociation c) due to increase in the interionic interaction.

6) The relation between K and cell constant is a) $k = G^* \times R$ b) $G^* = R \times K$ c) $G^* = R/K$ d) $G^* = K/R$

7) The unit of molar conductivity is a) $\text{S} \cdot \text{cm}^2 \cdot \text{mol}^{-1}$ b) $\text{S} \cdot \text{cm} \cdot \text{mol}^{-1}$ c) $\text{S}^2 \cdot \text{cm}^2 \cdot \text{mol}^{-1}$ d) $\text{S}^2 \cdot \text{cm} \cdot \text{mol}^{-1}$

8) Quantity of electricity needed to get one mole of Al from half mole of Al_2O_3 is

a) 1F b) 2F c) 3F d) 6F

9) During the electrolysis of Aq NaCl the product obtained at anode is a) O₂ gas b) Cl₂ gas c) H₂ gas

10) Which among the following is not correct about mercury cell

a) Zn-Hg act as anode b) HgO-C act as cathode c) ZnO-KOH act as electrolyte. D) At anode Hg is oxidized to Hg^{2+}

SET-2

1) The unit of rate constant for a zero order reaction is a) mol l⁻¹ b) Mol⁻¹ L S⁻¹ c) S⁻¹ d) Mol L⁻¹ S⁻¹

2) The rate expression for a reaction is rate = $K [A]^{1/2} [B]^1$ Then the order of reaction is a) 1 b) $\frac{1}{2}$ c) $\frac{5}{2}$ d) $\frac{3}{2}$

3) A reaction is second order with respect to A and first order with respect to B then the rate of reaction when the concentration of B is doubled becomes a) Twice b) Three times c) Four times d) Eight times.

4) The rate constant of a reaction is $K=5.4 \times 10^{-5} \text{ mol L}^{-1} \text{ S}^{-1}$ the order of reaction is a) zero b) first c) second

5) The half life of a first order reaction is a) $0.963/K$ b) $A_0 - A / K$ c) $0.693/K$ d) $0.396/K$

OBJECTIVE TYPE QUESTIONS

- 1) WHICH ONE OUT OF THE FOLLOWING IS HIGHLY ADSORBED
- a) CH_4 (CT= 190K) b) SO_2 (CT= 130K) c) H_2 (CT= 33K)
- b) The enthalpy of chemisorptions is a) 20-40 kJmol^{-1} b) 40-60 kJmol^{-1} c) 80-240 kJmol^{-1} d) 40-80 kJmol^{-1}
- 3) In the manufacture of ammonia CO act as a) catalyst b) Catalytic promoter c) Catalytic poison
- 4) A colloid in which dispersed phase is liquid and dispersion medium is solid is called a) sols
b) gels c) emulsions
- 5) Critical micle concentration of soap in water is a) 10^{-3} - 10^{-6} b) 10^{-2} - 10^2 c) 10^{-4} – 10^2
d) 10^{-3} - 10^{-4} ML^{-1}
- 6) The process of converting a PPT in to colloid is called 1) electro phoresis b) Peptisation
c) coagulation
- 7) which one is more effective in coagulating a positively charged sol of Fe(OH)_3
- a) AlCl_3 b) $[\text{Fe}(\text{CN})_6]^{4-}$ c) MgSO_4 d) NaCl

OBJECTIVE TYPE QUESTIONS

- 1) The earthy impurities associated with ore is called a) Slag b) Flux c) Gangue
- 2) Gelena is an ore of a) Zn b) Pb c) Cu d) Fe
- 3) Monds process is used to refine a) Germanium b) Copper c) Nickel d) Titanium
- 4) Which one among the following is used as depressant in the froath floatation of PbS a) NaOH
b) NaCN c) NaCl d) Na_2CO_3
- 5) Cala mine is an ore of a) Ca b) Mg c) Zn d) Pb
- 6) The reducing agent used to reduce ZnO is a) Al b) C c) C) d) H_2
- 7) Ti is refined by the process of a) Van Arkel method b) Bredigs arc method c) Zone refining
d) Monds process.
- 8) The process used to refine Mercury is a) Liquation b) Eletrolytic refining c) Distilllation
- 1) Which among the following have the highest boiling point
- a) Butan-1-ol b) butan 2- ol c) tertiary butanol d) 2- methyl butan -2-ol
- 2) which is more acidic i) methanol ii) propan-2- ol iii) Tertiary butanol

3) which among the following is weakly acidic a) Phenol b) o- cresol c) Ethanold) Para nitro phenol.

4) Aspirin is a) Acetyl Salicylic acid B) Methyl salicylate c) Salicylic acid d) 2- methyl phenol.

5) A mixture of o- nitro phenol and p-nitro phenol are separated by a) steam distillation b)
fr1)Antipyretics are medicinal compounds which a) Lower body temperature b) relieve pain

c)control malaria d) kill micro organism.

2) A substance which is used as antiseptic as well as disinfectant a) Iodoform b) Chlorine c) Phenol

d) Dettol

3) Dettol is a mixture of a) Terpinol and iodine b) ChloroXylenol and Phenol C) ChloroXylenol and Terpenol d) Terpenol and Phenol

4) Novestrol is a drug used as a) Tranquiliser b) Antiseptic c) Analgesic d) antifertility drug

5) Soft soaps are formed by treating Fats with a) NaOH b) KOH c) Na_2CO_3 d) $\text{Mg}(\text{OH})_2$

6) The Sweetening agent limited to cold drinks a) Alitame b) Aspartame c) Sucrose d) Saccharine

7)Which of the following is not a food preservative a) NaCl b)Sodium Acetate c) Sodium bisulphite d) sodium Benzoate.

8) Equanil is used as a) Antipyretic b) Antihistamine c) Antibiotic d)Antidippresant

9) Antihistamine used to control acidity is a) Phenilzine b) Noradrenaline c)Cimitididine d) Nembutal.

10)Which of the following is used as antiptretic a)Ranitidine b)Bimettap c)Iproniazid d)Aspirin

11)Which of the following is not a Broad spectrum antibiotic a)Ampicillin b) Amoxycillin c) Chloram Phenicol d) Penicillin G

12)Analgesics which is non narcotic a) Morphine b) Codeine c) Heoin d) Aspirin

13) Drugs which inhibits the action of receptors in the body are called a) agonist b) antagonist c) antihistamine d) antiseptics

14) Which among the following is not a sweetening agent for Diabetic Patients a) Sucrose b) sucrose c) Saccharine d) Alitame.

actional distillation c) simple distillation.

1) Which of the following is not a transition metal i) Sc b) Cr c) Cd d) Au

2) The configuration of Fe^{2+} is [Ar] $4\text{S}^13\text{d}^4$ b) [Ar] $4\text{S}^23\text{d}^6$ c) [Ar] $4\text{S}^13\text{d}^5$ d) [Ar] $4\text{S}^03\text{d}^5$

3) Which among the following is least basic a) La(OH)_3 b) Lu(OH)_3 c) Ce(OH)_3 d) Eu(OH)_3

4) The maximum oxidation state is shown by which of the following elements a) V b)Cr C)Mn d) Fe

- 5) Misch metal is an alloy of Lanthanoid with a) Fe b) Zn c) Mn d) Co
- 6) Which of the following would be diamagnetic a) Cu²⁺ b) Ni²⁺ Cd²⁺ d) Ti³⁺
- 7) Maximum magnetic moment is shown by a) 3d⁸ b) 3d⁷ c) 3d⁴ d) 3d⁵
- 8) Which of the following is not a lanthanoid element a) cerium b) Europium c) Lutetium d) thorium
- 9) CuSO₄ dissolves in excess of KCN to give a) [Cu(CN)₄]³⁻ b) [Cu(CN)₄]²⁻ c) [Cu(CN)₂] d) CuCN
- 10) Which is colourless in water a) Ti³⁺ b) V³⁺ c) Cr³⁺ d) Sc³⁺

Arrange the following in the increasing order of their nucleophilic addition reaction

- a) HCHO, b) CH₃COCH₃ c) CH₃CHO, CH₃CH(CH₃) CO CH₃
- 2) The product obtained when CH₃CO-CH₃ is treated with Hg-Zn and HCl is
- a) CH₃CH(OH)CH₃ b) CH₃-CH₂-CH₃ c) CH₃COOH
- 3) Aldehydes reduces Tollens reagent to a) Ag₂O b) Metallic silver c) Cu₂O d) Metallic copper
- 4) In HVZ reaction Carboxylic acid containing alpha hydrogen is treated with a) Cl₂ and NaOH b) Br₂ and KOH c) Halogen and red phosphorus d) Red P and NaOH
- 5) Product obtained when CH₃COONa is treated with Sodalime is
- a) CH₃OH b) CH₄ c) CH₃COOH d) CH₃CH₂OH.
- 1) Which among the following is more reactive towards SN1 reaction
- a) CH₃-CH₂-CH₂-CH₂Br b) CH₃-CH(CH₃)CH₂CH₂Br C) (CH₃)₃CBr D) CH₃CH(CH₃)CH₂-Br
- 2) Which of the following is more reactive towards SN2 1) CH₃Cl 2) CH₃Br 3) CH₃I 4) (CH₃)₃CBr
- 3) Which one is optically active a) CH₂Br₂ b) CH₃CH(Br)CH₃ C) CH₂-CH₂-CH(Br)CH₃ D) CH₃-CH₂Br
- 4) The IUPAC name of compound CH₂=CH-CH(Br)CH₃ IS I) 2-BROMO But-1-ene ii) 3-bromo But-1-ene iii) 2-bromo But-3-ene. iv) 3-bromo But-1-ene
- 5) which among the following is an ambident nucleophile
- a) CN⁻ b) Cl⁻ c) OH⁻ d) NH₃

CHEMISTRY

CLASS XII

MULTIPLE CHOICE QUESTIONS

1. The value of Henry's constant K_H is
 - (a) greater for gases with higher solubility
 - (b) greater for gases with lower solubility
 - (c) constant for all gases
 - (d) not related to the solubility of gases
2. The half life of a reaction is halved as the initial concentration of the reactant is doubled. The order of the reaction is:
 - (a) 0.5
 - (b) 1
 - (c) 2
 - (d) 1.5
3. The electrometallurgical process (electrolysis of fused salts) is employed to extract
 - (a) lead
 - (b) silver
 - (c) sodium
 - (d) copper
4. The correct order of increasing acidic strength of the oxoacids of chlorine is:
 - (a) $\text{HClO}_3 < \text{HClO}_4 < \text{HClO}_2 < \text{HClO}$
 - (b) $\text{HClO} < \text{HClO}_2 < \text{HClO}_3 < \text{HClO}_4$
 - (c) $\text{HClO}_2 < \text{HClO} < \text{HClO}_4 < \text{HClO}_3$
 - (d) $\text{HClO}_3 < \text{HClO}_4 < \text{HClO} < \text{HClO}_2$
5. Which of the following ions will give colourless aqueous solution.
 - (a) Ni^{2+}
 - (b) Fe^{2+}
 - (c) Cu^{2+}
 - (d) Cu^+
6. Among the following the compounds which will form iodoform with iodine and NaOH ?
 - (a) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CHO}$
 - (b) $\text{CH}_3\text{CH}_2\text{COCH}_2\text{CH}_3$
 - (c) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$
 - (d) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH(OH)}\text{CH}_3$
7. Oximes are formed by the reaction of aldehydes and ketones with
 - (a) NH_2OH
 - (b) NH_3
 - (c) $\text{CH}_2\text{NHC}_6\text{H}_5$
 - (d) NH_2NH_2
8. The most reactive amine towards dilute hydrochloric acid is
 - (a) CH_3NH_2
 - (b) $(\text{CH}_3)_2\text{NH}$
 - (c) $(\text{CH}_3)_3\text{N}$
 - (d) $\text{C}_6\text{H}_5\text{NH}_2$
9. The vitamin which is water soluble and is an antioxidant is
 - (a) vitamin E
 - (b) vitamin B_1
 - (c) vitamin C
 - (d) vitamin D
10. A narrow spectrum antibiotic is active against :
 - (a) Gram positive or gram negative bacteria
 - (b) Gram negative bacteria only
 - (c) single organism or one disease
 - (d) Both gram positive and gram negative bacteria

ANSWERS

- 1.(b) 2. (c) 3.(c) 4.(b) 5.(d) 6.(d) 7.(a) 8.(b) 9.(c) 10.(a)

Sl. No	Class XII – Chemistry Multiple Choice Question Bank
1.	The products of electrolysis of a dil. solution of H_2SO_4 using Pt electrodes at cathode and anode respectively are: [A] H_2 & SO_2 [B] H_2 and O_2 [C] SO_2 and O_2 [D] H_2 and $\text{S}_2\text{O}_8^{2-}$
2	Which of the following is a maximum boiling azeotrope? [A] Acetic acid + Pyridine($\text{C}_5\text{H}_5\text{N}$) [B] Water + Ethanol [C] Cyclohexane + Ethanol [D] Water + Methanol
3	Which of the following solutions should have higher boiling point? [A] 1M NaOH [B] 1M $\text{Al}_2(\text{SO}_4)_3$ [C] 1M NH_4NO_3 [D] 1M $\text{K}_2(\text{SO}_4)_3$
4	Which of the following is an example for fractional order reaction? [A] $\text{NH}_4\text{NO}_2 \rightarrow \text{N}_2 + 2\text{H}_2\text{O}$ [B] $\text{NO} + \text{O}_3 \rightarrow \text{NO}_2 + \text{O}_2$ [C] $2\text{NO} + \text{Br}_2 \rightarrow 2\text{NOBr}$ [D] $\text{CH}_3\text{CHO} \rightarrow \text{CH}_4 + \text{CO}$
5	A reaction is 1 st order in A and 2 nd order in B. When the concentrations of reactant A is reduced to half and that of B is increased 2 times, the rate of reaction becomes: [A] $\frac{1}{4}$ times [B] 4 times [C] 3 times [D] 2 times
6	The movement of dispersion medium under the influence of electric field is known as: [A] electrodialysis [B] electrophoresis [C] electroosmosis [D] cataphoresis
7	Which of the following lanthanide ion is paramagnetic? [A] Ce^{4+} [B] Yb^{2+} [C] Lu^{3+} [D] Eu^{2+}
8	Which of the following will not show geometrical isomerism? [A] $[\text{Cr}(\text{NH}_3)_4\text{Cl}_2]$ [B] $[\text{Co}(\text{en})_2\text{Cl}_2]\text{Cl}$ [C] $[\text{Co}(\text{NH}_3)_5\text{NO}_2]\text{Cl}_2$ [D] $[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$
9	The monomers of the polymer nylon-2-nylon-6 are: [A] Hexamethylene diamine + Adipic acid [B] Phenol + formaldehyde [C] Glycine + Aminocaproic acid [D] Terephthalic acid + Ethylene glycol
10	Which of the following amino acids can be synthesised in the human body? [A] Lysine [B] Valine [C] Alanine [D] Histidine

Answers: 1).B 2). A 3). B 4). D 5).D 6). C 7). D 8). C 9). A 10) C

CLASS 12

CHEMISTRY MCQ (2020)

1. Which of the following ore is not concentrated by froth floatation process.

- a) Galena
- b) Zinc blend
- c) cinnabar
- d) pyrolusite

Ans: d)

2. Which of the following illustrates Hoffman Bromamide reaction?

- (a) Conversion of benzene diazonium chloride to chloro benzene by using cuprous chloride and HCl
- (b) Conversion of alkane nitrile to aldehyde by using SnCl_2 and HCl followed by hydrolysis
- (c) Conversion of ethanoyl chloride to ethanal by using hydrogen in presence of BaSO_4 and Pd
- (Ans: d)
- (d) Conversion of Benzamide to aniline by using bromine in NaOH.

3. The two anomers of glucose differ in the configuration of

- (a) C-1
- (b) C-2
- (c) C-4
- (d) C-6

Ans: a)

4. The compound that undergoes S_N1 reaction at the fastest rate is

- (a) Chloromethane
- b) Allyl chloride
- c) 2-Chloropropane
- d) Chlorobenzene

Ans: b)

5. the structure of XeF_2 is:

- a) linear
- b) bent T shape
- c) pyramidal
- d) square planar

Ans: a)

6. Which of the following is an incorrect statement

- a) Scandium forms no coloured ions, yet it is regarded as a transition element as scandium in the ground state has one electron in the 3d subshell.
- b) Transition metals and their compounds act as catalysts because of the availability of d orbitals, they can easily form intermediate products.

c) the Mn²⁺ compounds are more stable than Fe²⁺ towards oxidation to their +3 state as Mn²⁺ has stable d⁵ configuration.

d) Permanganate ion is coloured due to d-d transitions within the partly filled d orbitals of the transition metal ion.

Ans: d)

7. Which of the following is a characteristic of lyophobic colloids?

- a) shows zeta potential
- b) act as protective colloids
- c) Obey Hardy –Schultz rule
- d) undergo coagulation on passing electric current.

Ans: b)

8. Two electrolytic cells containing AgNO₃ and ZnSO₄ are connected in series. A steady current of 1 ampere was passed through them for certain time until 10.8 g silver deposited. What mass of Zn was deposited during the same time interval? (Ag=108 u and Zn=65.3 u)

- a) 3.265 g
- b) 32.35 g
- c) 5.4 g
- d) 10.8 g

Ans: a)

9. The relation between slope of the line in the graph of log [R₀/R] vis t for a first order reaction is -----

- a) Slope = – Ea /2.303R
- b) Slope= -k
- c) Slope = k/2.303
- d) Slope = - k/2.303

Ans: c)

10. An example of cationic detergent is ----

- a) sodium dodecylbenzenesulphonate
- b) dodecylbenzenenesulphonic acid
- c) cetyltrimethyl ammonium bromide
- d) a mixture of stearic acid and polyethyleneglycol

Ans:c)

KENDRIYAVIDYALAYA KOLLAM

MULTIPLE CHOICE QUESTIONS

CLASS XII- CHEMISTRY

- 1. A plot of $\log x/m$ versus $\log p$ for the adsorption of a gas on a solid gives a straight line with slope equal to**
(a) N (b) $1/n$ (c) $\log K$ (d) $-\log K$

- 2. In a zero-order reaction for every 10° rise of temperature, the rate is doubled. If the temperature is increased from 10°C to 100°C , the rate of the reaction will become**
(a) 64 times (b) 128 times (c) 256 times (d) 512 times

- 3. The correct formula of the complex formed in the brown ring test of nitrates is**
(a) $[\text{Fe}(\text{H}_2\text{O})_5\text{NO}]^+$ (b) $[\text{Fe}(\text{H}_2\text{O})_5\text{NO}]^{2+}$ (c) $\text{Fe}(\text{H}_2\text{O})_5\text{NO}^{3+}$ (d) $[\text{Fe}(\text{H}_2\text{O})_4(\text{NO}_2)]$

- 4. The human body does not produce –**
(a) Enzymes (b) DNA (c) Vitamins (d) Hormones

- 5. Which one of the purest form of commercial iron**
(i) Pig Iron (ii) Steel (iii) Wrought Iron (iv) None of them

- 6. The value of Henry's constant K_H is _____.**
(a) greater for gases with higher solubility. (b) greater for gases with lower solubility.
(c) constant for all gases. (d) not related to the solubility of gases.

- 7. Which of the following statement is not correct about an inert electrode in a cell?**
(i) It does not participate in the cell reaction.
(ii) It provides surface either for oxidation or for reduction reaction.
(iii) It provides surface for conduction of electrons.
(iv) It provides surface for redox reaction.

- 8. On heating aqueous solution of benzene diazonium chloride , which of the following is formed ?**
(a) benzene (b) chloro benzene (c) phenol (d) aniline

- 9. Which one of the following ions exhibits colour in aqueous solution**
(a) Sc^{3+} (b) Ni^{2+} (c) Ti^{4+} (d) Zn^{2+}

- 10. Glycerol is added to soap. It functions _____.**
(i) as a filler (ii) to increase leathering
(iii) to prevent rapid drying. (iv) to make soap granules.

Answers

1. (b)
2. (d)
3. (a)
4. (c)
5. (c)
6. (b)
7. (d)
8. (a)
9. (b)
10. (c)

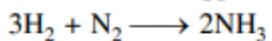
CHEMISTRY**SET-1****Multiple choice questions:**

1. Hydride of which element has the maximum bond angle?
 - a. H₂O b. H₂S c. H₂Se d. H₂Te
2. Which one of the following polymers has the weakest intermolecular forces of attraction?
 - a. Nylon b. PVC c. Cellulose d. Natural rubber
3. A 0.1 M aqueous solution of which of the following will have the lowest freezing point?
 - a. Potassium sulphate b. Sodium chloride
 - c. Urea d. Glucose
4. Products of electrolysis of dil.sulphuric acid with platinum electrodes are
 - a. Hydrogen is liberated at cathode and oxygen at anode
 - b. Sulphur at cathode and oxygen at anode
 - c. Oxygen is liberated at cathode and hydrogen at anode
 - d. Sulphur dioxide is liberated at cathode and hydrogen at anode
5. K₂MnO₄ can be converted to KMnO₄ using all of the following except
 - a. Dil.H₂SO₄ b. Cl₂ c. O₃ d. HCl
6. Which one of the following pairs show a positive deviation from Raoult's law?
 - a. Methanol and acetone b. Chloroform and acetone
 - c. Nitric acid and water d. Phenol and Aniline
7. Give the number of unpaired electrons in [Ni(CN)₄]²⁻. (Atomic no of Ni = 28)
 - a. 3 b. 2 c. 0 d. 1
8. Which gives product with inverted configuration on reaction with aq.KOH
 - a. 2-bromo pentane b. 1-bromopentane
 - c. 2,2-dibromopentane d. 2,3 dibromopentane
9. Arrange the following compounds in the decreasing order of their acid strength:
p-cresol, p-nitrophenol, phenol.
 - a. p-cresol > p-nitrophenol > phenol
 - b. p-nitrophenol > phenol > p-cresol
 - c. phenol > p-cresol > p-nitrophenol
 - d. phenol > p-nitrophenol > p-cresol

10. Unlike Xenon no distinct chemical compound of He is known because
- He is more electro positive
 - Chemical reactivity decreases in a group
 - He has highest ionisation enthalpy
 - Larger size of He atom

CHEMISTRY - SET . 2

1. The rate of disappearance of H₂ in the following reaction is



$$(a) \frac{-1}{3} \frac{d[\text{H}_2]}{dt} \quad (b) \frac{-3d[\text{H}_2]}{dt} \quad (c) \frac{-d[\text{H}_2]}{dt} \quad (d) \frac{1}{3} \frac{d[\text{H}_2]}{dt}$$

2. Hybridisation and magnetic character of [NiCl₄]²⁻ are

- (a) dsp², paramagnetic (b) dsp², diamagnetic, (c) sp³, paramagnetic
(d) sp³, diamagnetic

3. Which of the following is incorrect about SO₂

- (a) It has bleaching action in moist condition (b) It has linear geometry
(c) it has both reducing and oxidizing nature (d) its disinfectant in dilute solution

4. The temperature above which micelle formation is known as

- (a) Critical temperature (b) Kraft temperature (c) Boyle temperature (d) Inversion temperature

5. The complex ion having maximum magnitude of Δo

- a) [Co(NH₃)₆]³⁺ b) [Co(H₂O)₆]³⁺ c) [Co(CN₆)]³⁻ d) [Co(Cl)₆]³⁻

6. Which of the following compound is least basic

- (a) NH₃ (b) CH₃-NH₂ (c) C₆H₅-NH₂ (d) (CH₃)₂NH

7. Which of the following is not an antibiotic

- (a) Penicillin (b) Ofloxacin (c) Chloramphenicol (d) Tincture of iodine

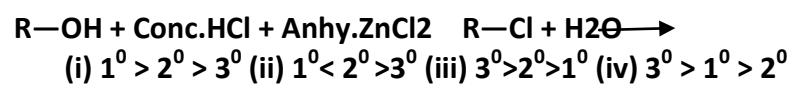
8. Ethyl amine can be prepared by the action of bromine and NaOH (aq) on which of the following

- (a) Acetamide (b) Propanamide (c) Formamide (d) Benzamide

9. Which of the following statements is incorrect about the collision theory of chemical reactions

- (i) It considers reacting molecules or atoms to be hard spheres and ignores their structural features
(ii) Number of effective collisions determines the rate of reaction.
(iii) Collision of atoms or molecules possessing sufficient threshold energy results into the product formation
(iv) Molecules should collide with sufficient threshold energy and proper orientation for the collision to be effective

- 10 What is the correct order of reactivity of alcohols in the following reactions?



CHEMISTRY (MCQ)

Q1. A solution of A contains 7 g/L $MgCl_2$ and solution B contains 7g/L of NaCl. At room temperature, the osmotic pressure of

- a) solution A is greater than B b) both have same osmotic pressure
- c) solution B is greater than A d) can't determine.

Q2. The metal which cannot be obtained by the electrolysis of aqueous solution of its salt is

- a) Cr b) Ag c) Ca d) Cu

Q3. The time taken for 10% completion of a first order reaction is 20 min. Then for 19% completion, the reaction will be

- a) 40 mins b) 60 mins c) 30 mins d) 50 mins

Q4. Gelatine is mostly used in making ice creams in order to

- a) prevent colloidal sol formation b) enrich the fragrance

Q5. Which of the following ore is best concentrated by froth floatation method.

- a) Magnetite b) Galena c) Siderite d) Malachite

Q6. Which among the following is most reactive ?

- a) I_2 b) ICl c) Cl_2 d) Br_2

Q7. The actinoids exhibit more number of oxidation states in general than the lanthanoids . This is because

- a) the 4f orbitals extend farther from the nucleus than the 5f orbitals.
- b) the 5f orbitals are more buried than the 4f orbitals
- c) there is similarity between 4f & 5f orbitals in their angular part of their wave function.
- d) the actinoids are more reactive than lanthanoids.

Q8. The oxidation number & coordination number of Ag in Tollens reagent respectively are

- a) 1,1 b) 2,1 c) 2,2 d) 1,2

Q9. Which of the following alkyl halides will undergo S_N^1 reaction most readily?

- a) $(CH_3)_3C-F$ b) $(CH_3)_3C-Cl$ c) $(CH_3)_3C-Br$ d) $(CH_3)_3C-I$

Q10. Which of the following cannot be used to oxidise primary alcohol to aldehydes?

- a) CrO_3 in anhydrous medium b) pyridinium chlorochromate

c) KMnO_4 in acidic medium d) Heating in presence of Cu at 573 K

Q11. $\text{C}_3\text{H}_6\text{O}$ did not give a silver mirror with Tollen's reagent, but gave an oxime with hydroxylamine. It can give positive

a) iodoform test b) Fehling's test c) Schiff's test d) carbonyl amine test.

Q12.. Which one of the following can be prepared by Gabriel phthalimide synthesis.

a) Aniline b) o-Toluidine c) Benzylamine d) 4-Bromoaniline.

Q13. The two forms of D-glucopyranose are called

a) diastereomers b) anomers c) epimers d) enantiomers

Q14. Which polymer is used in the manufacture of paints and lacquers?

a) polypropene b) polyvinylchloride c) Bakelite d) Glyptal

Q15 . Compound which is added to soap to impart antiseptic properties is

a) sodium lauryl sulphate b) sodium dodecylbenzene sulphonate
c) rosin d) bithional

Assertion reason type Questions

Directions: Each question contains STATEMENT- 1 (Assertion) and STATEMENT –2 (Reason). Each question has 4 choices (a), (b), (c) & (d) out of which only one is correct. Choose the correct option as under:

(a) Statement –1 is true, Statement – is true & Statement 2 is the correct explanation of statement -1

(b) Statements 1 &2 are true: Statement-2 is not a correct explanation for statement-1

(c) Statement -1 is true & statement 2 is false

.d) Statement -1 is false & Statement -2 is true.

Q16. Assertion: Addition of non-volatile solute to a volatile solvent increases the boiling point.

Reason: Addition of non-volatile solute results in lowering of vapour pressure.

Q17. Assertion: Al_2O_3 is converted into aluminium by reduction with carbon.

Reason: Carbon(graphite) has greater affinity for oxygen than aluminium.

Q18. Assertion: To a solution of potassium chromate , if a strong acid is added, it changes its colour from yellow to orange.

Reason: The colour change is due to change in oxidation state.

Q19. Assertion : Benzaldehyde is less reactive than ethanal towards nucleophilic attack.

Reason :All carbon atoms of benzaldehyde are sp^2 hybridised.

Q20.Assertion: p-Nitrophenol is more acidic than o- Nitrophenol.

Reason: Intramolecular hydrogen makes o-isomer weaker than p-isomer.