



CHEMISTRY

BOOKS - NTA MOCK TESTS

JEE MOCK TEST 11

Chemistry

1. The formation of cyanohydrin from ketone is an example of

:

- A. Electrophilic addition reaction
- B. Electrophilic substitution reaction
- C. Nucleophilic substitution reaction

D. Nucleophilic addition reaction

Answer: D



[Watch Video Solution](#)

2. 2.56×10^{-3} equivalent of KOH is required to neutralise $0.12544\text{gH}_2\text{XO}_4$. The atomic mass of X (in g/ mol) is :

[Given : H_2XO_4 is a dibasic acid]

A. 16

B. 8

C. 7

D. 32

Answer: D



3. Match list I with List II and select the correct answer using the codes given below

List I

(types of ore)

P Oxide ore

Q Sulphide ore

R sulphate ore

S Halide ore

List II

(example)

A. Feldspar

B. Barytes

C. Fluorspar

D. Galena

E. Corundum

A. P-B,Q-D,R-C,S-A

B. P-B,Q-D,R-E,S-A

C. P-E,Q-B,R-D,S-C

D. P-E,Q-D,R-B,S-C

Answer: D



Watch Video Solution

4. The carbon -carbon bond distance in benzene is

- A. Longer than a C -C single bond
- B. Longer than a C=C double bond
- C. Shorter than a C=C double bond
- D. Shorter than a C≡C triple bond

Answer: B



Watch Video Solution

5. Which of the following is less than zero during adsorption?

A. ΔG

B. ΔS

C. ΔH

D. ΔH , ΔG and ΔS

Answer: D



[Watch Video Solution](#)

6. Consider the following statements:

(I) $\text{La}(\text{OH})_3$ is the least basic among the hydroxides of lanthanoids.

(II) Zr^{4+} and Hf^{4+} possess almost same ionic radii.

(III) Cr^{4+} can act as an oxidising agent .

which of the above statement is/ are true?

A. I and III

B. I only

C. II and III

D. II and III

Answer: C



[Watch Video Solution](#)

7. The solubility of N_2 in water at 300K at 300K and 500 torr partial pressure $0.01 gL^{-1}$. The solubility (in gL^{-1}) at 750 torr partial pressure is :

A. 0.0075

B. 0.005

C. 0.02

D. 0.015

Answer: D



Watch Video Solution

8. For the reaction
 $2A(g) + B(g) \rightleftharpoons C(g) + D(g)$, $K_c = 10^{12}$.if initially 4,2,6,2 moles of A,B,C,D respectively are taken in a 1 litre vessel, then the equilibrium concentration of A is :

A. 4×10^{-4}

B. 2×10^{-4}

C. 10^{-4}

D. 8×10^{-4}

Answer: A



Watch Video Solution

9. Which of the following compound is not formed in haloform reaction ?



Answer: A



Watch Video Solution

10. Which pair of the following chlorides does not impart color to the flame ?

A. $BeCl_2$ and $SrCl_2$

B. $BeCl_2$ and $MgCl_2$

C. $CaCl_2$ and $BaCl_2$

D. $MgCl_2$ and $CaCl_2$

Answer: B



[Watch Video Solution](#)

11. Which of the following complexes is expected to have lowest Δ_0 value ? [consider only magnitude]



Answer: D



Watch Video Solution

12. ClO_2 is an / a

A. anhydride of $HClO_2$

B. anhydride of $HClO_3$

C. mixed anhydride of $HClO_2$ and $HClO_3$

D. mixed anhydride of $HClO_3$ and $HClO_4$

Answer: C



Watch Video Solution

13. What is $[H^+]$ in a solution that is 0.01 M in HCN and 0.02 M in NaCN ?

(K_a for HCN 6.2×10^{-10})

A. 3.1×10^{10}

B. 6.2×10^5

C. 6.2×10^{-10}

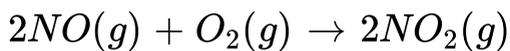
D. 3.1×10^{-10}

Answer: D



Watch Video Solution

14. Consider the reaction:



Calculate the standard Gibbs energy change at 298K and predict whether the reaction is spontaneous or not.

$$\Delta_f G^\ominus(NO) = 86.69 \text{ kJ mol}^{-1}, \Delta_f G^\ominus(NO_2) = 51.84 \text{ kJ mol}^{-1}$$

- A. Yes, spontaneous
- B. No, the reaction is Non-spontaneous
- C. Equilibrium
- D. cannot predict

Answer: A



Watch Video Solution

15. Which of the following represents the incorrect order of properties ?

A. $NaCl < MgCl_2 < AlCl_3 < SiCl_4$ (order of ionic character)

B. $BeCO_3 < MgCO_3 < CaCO_3 < BaCO_3$
(order of thermal stability)

C. $LiH > NaH > KH > RbH > CsH$
(order of thermal stability)

D. $BeSO_4 > MgSO_4 > CaSO_4 > BaSO_4$
(Order of solubility in water)

Answer: A



Watch Video Solution

16. Compound 'A' of molecular formula $C_4H_{10}O$ on treatment with Lucas reagent at room temperature gives compound 'B'. When compound 'B' is heated with alcoholic KOH, it gives isobutene. Compound 'A' and 'B' are respectively :

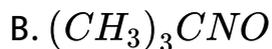
- A. 2-Methyl -2-propanol and 2-Methyl -2-chloropropane
- B. 2-Methyl-1-propanol and 1-Chloro-2-methylpropane
- C. 2-Methyl-1-propanol and 2-Methyl-2-chloropropane
- D. Butan-2-ol and 2-Chlorobutane

Answer: A



Watch Video Solution

17. Which of the following exhibits tautomerism ?



Answer: D



[Watch Video Solution](#)

18. The radius of Na^+ is 95pm and that of Cl^- is 181 pm. The edge length of unit cell in NaCl would be (pm).



B. 138 pm

C. 552 pm

D. 415 pm

Answer: C



Watch Video Solution

19. The wavelength of the spectral line when the electron in the hydrogen atom undergoes a transition from the energy level 4 to energy level 2 is.

A. 185.2 nm

B. 285.2 nm

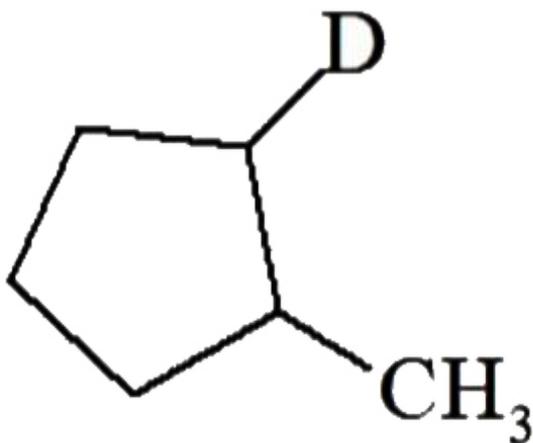
C. 385.2 nm

D. 486.4nm

Answer: D

 [Watch Video Solution](#)

20. Which of the following is used for the conversion of 1-methylcyclopentene to



- A. BD_3 THF followed by CH_3COOH
- B. BH_3 THF followed by CH_3COOD
- C. BH_3 THF followed by CH_3COOH
- D. BD_3 THF followed by CH_3COOD

Answer: B



[Watch Video Solution](#)

21. A carbonyl compound of formula $C_9H_{10}O(A)$, which is a benzene derivative gives orange precipitate with 2,4-D.N.P. and also gives yellow precipitate with I_2 in presence of aqueous NaOH. The total no. of isomers possible for 'A' are



[Watch Video Solution](#)

22. Number and type of bonds between two carbon atoms in CaC_2 are :

 [Watch Video Solution](#)

23. How many optically active stereoisomers are possible for butane-2, 3-diol ?

 [Watch Video Solution](#)

24. For a first order reactions, the half -life is 10 mins. How much time in minutes will it take to reduce the concentration of reactant to 25% of its original concentration ?

 [Watch Video Solution](#)

25. Statement-I: Polar solvent slows down S_N2 reaction.

Because Statement-II: $CH_3 - Br$ is less reactive than CH_3Cl .



Watch Video Solution