



CHEMISTRY

BOOKS - AIIMS PREVIOUS YEAR PAPERS

AIIMS 2019 25 MAY MORNING SHIFT

Chemistry

1. Which is incorrect for paper chromatography

- A. it is a part of partition chromatography
- B. It is a stationary phase
- C. R_f value decrease when rate of adsorption increase
- D. None of these

Answer: B



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2. Assertion: Glucose does not give 2,4-DNP test.

Reason: Glucose exists in cyclic hemiacetal form

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. if assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A



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3. Assertion: Phenol reacts with CH_3I in presence of NaOH to form methoxybenzene.

Reason: Phenoxide is better nucleophile than phenol.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. if assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A



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4. Assertion: Bromoacetic acid reacts with conc. NaOH to form α -ethoxy acetic acid.

Reason: It is S_N1 mechanism.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. if assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: D



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5. Assertion: $(C_2H_5)_3N$ is less basic than trimethylamine $(CH_3)_3N$

Reason: Due to hyperconjugation of C_2H_5 is less than methyl.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. if assertion is true but reason is false.

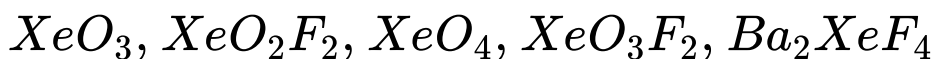
D. If both assertion and reason are false.

Answer: C



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6. Which of the following number of lone pair at central atom zero.



A. 2

B. 3

C. 4

D. zero

Answer: A



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7. Which of the following does not give ppt with CrO_4^{-2}



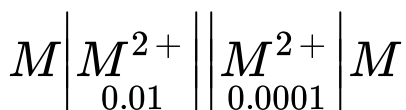
Answer: A



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8. Calculate emf of cell at $25^{\circ}C$

Cell notation.



if value of E_{cell}^0 is 4 volt (given $\frac{RT}{F}$ in $10^{-2}=0.06$)

A. 3.94 volt

B. 4.06 volt

C. 2.03 volt

D. 8.18 volt

Answer: A



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9. Find out time period of 1st order reaction.

When reaction complete $\frac{2}{3}$ rd. if the value of rate constant is 4.3×10^{-4}

A. $0.0025 \times 10^3 \text{ sec}$

B. $0.25 \times 10^3 \text{ sec}$

C. $0.025 \times 10^3 \text{ sec}$

D. $2.5 \times 10^3 \text{ sec}$

Answer: D



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10. The vapour pressure of pure $CHCl_3$ and CH_2Cl_2 are 200 and 41.5 atm respectively. The weight of $CHCl_3$ and CH_2Cl_2 are respectively 11.9 g and 17 gm. The vapour pressure of solution will be

A. 80.5

B. 79.5

C. 94.3

D. 105.5

Answer: C



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11. If $n=2$ for He^+ ion than find out the wave length

A. 3.33 \AA

B. 6.42 \AA

C. 1.47 \AA

D. 2.37 Å

Answer: A



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12. Second group anions reacts with

A. dil H_2SO_4

B. conc. H_2SO_4

C. dil HCl

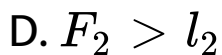
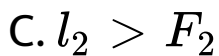
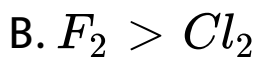
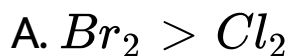
D. CH_3COOH

Answer: B



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13. Correct order of bond dissociation energy



Answer: D



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14. When Ag^+ reacts with excess of sodium-thio sulphate then the obtained species having charges & geometry respectively:

A. -3 :Linear

B. -2 ,tetrahedral

C. $-$,square planer

D. -3 ,square planar

Answer: A



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15. The correct relation is

A. $\Delta G = -RT \ln K/Q$

B. $\Delta G = +RT \ln K$

C. $\Delta G = -RT \ln Q/K$

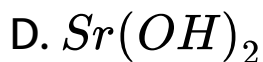
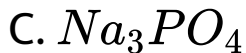
D. $\Delta G = +RT \ln Q$

Answer: A



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16. Which of the following has max. solubility at low pH?



Answer: D



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17. Which of the following is correct order of packing efficiency?

A. $HCP = FCC > BCC > SC$

B. $SC > BCC > HCP = FC$

C. $BCC > SC > HCP < FCC$

D. $FCC = HCP > SC > BCC$

Answer: A



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18. Find empirical formula of the compound if

M=68%

(atomic mass=34) and remaining 32% oxygen.

A. MO

B. M_2O

C. MO_2

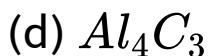
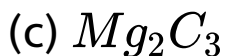
D. M_2O_3

Answer: A



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19. Which of the following is a formula of methanides:



A. only a,d

B. only a,b

C. only c,d

D. only b,d

Answer: A



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20. Which of the following inert gas participate in chemical reaction.

A. Xe

B. He

C. Ne

D. None

Answer: A



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21. The hybridisation and magnetic behaviour of complex $[Ni(CO)_4]$ is:

A. dsp^2 , paramagnetic

B. dsp^2 , diamagnetic

C. sp^3 , paramagnetic

D. sp^3 , diamagnetic

Answer: D



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22. The tetrahedral voids are present in 0.5 mole of hcp crystal structure.

A. 3.6×10^{23}

B. 9×10^{23}

C. 3.6×10^{24}

D. 6.02×10^{23}

Answer: D



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23. Which element can have oxidation state from 4 to 6?

A. Fe

B. Mg

C. Co

D. Cr

Answer: D



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24. Which of the following statement is incorrect about colloidal solution.

A. Lyophobic sols are more stable than lyophilic sols

B. Lyophilic colloids hve a unique property of protecting lyophobic colloids

C. Lyophilic colloids are more soluble than lyophobic colloids.

D. None of these

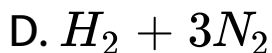
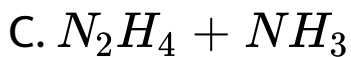
Answer: A



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25. On heating hydrazoic acid form





Answer: D



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26. Assertion: ZnO becomes yellow when it is heated.

Reason: The anionic sites occupied by unpaired electrons (due to F-centres)

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A



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27. Assertion: The graph between P V/s $\frac{1}{V}$ is a straight line.

Reason: For adiabatic process $P \propto \frac{1}{V}$

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. if assertion is true but reason is false.

D. If both assertion and reason are false.

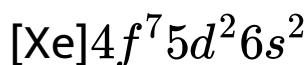
Answer: C



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28. Assertion: Yb^{+2} is more stable in compare to Gd^{+2}

Reason: The electronic configuration of Gd is



A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. if assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: C



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29. Assertion: The chemical properties of different isotope are same.

Reason: Isotopes having same number of neutron.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reson are true but reason is not the correct explanation of

assertion.

C. if assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: C



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30. Which metals upon heating in presence of air followed by hydrolysis gives ammonia.

A. Li, K

B. Rb,Mg

C. Li,Mg

D. Ca,K

Answer: C



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31. At $25^{\circ}C$ 1 mole of butane is heated then

CO_2 and H_2O liquid is formed work done is

A. 75.6 L atm

B. 85.6 L atm

C. 50.3 L atm

D. None of these

Answer: B



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