# CHEMISTRY

## BOOKS - NTA MOCK TESTS

## NTA JEE MOCK TEST 85

Chemistry

**1.** An excited hydrogen atom returns to the ground state . The wavelength of emitted photon is $\lambda$ The principal quantum number of the excited state will be :

A. $\left[\frac{\lambda R}{\lambda R-1}\right]^{1/2}$

B. $\left[\frac{\lambda R+1}{\lambda R}\right]^{1/2}$

C. $[\lambda R(\lambda R+1)]^{1/2}$

D. $\left[\frac{1}{\lambda R(\lambda R+1)}\right]^{1/2}$

**Answer: A**

Watch Video Solution

**2.** The heating of oxime of acetone in presence of conc. $H_2SO_4$ to form N - methyl ethanamide is called

A. Bayer - Villger rearrangement

B. Beckmann rearrangement

C. Wolf - rearrangement

D. Hoffmann reaction

**Answer: B**

Watch Video Solution

**3.** $NO_2$ and $N_2O_4$ are two forms of nitrogen dioxide. One exists in gaseous state while other in liquid state. The nature of $NO_2$ and $N_2O_4$

forms are

A. both are paramagnetic

B. both are diamagnetic

C. $NO_2$ is paramagnetic while $N_2O_4$ is diamagnetic

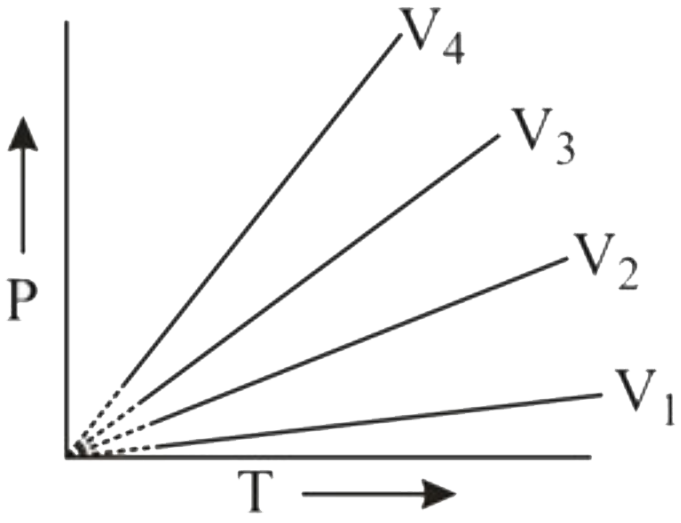
D. $NO_2$ is diamagnetic while $N_2O_4$ is paramagnetic

**Answer: C**

Watch Video Solution

**4.** The ideal gas equation for 1 mol of ideal gas is PV = nRT

graph between P and T at constant volume, i.e. isochores are plotted as under




Which of the following order of volume is correct ?

A. $V_4 > V_3 > V_2 > V_1$

B. $V_1 > V_2 > V_3 > V_4$

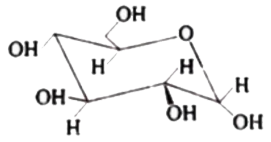
C. $V_1 = V_2 = V_3 = V_4$

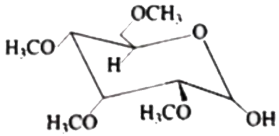
D. $V_2 > V_1 > V_3 > V_4$

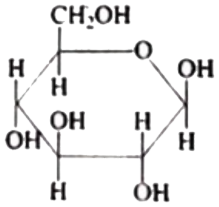
**Answer: B**

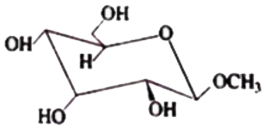
Watch Video Solution

**5.** Identify the non - reducing sugar.

A. 

B. 

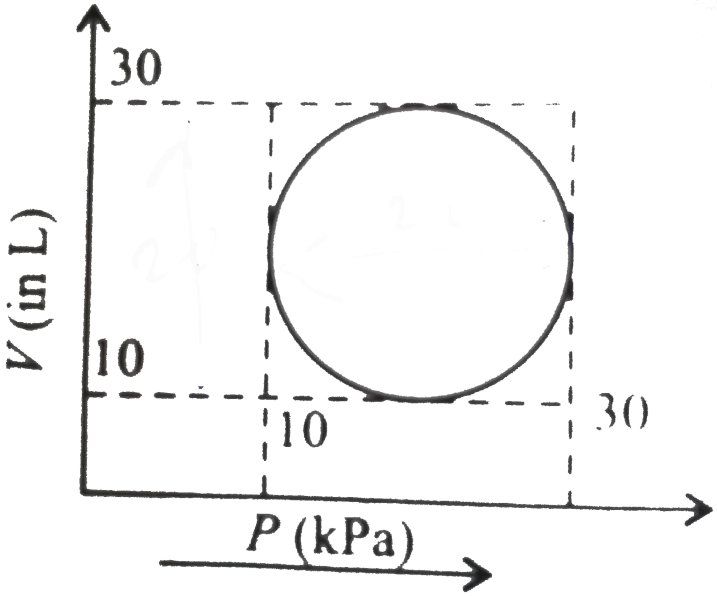
C. 

D. 

**Answer: D**

Watch Video Solution

**6.** Heat energy absorbed by a system in going through a cyclic process shown in figure is




A. $10^7 \pi J$

B. $10^6 \pi J$

C. $10^2 \pi J$

D. $10^4 \pi J$

**Answer: C**

Watch Video Solution

**7.** 2-Mehtylbut-1-ene reacts wth mercuric acetate in presence of water to form a product, which on reduction with $NaBH_4$ yield

A. 2 - Methylbutane -2- ol

B. 2 - Methylbutan -1- ol

C. 3 - Methylbutan -2- ol

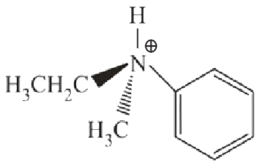
D. none of the above

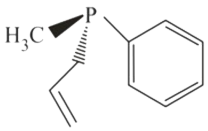
**Answer: A**

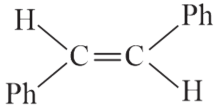
Watch Video Solution

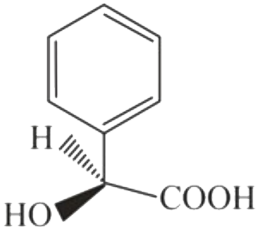
**8.** Among the following the optically inactive compound is :

A.



B. 


C. 


D. 


**Answer: C**

Watch Video Solution

**9.** Which of the group element does not form M(III) iodide?

A. Al

B. Ga

C. In

D. Tl

**Answer: D**

Watch Video Solution

**10.** A quantity of electrcity required to reduce $12.3$ g of nitrobenzene to aniline arising $50\ \%$ current efficiency is

A. 115800 C

B. 57900 C

C. 23160 C

D. 28950 C

**Answer: A**

Watch Video Solution

**11.** Silver ions are added to a solution with $[Br^-] = [Cl^-] = [CO_3^{2-}] = [AsO_4^{3-}]$=0.1M. Which compound will precipitate with lowest $[Ag^+]$?

A. $AgBr$, $(K_{sp} = 5 \times 10^{=13})$

B. $AgCl$, $(K_{sp} = 1.8 \times 10^{-10})$

C. $Ag_2CO_3$, $(K_{sp} = 8.1 \times 10^{-12})$

D. $Ag_3AsO_4$, $(K_{sp} = 10^{-22})$

**Answer: A**

Watch Video Solution

**12.** In which of the following molecular species $\sigma -$ dative bond is present?

A. $BF_3$

B. $Be_2Cl_4$

C. $NH_3$

D. $BH_3$

**Answer: B**

Watch Video Solution

**13.** There is $S - S$ bond in

A. $S_2O_4^{2-}$

B. $S_2O_5^{2-}$

C. $S_2O_6^{2-}$

D. All of these

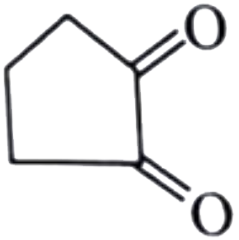
**Answer: D**

Watch Video Solution

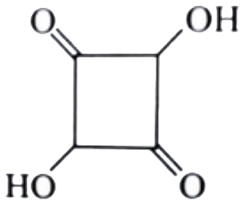
**14.** Conpound $(A) \xrightarrow[HIO_4]{2mol of} 2$ mol of glyoxalic acid.

The compound $(A)$ is:

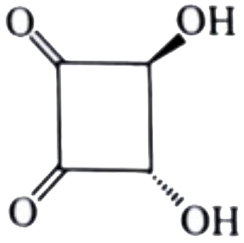
A.



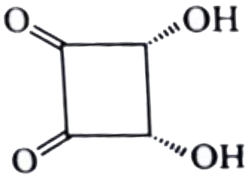

B.




C.




D.




**Answer: D**

Watch Video Solution

**15.** Compound $PdCl_4.6H_2O$ is a hydrated complex, 1 molal aqueous solution of it has freezing point 269.28 K. Assuming 100% ionization of complex, calculate the molecular formula of the complex ($K_f$ for water = 1.86 K $mol^{-1}$)

A. $\left[Pd(H_2O)_6\right]Cl_4$

B. $\left[Pd(H_2O)_4Cl_2\right]Cl_2.2H_2O$

C. $\left[Pd(H_2O)_3Cl_3\right]Cl.3H_2O$

D. $\left[Pd(H_2O)_3Cl_4\right].4H_2O$

**Answer: C**

Watch Video Solution

**16.** Which of the following metal nitrate produces gaseous product when reacts with KCN solution?

A. $Cu(NO_3)_2$

B. $AgNO_3$

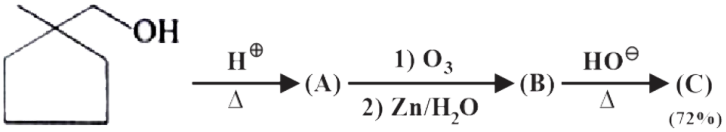
C. $Cd(NO_3)_2$

D. $Pb(NO_3)_2$

**Answer: A**

Watch Video Solution

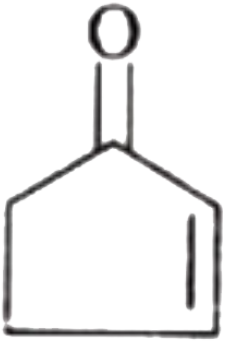
**17.**



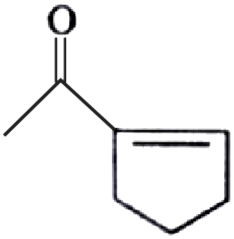

Product 'C' is

A.

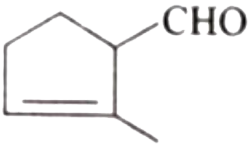

B.




C.




D.




**Answer: C**

Watch Video Solution

**18.** If $K_1$ and $K_2$ are respective equilibrium constants for two reactions :

$XeF_6(g) + H_2O \Leftrightarrow XeOF_4(g) + 2HF_g$

$XeO_4(g) + XeF_6(g) \Leftrightarrow XeOF_4(g) + XeO_3F_2(g)$

Then equilibrium constant for the reaction

$XeO_4(g) + 2HF(g) \Leftrightarrow XeO_3F_2(g) + H_2O(g)$ will be

A. $\frac{K_1}{K_2^2}$

B. $K_1 - K_2$

C. $\frac{K_1}{K_2}$

D. $\frac{K_2}{K_1}$

**Answer: D**

Watch Video Solution

**19.** An organic compound (A) with molecular formula $C_7H_8O$ dissolves in NaOH and gives characteristic colour with $FeCl_3$. On treatement with $Br_3$, it gives a tribromo product $C_7H_5Br_3$. The compound is:

A. benzyl alcohol

B. o - cresol

C. p - cresol

D. m - cresol

**Answer: D**

Watch Video Solution

**20.** In a compound $XY_2O_4$ , oxide ions are arranged in CCP and cations X are present in octahedral voids. Cations Y are equally distributed between octahedral and tetrahedral voids. The fraction of the octahedral voids occupied is :-

A. $\frac{1}{6}$

B. $\frac{1}{8}$

C. $\frac{1}{4}$

D. $\frac{1}{2}$

**Answer: D**

Watch Video Solution

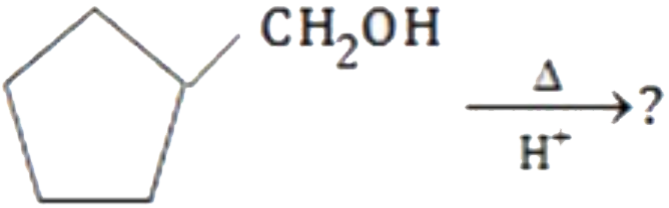
**21.** How many Cl - atoms are present in Bithional added in soaps for (antiseptic properties)

Watch Video Solution

**22.** For a first order reaction, if the time taken for completion of $50\,\%$ of the reaction is $t$ second, the time required for completion of $99.9\,\%$ of the reaction is $nt$. Find the value of n?

Watch Video Solution

**23.** How many alkenes possible by the dehydration of




Watch Video Solution

**24.** The oxidation number of Mn in the product of alkaline oxidative fusion of $MnO_2$ is

Watch Video Solution

**25.** How many of these molecules can have any type of hydrogen bonding.

Glucose, HF,

$-OH, R-COOH, R_2NH, \mathrm{CCl_3}CHO, Ph-Br,$ o - nitro phenol, $PH_3$

.

Watch Video Solution