# CHEMISTRY

## BOOKS - NTA MOCK TESTS

## NTA TPC JEE MAIN TEST 107

**Chemistry**

**1.** Which of the following E. A. order is not correct ?

A. $N < O < S$

B. $Cl > O > N > C$

C. $O < S < F < Cl$

D. $B < C < Si < S$

**Answer: B**

View Text Solution

**2.** In which of the following options property and its correct order is given?

A. $Sc^{3+} > Cr^{3+} > Fe^{3+} > Mn^{3+}$- Order of ionic radius.

B. $Sc < Ti < Cr < Mn$- Order of density.

C. $Mn^{2+} > Ni^{2+} < Co^{2+} < Fe^{2+}$- Order of ionic radius.

D. $FeO < CaO > MnO > CuO$- Order of basic nature.

**Answer: A**

View Text Solution

**3.** Which one of the following is not a complex compound?

A. $[Cu(NH_3)_4]SO_4$

B. $K_2[PtCl_6]$

C. $K_2SO_4.\ Al_2(SO_4)_3.24H_2O$

D. $[Co(NH_3)_6]Cl_3$

**Answer: C**

View Text Solution

**4.** Which of the following is removed as an impurity from bauxite in Bayer's process?

A. Rutile

B. Silica

C. FeO

D. None of these

**Answer: C**

View Text Solution

**5.** Correct about $MnO_4^-$ ?

A. Square planar with presence of $\pi$ bond

B. Squara planar without $\pi$ bond

C. Tetrahedral planar with presence of $\pi$ bond

D. Tetrahedral planar without $\pi$- bond

**Answer: C**

View Text Solution

**6.** How many geometrical isomers and stereoisomers are possible for

$[Pt(NO_2)(NH_3)(NH_2OH)(Py)]^+$ and $[Pt(Br)(Cl)(I)(NO_2)(NH_3)(Py)]$ respectively?

A. 3 and 15

B. 3 and 30

C. 4 and 5

D. 4 and 30

**Answer: B**

View Text Solution

**7.** In which of the following molecules will the decomposition temperature be maximum?

A. $MgCO_3$

B. $CaCO_3$

C. $BaCO_3$

D. $SrCO_3$

**Answer: C**

View Text Solution

**8.** $CH_3 - CH_2 - \underset{CH_3}{\underset{|}{CH}} - \underset{OH}{\underset{|}{CH}} - CH_3 \xrightarrow{Na} (A)$

$CH_3CH_2OH \xrightarrow{HBr} (B)$

$(A) + (B) \rightarrow (C)$

The product (C ) will be:

A. $CH_3 - CH_2 - \underset{\underset{CH_3}{|}}{CH} - \underset{\underset{O-CH_2-CH_3}{|}}{C} - CH_3$

B. $CH_3 - CH_3$

C. $CH_3 - CH_2 - \underset{\underset{CH_3}{|}}{CH} - CH = CH_3$

D. $CH_3 - CH = \underset{\underset{CH_3}{|}}{C} - CH - CH_3$

**Answer: A**

View Text Solution

**9.** From which of the following tests, $1^\circ$, $2^\circ$ and $3^\circ$ amines can be distinguished?

A. Action with $HNO_2$

B. Hinsberg reagent

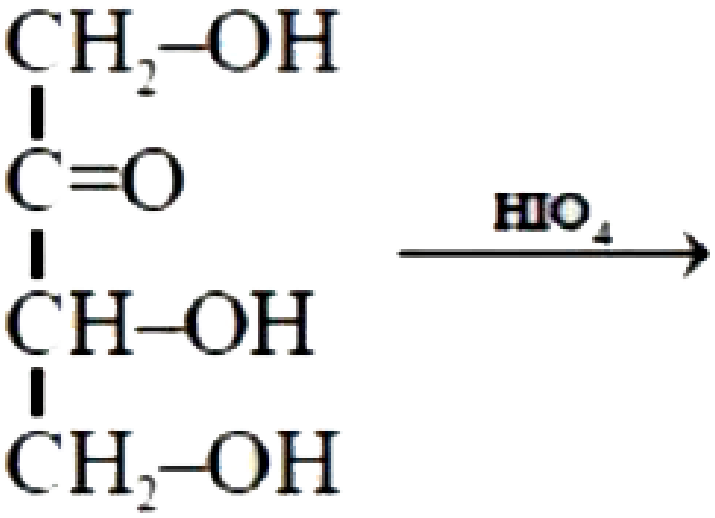
C. Acetylation

D. Carbylamine reaction

**Answer: B**

View Text Solution

**10.** What will be the product obtained in the reaction given below:



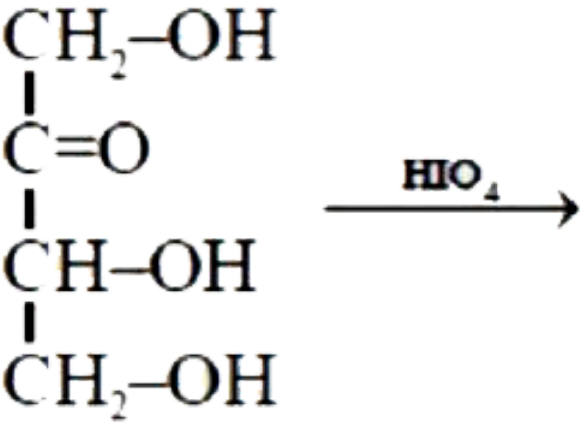
A. $H_2C = O$

B. $H - COOH$

C. $CO_2$

D. `

**10.** What will be the product obtained in the reaction given below:



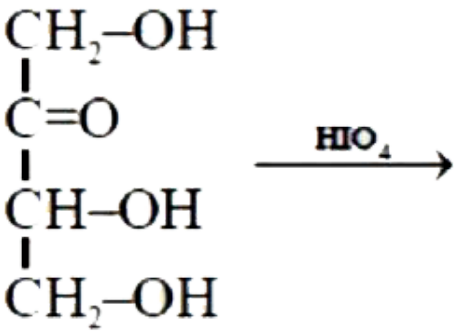

A. $H_2C = O$

B. $H - COOH$

C. $CO_2$

D. / mathrm {All} `

**10.** What will be the product obtained in the reaction given below:




A. $H_2C = O$

B. $H - COOH$

C. $CO_2$

D.

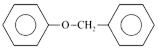
**Answer: D**

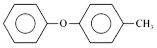
View Text Solution

**11.** Which ether forms the maximum no. of product(s) with HI?

A. $CH_3OCH_2CH_3$

B. $CH_3CH_2OCH_2CH_3$

C. 

D. 

**Answer: A**

View Text Solution

**12.** Which of the following readily undergoes elimination reaction

under basic conditions?

A. $(CH_3)_3CCl$

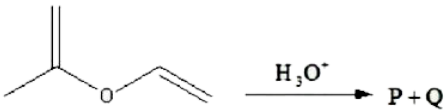
B. 

C. $CH_3CH_2\underset{\underset{Cl}{|}}{C}HCH_3$

D. $CH_3CH_2CH_2CH_2Cl$

**Answer: A**

View Text Solution

**13.** 

In above sequence 'P' and 'Q'

products can be distinguished by?

A. Tollen's reagent

B. Fehling's solution

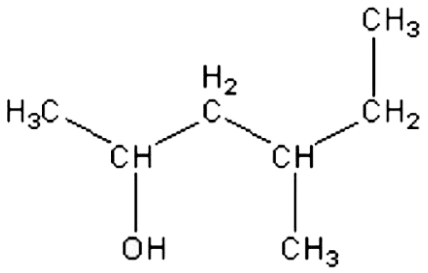
C. Benedict's solution

D. All of these

**Answer: D**

View Text Solution

**14.** The Correct IUPAC name of the compound,




is

A. 4-Ethylpentanol-2

B. 4-Methylhexanol-2

C. 2-Ethylpentanol-2

D. 3-Methylhexanol-2

**Answer: B**

View Text Solution

**15.** During galvanization of iron, zinc can be coated on t he surface of iron although reverse of this is not possible 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

**Answer: D**

View Text Solution

**16.** An ideal solution of two pure liquids A and B are having the vapour pressure of 100 and 400 torr repsectively at the temperature T. The liquid solution of A and B is made up of 1 mole of each A and B. Then, find the pressure when 1 mole of mixture has been vapourized.

A. 500 torr

B. 600 torr

C. 700 torr

D. 200 torr

**Answer: D**

View Text Solution

**17.** $NH_3 + OCl^{\ominus} \rightarrow N_2H_4 + Cl^{\ominus}$

On balancing the above equation in basic solution, using integral coefficient, which of the following whole numbers will be the coefficient of $N_2H_4$?

A. 1

B. 2

C. 3

D. 4

**Answer: A**

View Text Solution

**18.** At $90^\circ C$, distilled water has $\left[H_3O^+\right]$ concentration equal to $10^{-6}$ mol / litre.The value of $K_w$ at this temperature will be:-

A. $10^{-6}$

B. $10^{-14}$

C. $10^{-12}$

D. $10^{-9}$

**Answer: C**

View Text Solution

**19.** Two moles of gas A and three moles of gas B are placed in a container at constant pressure of two bar and are separated by ice wall whose temperature is maintained at $0^{\circ}C$. When the wall is removed and gases react to undergo following reversible reaction:

$A(g) + B(g) \Leftrightarrow c(g)$. After equilibrium is attained how many grams of ice have melted

$\left(\Delta H^{\circ}_{\text{fusion}} H_2O, 0^{\circ}C\right) = 6KJm^{-1}$

| Compound | $\Delta H^{\circ}_f KJm^{-1}$ | $S^{\circ}_M JK^{-1}m^{-1}$ |
|---|---|---|
| $A$ | $0$ | $165$ |
| $B$ | $-90$ | $200$ |
| $C$ | $-150$ | $250$ |

A. 360g

B. 430 g

C. 540 g

D. 620 gs

**Answer: A**

View Text Solution

**20.** How many ions out of the following have bond order of 2. 5?

$N_2, NO^-, C_2, N_2^+, C_2^{2-}, CN^+$

View Text Solution

**21.** In the basic structural unit of silicates, each Si atom is bonded to ..... oxygen atoms.

View Text Solution

**22.** How many of the following reagents can be used to distinguish

acetophenone from benzophenone?

2, 4 - dinitrophenylhydrazine, Aqueous $NaHSO_3$, Benedict's reagent, $I_2 / NaOH$

View Text Solution

**23.** How many of the following compounds will have lower boiling points as compared to n-pentane? 2, 2-Dimethylpropane, 2-methylpropane, 2- methylbutane, 2, 2 - -dimethylbutane, 2-methylpentane, 2- methylbut- 2-ene, pent- 2- yne

View Text Solution

**24.** How many structural isomers contain chiral carbon atom(s) with alcohol for a molecular formula $C_6H_{14}O$?

View Text Solution

**25.** The solubility of $PbCl_2$ in water is S $molL^{-1}$ and its solubility product is $K_{sp}$. The relation between $K_{sp}$ and S is represented as $S = \sqrt[3]{\frac{K_{sp}}{x}}$. The value of x is .....

View Text Solution

**26.** In how many of the following, dispersion medium is a liquid? Smoke, mist, soap lather, milk, sponge, whipped cream

View Text Solution

**27.** How many of the following are p-type semiconductors?

Ge doped with Ga, Si doped with Al, Ge doped with As, Ge doped with In, Si doped with As, Si doped with Sb.

View Text Solution

**28.** $4d_{xy}$ Orbital has how many ..... nodal planes.

View Text Solution

**29.** Consider the following first order gas phase decomposition reaction at $500^{\circ}C$

$A_{(g)} \rightarrow B_{(g)} + C_{(g)}$

The half-life of the reaction is 69. 3 s. If gas A is enclosed in a container and the initial pressure is 0.5 atm, total pressure of this system after

115s will be ..... atm. [Given : $10^{0.5} = 3.16$]

View Text Solution