CHEMISTRY

BOOKS - EDUCART PUBLICATION

SAMPLE PAPER 11 (SELF-ASSESSMENT)

Section A

1. H_2S is. more acidic than H_2O because

A. oxygen is more electronegative than sulphur.

B. atomic number of sulphur is higher than oxygen.

C. H-S bond dissociation energy is less as compared to H-O bond.

D. H-O bond dissociation energy is less as compared to H-S bond,

Answer:

Watch Video Solution

2. Which of the following defects is also known as a dislocation defect?

A. Frenkel defect

B. Schottky defect

C. Non-stoichiometric defect

D. Simple interstitial defect

Answer:

Watch Video Solution

3. What will be the ratio of the total volume of bcc to simple cubic structure is?

A. $3\sqrt{3}:8$

B. $1:24\sqrt{3}$

C. $24\sqrt{3}:1$

D. $8:3\sqrt{3}$

Answer:

Watch Video Solution

4. The correct IUPAC name for

$CH_3 - \underset{\underset{C_2H_5}{|}}{\text{CH}} - CH_2 - Br$ is :

A. 1-Bromo-2-ethyl-2-methylethane

B. 1-Bromo-2-ethylpropane

C. 1-Bromo-2-methylbutane

D. 2-Methyl-1bromobutane

Answer:

Watch Video Solution

5. The position of Br in the compound in $CH_3 = CHC(Br)(CH_3)_2$ can be classified as.....

A. Allyl

B. Aryl

C. Vinyl

D. Secondary

Answer:

Watch Video Solution

6. O_3 is more reactive than Oz because:

A. High bond dissociation energy

B. Low bond dissociation

C. Thermodynamically unstable

D. It is heavier than air

Answer:

Watch Video Solution

7. Which of the following is the correct order of the acidic nature of alcohols is?

A.

$$CH_3 - CH_2 - CH_2 - OH > CH_3 - CH_2 - \underset{\underset{OH}{|}}{CH} - CH_3 > CH_3 -$$

B.

$$CH_3 - CH_2 - \underset{\underset{OH}{|}}{CH} - CH_3 > CH_3 - CH_2 - CH_2 - CH_2 - OH <$$

C.

$$CH_3 - \overset{\overset{CH_3}{|}}{\underset{\underset{OH}{|}}{C}} - CH_3 > CH_3 - CH_2 - \underset{\underset{OH}{|}}{CH} - CH_3 > CH_3 - CH_2 -$$

D.

$$CH_3 - CH_2 - CH_2 - CH_2 - OH > CH_3 - CH_2 - \underset{\underset{OH}{|}}{CH} - CH_3 >$$

Answer:

Watch Video Solution

8. If the edge length of the side of a cube is a, the distance between the body centred atom and one corner atom in the cube will be:

A. $\frac{2}{\sqrt{2}}a$

B. $\frac{\sqrt{3}}{2}a$

C. $\frac{4}{\sqrt{3}}a$

D. $\frac{\sqrt{3}}{4}a$

Answer:

Watch Video Solution

9. Which is not correct about Henry's law?

A. the gas in contact with the liquid should behave as an ideal gas

B. there should not be any chemical inter action between the gas and the liquid

C. the pressure applied should be high

D. pressure of a given mass of an ideal gas is inversely proportional to its volume at a constant temperature.

Answer: C

Watch Video Solution

10. Which of the following alcohol is obtained when. 2-methyl propene reacts with H_2O in presence of H_2SO_4 :

A. isobutyl alcohol

B. sec. butyl alcohot

C. tert, butyl alcohol

D. n-butyl alcohol

Answer: C

Watch Video Solution

11. HI cannot be prepared by the action of conc. H_2SO_4 on KI because

A. H_2SO_4 forms complex

B. H_2SO_4 is an oxidising agent

C. Hl is more volatile than H_2SO_4

D. HI is stronger than H_2SO_4

Answer:

Watch Video Solution

12. Which of the following is/are correct about sucrose and maltose:

A. Both are disaccharides

B. Provides quick energy

C. Sucrose is a non reducing sugar while maltose is a reducing sugar

D. All of these

Answer: A,C

Watch Video Solution

13. The synthesis of alkyl fluorides is best accomplished by:

A. Free radical fluorination

B. Sandmeyer's reaction

C. Finkelstein reaction

D. Swarts reaction

Answer:

Watch Video Solution

14. The correct melting point order of hydrides of group is 15 elements is:

A. $NH_3 < PH_3 > AsH_3 > SbH_3$

B. $NH_3 < PH_3 < AsH_3 < SbH_3$

C. $NH_3 > PH_3 > AsH_3 > SbH_3$

D. $NH_3 > PH_3 < AsH_3 < SbH_3$

Answer: D

Watch Video Solution

15. Amalgams are the example of:

A. Liquid in solid solutions

B. Solid in solid solutions

C. Gas in solid solutions

D. Liquid in liquid solutions

Answer:

Watch Video Solution

16. Which of the following elements can be involved in $p\pi - d\pi$ bonding?

A. Carbon

B. Nitrogen

C. Phosphorus

D. Boron

Answer:

Watch Video Solution

17. On oxidation with a strong oxidising agent tike HNO_3 the glucose is oxidised to:

A. saccharic acid

B. glucaric acid

C. gluconic acid

D. valeric acid

Answer:

Watch Video Solution

18. The general electronic configuration of an element belonging to the p-block of the periodic table will be represented by

A. $(n-2)^{f^0}(n-1)d^0ns^2np^{0-6}$

B. $(n-2)f^0(n-1)d^{1-10}ns^2np^{1-6}$

C. $(n-2)f^{14}(n-1)d^{10}ns^2np^{1-6}$

D. $(n-2)f^{1-14}(n-1)d^{1-10}ns^2np^{1-6}$

Answer:

Watch Video Solution

19. Nitrogen shows poor tendency towards catenation because:

A. N atom can form multiple $p\pi - p\pi$ bonds

B. Octet of N_2 is complete unlike carbon

C. The N N is unreactive at room tempera ture

D. The N - N single bond is weaker and unstable

Answer:

Watch Video Solution

20. One kilogram of a sea water sample contains 6 mg of dissolved O_2. The concentration of O_2 in the sample in ppm is

A. 0.6

B. 6.0

C. 16.0

D. 60.0

Answer:

Watch Video Solution

Section B

1. When a non volatile solid is added to pure water it will:

A. boil above $100^\circ C$ and freeze above $0^\circ C$

B. boil below $100^\circ C$ and freeze above $0^\circ C$

C. boil above $100^\circ C$ and freeze below $0^\circ C$

D. boil below $100^\circ C$ and freeze below $0^\circ C$

Answer:

Watch Video Solution

2. The position of Br in the compound in $CH_3CH = CHC(Br)(CH_3)_2$ can be classified as

A. Allyl

B. Vinyl

C. Aryl

D. Secondary

Answer:

Watch Video Solution

3. Phosphorus in pentavalent state is more stable when compared to that of nitrogen in the same state even though they belong to same group. This is due to

A. dissimilar electronic configuration

B. due to presence of vacant d-orbitals

C. reactivity of phosphorus

D. inert nature of nitrogen

Answer:

Watch Video Solution

4. The measured freezing point depression of a non-volatile solute in aqueous solution is $0.20^{\circ}C$. The elevation in boiling point of the same solution will be [K_f = 1.86 K/m, K_b = 0.52 K/m]

A. 0.0186

B. 0.056

C. 0.052

D. 5.2

Answer:

Watch Video Solution

5. The reagents which cannot convert primary alcohol to carboxylic acid?

A. Potassium permanganate

B. Chromic acid

C. Pyridinium chlorochromate

D. Jones reagent

Answer: C

Watch Video Solution

6. With respect to noble gases choose the incorrect statement :

A. They are monoatomic

B. They are colourless

C. Size is bigger than halogens

D. They all have an outer electronic configuration of ns2np6

Answer:

Watch Video Solution

7. When sodium chloride is heated in the atmosphere of sodium vapours the crystal becomes yellow in color due to presence of

A. vapour of Na

B. chloride anion

C. electron present at anionic site

D. Molten Nacl

Answer:

Watch Video Solution

8. Which of the following noble gases is least soluble in water?

A. Helium

B. Radon

C. Krypton

D. Neon

Answer:

Watch Video Solution

9. The unit of ebullioscopic constant is ..... .

A. Kkg mol^{-1} or K $(\text{molality})^{-1}$

B. mol kg K^{-1} or k^{-1} (molality)

C. kg $mol^{-1}k^{-1}$ or $k^{-1}(\text{molality})^{-1}$

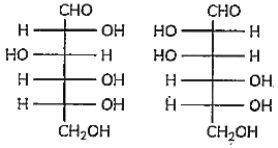
D. K mol kg^{-1} or K (molality)

Answer:

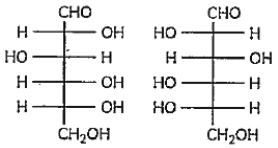
Watch Video Solution

10. Which of the following pairs represents anomers?

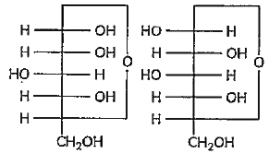
A.

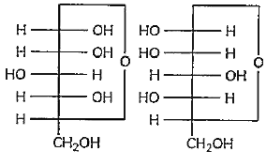


B.



C.



D. 

Answer:

Watch Video Solution

11. The incorrect statement is:

A. Two enantiomers in equal proportions have zero optical rotation.

B. Enantiomers are non-superimpose mirror images.

C. Enantiomers possess identical melting and boiling points.

D. S_N2 reaction are accompanied by race misation in optically active alkyt halides.

Answer:

Watch Video Solution

12. Arrange group 17 elements in the correct order of enthalpy of bond dissociation:

A. $F_2 > Cl_2 > Br_2 > l_2$

B. $Cl_2 > Br_2 > F_2 > l_2$

C. $Cl_2 > F_2 > Br_2 > l_2$

D. $F_2 > Br_2 > Cl_2 > l_2$

Answer:

Watch Video Solution

13. Which of the following statement is correct about the nitration of phenol:

A. presence of OH group that increases electron density on O and p-position

B. presence of OH group that decreases electron density on O and p-position

C. presence of OH group that increases electron density on m-position

D. HNO_3 is strongest oxidising agent

Answer:

Watch Video Solution

14. State the hybridization of interhalogen compounds of the type XX'5(Square pyramidal)?

A. sp^3d^d

B. sp^2d^2

C. sp^4d^3

D. sp^3d^3

Answer:

Watch Video Solution

15. Which reaction is involved during Dow's process:

A. electrophilic substitution reaction

B. electrophilic addition reaction

C. nucleophilic addition reaction

D. nucleophilic substitution reaction

Answer:

Watch Video Solution

16. Which mechanism is followed when tertbutyl bromide reacts with aqueous sodium hydroxide?

A. S_N2 mechanism

B. S_N1 mechanism

C. Any of the above two depending temperature of reaction

D. E_1 mechanism

Answer:

Watch Video Solution

17. Assertion (A): N_2 is less reactive than P_4

Reason (R): The electron gain enthalpy of nitrogen is more positive than phosphorous.

A. Both A and R are true and R is the correct explanation of A

B. Both A and R are true but R is not the correct explanation of A

C. A is true but Ris false

D. A is false but R is true

Answer:

Watch Video Solution

18. Assertion : Alcohols react both as nucleophiles and electrophiles.

Reason Alcohols react with active metals such as sodium ,Potassium and aluminimum to yeield corresponding alkoxides and hydrogen.

A. Both A and R are true and R is the correct explanation of A

B. Both A and R are true but R is not the correct explanation of A

C. A is true but Ris false

D. A is false but R is true

Answer:

Watch Video Solution

19. Statement - The boiling point of $0.1M$ urea solution is less than that if $0.1MKCl$ solution.

Explanation -Elevation of boiling point is directly proportional to the number of species present in the solution.

A. Both A and R are true and R is the correct explanation of A

B. Both A and R are true but R is not the correct explanation of A

C. A is true but Ris false

D. A is false but R is true

Answer:

Watch Video Solution

20. Assertion (A): F_2 has maximum ionisation enthalpy. Reason (R): F - F bond has low bond dissociation enthalpy.

A. Both A and R are true and R is the correct explanation of A

B. Both A and R are true but R is not the correct explanation of A

C. A is true but Ris false

D. A is false but R is true

Answer:

Watch Video Solution

21. Assertion (A): Azetropic mixtures are formed only by non-ideal solutions and they may have boiling points either greater than both the components or lesser than both the components.

Reason (R): The composition of the components of azerotropic mixture have changed

A. Both A and R are true and R is the correct explanation of A

B. Both A and R are true but R is not the correct explanation of A

C. A is true but Ris false

D. A is false but R is true

Answer:

Watch Video Solution

Section C

1. Which of the following analogies is correct:

A. $BrF_5 : sp^3d^2 : : ClF3 : T$-shape

B. Kr : used in diving equipment :: Xe : Non reactive noble gas

C. $XeOF_2$: three lone pairs :: $XeOF_4$: two lone pairs

D. NH_3 : lewisacid : Red Phosphorous : Habers process

Answer:

Watch Video Solution

2. Complete the following analogy: Organo metallic compound :A: Pyridinium chlorochromate :B

A. A: Phosphoric acid, B: Alkyl Halide

B. A : Main product of sandmeyer's reaction, B: Causes Retention,

C. A: Grignardsreagent,B: selective oxidizing agent

D. A: Salicylic acid, B: Diazonium salt

Answer:

Watch Video Solution

3. Solids have properties like rigidity a definite shape and a define volume. If intermolecular forces are greater than thermal energy, substances exist as solid. Solids can be classified into two types. Crystalline solids and amorphous solids, Crystalline solids have regular arrangement of particles, definite geometric shapes, sharp melting points and definite heat of fusion. They are anisotropic and undergo clean cleavage. On the other hand, amorphous solid have no regular arrangement of particles, irregular shapes, melt over a range of temperature, no definite heat of fusion. They are isotropic and undergo irregular cleavage.

Solid X is very hard, electrical insulator in solid as well as molten state and melts at extremely high temperature. Name the type of solid is it?

A. Ionic

B. Metallic

C. Covalent

D. Molecular

Answer:

Watch Video Solution

4. Solids have properties like rigidity a definite shape and a define volume. If intermolecular forces are greater than thermal energy, substances exist as solid. Solids can be classified into two types. Crystalline solids and amorphous solids, Crystalline solids have regular arrangement of particles, definite geometric shapes, sharp melting points and definite heat of fusion. They are anisotropic and undergo clean cleavage. On the other hand, amorphous solid have no regular arrangement of particles, irregular shapes, melt over a range of temperature, no definite heat of fusion. They are isotropic and undergo irregular cleavage.

The melting point of crystalline solids is sharp due to:

A. Different arrangement of constituent particles in different directions.

B. A regular arrangement of constituent particles observed over a long distance in the crystal lattice.

C. Same arrangement of constituent particles in different directions.

D. A regular arrangement of constituent particles observed over a short distance in the crystal lattice.

Answer:

Watch Video Solution