



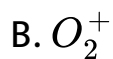
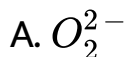
CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA TPC JEE MAIN TEST 45

Chemistry

1. Which of the following species is diamagnetic?



D. *NO*

Answer: A



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2. Which of them is an inner transition element?

A. La

B. Ac

C. Ce

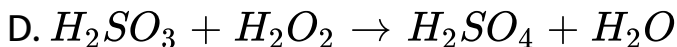
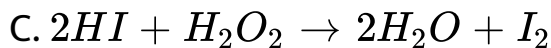
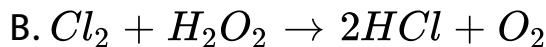
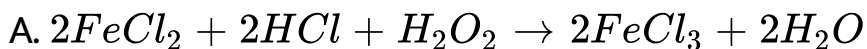
D. Tl

Answer: C



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3. In which of the following reaction does H_2O_2 acts as a reducing agent?



Answer: B



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4. Select the element in the following which does not show oxidation state +4 :-

A. Ti

B. Zr

C. La

D. Pt

Answer: C



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5. Table salt is slightly hygroscopic due to presence of

A. NaCl , MgCl_2 , CaCl_2

B. MgCl_2 , CaSO_4

C. MgCl_2 , CaCl_2

D. MgCl_2 , CaCl_2 , MgSO_4 , CaSO_4

Answer: C



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6. On treating phenol with chloroform in the presence of sodium hydroxide, which intermediate is formed?

A. 

B. 

C. 

D. 

Answer: B

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7. The key step in Cannizaro's reaction is the intermolecular shift to

A. Proton

B. Hydride ion

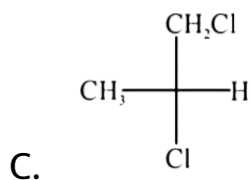
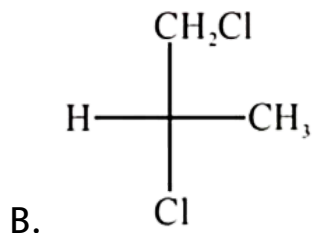
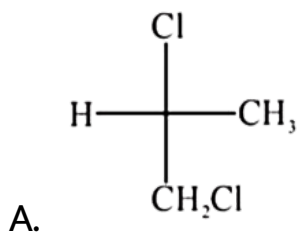
C. Hydronium ion

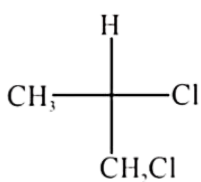
D. Hydrogen bond

Answer: B

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8. Which of the following compound have S configuration:



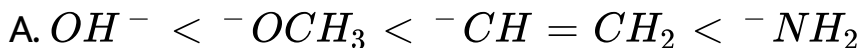


D.

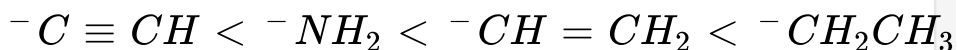
Answer: B

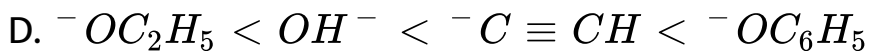
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9. Among the following which arrangement gives the correct increasing order of basicity?



B.





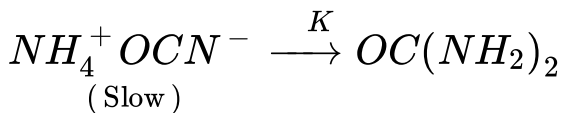
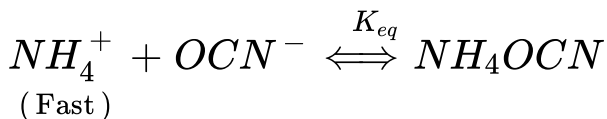
Answer: B

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10. The reaction



following mechanism:



The rate constant of the reaction is

A. K

B. $K \cdot K_{eq}$

C. K / K_{eq}

D. $K_{eq.} / K$

Answer: B

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11. It is desired to obtain 1.12 cc of hydrogen per second under STP condition from the electrolysis of acidulated water. Calculate the amount of current needed to be passed?

A. 1.93A

B. 9.65A

C. 19.3A

D. 0.965A

Answer: B



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12. Total number of H^+ ions present in 10 mL of a solution having pH=10 is

A. 10^{10}

B. 10^{-10}

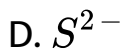
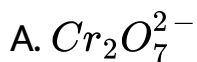
C. 6.02×10^{23}

D. 6.02×10^{11}

Answer: D

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13. Which anion can undergo both oxidation and reduction?



Answer: C

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14. In NaCl crystal, the number of nearest neighbours of each Na^+ ions are

A. $12Na^+$ ion

B. $6Cl^-$ ion

C. $12Cl^-$ ion

D. $24Cl^-$ ion

Answer: B



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15. Which of them is not equal to zero for an ideal solution?

A. ΔV_{mix}

B. $\Delta P = P_{\text{observed}} - P_{\text{Raoult}}$

C. ΔH_{mix}

D. ΔS_{mix}

Answer: D



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16. How many moles of $A_4B_2C_3$ are formed in the following reaction?



Reaction is starting with 1 mole of A, 0.6 mole of B and 0.72 mole of C.

A. 0.25

B. 0.3

C. 0.24

D. 2.32

Answer: C



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17. Which pair of the gaseous species diffuse through a small jet with the same rate of diffusion at same P and T

A. NO,CO

B. NO , CO_2

C. NH_3 , PH_3

D. NO , C_2H_6

Answer: D



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18. Calculate the ratio of total kinetic energy and total energy of the electron in the Bohr's orbit.

A. -1

B. -2

C. + 1

D. + 2

Answer: A



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19. When temperature is increased

A. extent of adsorption increase in physisorption

B. extent of adsorption decreases in physisorption

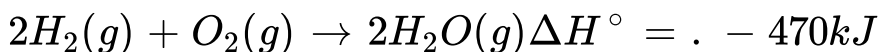
C. no effect on adsorption

D. extent of adsorption first decreases, then increases

Answer: B

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20. Consider the following thermochemical equation



If standard enthalpy of vaporisation of $H_2O(l)$ is 50 kJ/mole, then find calorific value of $H_2(g)$ in standard conditions:

A. 285 kJ/g

B. 235 kJ/g

C. 117.5 kJ/g

D. 142.5 kJ/g

Answer: D

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21. Number of moles of ammonia obtained when one mole of Mg_3N_2 react with water = x mole and number of lone pair present in XeF_4 at central atom = y , find $(x + y) =$

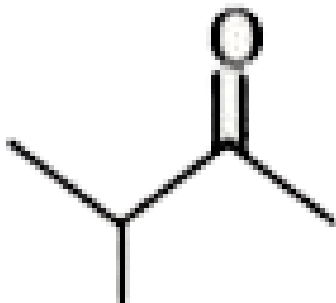
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22. How many of the following elements exclusively occur in combined state? Gold, iron, zinc, aluminium, platinum, sodium, magnesium.

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23. How many double bonds are present in between chlorine and oxygen (Cl=O) in perchloric acid ($HClO_4$)?

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24.

Among the given tests how many will be positive for the above compound?

i. Neutral $FeCl_3$ test

ii. Fehling's test

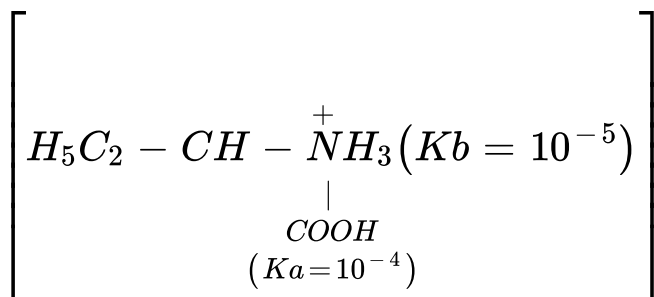
iv. Sodium bicarbonates test

v. Carbylamine test

vi. Iodoform test

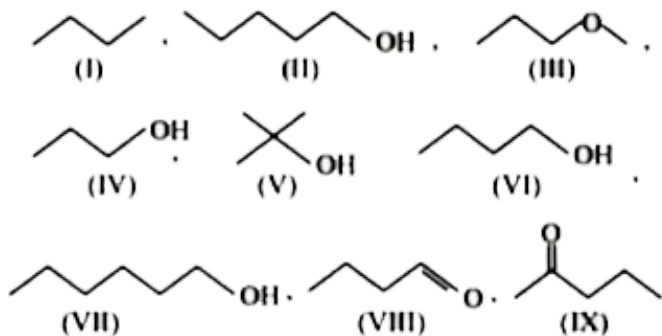
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25. In an amino acid the carboxylic acid group has $K_a = 10^{-4}$ and amino group has $K_b = 10^{-5}$ pH at isoelectric point of that amino acid is



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26. Find how many of the following compounds will have higher boiling point than butan -2-ol?



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27. Organic compound X having formula, $C_5H_{11}Cl$ undergoes Wurtz reaction and forms a product Y which possesses two quaternary C -atoms and two secondary

C-atoms. The number of quaternary C-atoms in X is

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28. The number of acidic oxides in the following is

N_2O_3 , As_2O_3 , Bi_2O_3 , P_4O_6 , Sb_2O_3

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