



CHEMISTRY

BOOKS - AIIMS PREVIOUS YEAR PAPERS

AIIMS 2019 26 MAY EVENING SHIFT

Chemistry

1. Assertion : Phenol is more acidic than m-methoxy phenol

Reason : $-OCH_3$ shows $+I$ effect



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2. Assertion : Glyceraldehyde reacts with Br_2 / H_2O to form achiral compound

Reason : $-CHO$ and $-CH_2OH$ both are oxidized



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3. Assertion : Propene reacts with HI in presence of peroxide give 1-iodopropane.

Reason : 1° free radical is less stable than 2° free radical



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4. Assertion : Anhydrides are more reactive than ester for nucleophilic substitution

Reason : $R.COO^-$ is better leaving group than $R-O^-$





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5. Assertion : m-Bromo toluene can be prepared by m-toluidene

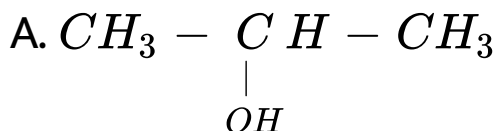
Reason : Amino group is meta directing

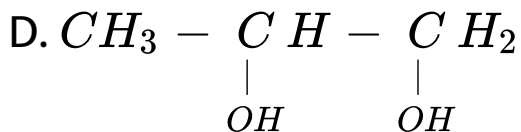
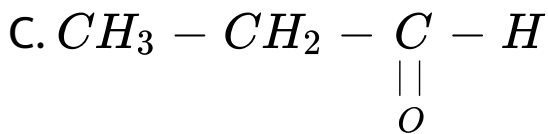
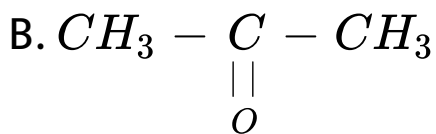


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6. $CH_3C \equiv CH \xrightarrow{2HBr} \xrightarrow{H_2O}$ Product, Product

is :





Answer: B



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7. Which is the chemical test for polysaccharide

A. Iodine solution

B. Ninhydrine test

C. Tollen's test

D. Bannedict solution

Answer: A



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8. Assertion : BO_3^{-3} and SO_3^{-2} are not isostructural

Reason : In SO_3^{2-} sulphur has one lone pair of electron



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9. Assertion : Vapour pressure of solvent increases when solvent B is added.

Reason : B is more volatile therefore vapour pressure of B is greater than of A.



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10. H_2O_2 is obtained by which of the following

A. BaO_2

B. MnO_2

C. SeO_2

D. TeO_2

Answer: A



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11. Graph between P & V below critical temperature is

A. 

B. 

C. 

D. 

Answer: D



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12. At what temperature rate becomes double

than at 300 K ? Given $\ln k = 10 - \frac{69(KJ)}{RT}$

A. 329

B. 307.7

C. 292.03

D. 323.5

Answer: B



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13. Assertion : U is state function

Reason : T is an intensive propertive



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14. Assertion : In a process, if work = 0 then

$$\Delta U = q$$

Reason : q is difference between initial state and final state of a system.



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15. Which alkali metal during flame test will show colour corresponding to maximum wavelength?

A. Li

B. Na

C. K

D. Cs

Answer: A



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16. Which pair of elements has maximum electronegativity difference?

A. Li & F

B. Na & F

C. Na & Br

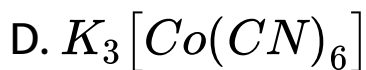
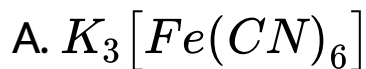
D. Na & Cl

Answer: B



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17. Which of the following complexes has maximum CFSE?

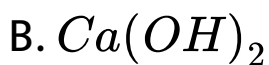


Answer: A



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18. NH_3 reacts with bleaching powder to given :

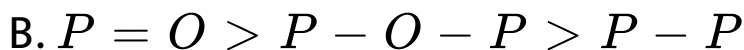
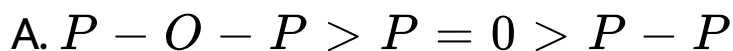


Answer: A



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19. In dimer of phosphorus pentoxide, in what order number of $P - P$, $P = O$ & $P - O - P$ bonds are there ?



Answer: A



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20. For the reaction : $A + 2B \rightarrow C + D$, the expression of rate of reaction will be :

A. $\frac{-1}{1} \frac{d[A]}{dt} = \frac{-1}{2} \frac{d[B]}{dt}$

B. $\frac{1}{1} \frac{d[A]}{dt} = \frac{-1}{2} \frac{d[B]}{dt}$

C. $\frac{-1}{1} \frac{d[A]}{dt} = \frac{1}{2} \frac{d[B]}{dt}$

D. $\frac{1}{1} \frac{d[A]}{dt} = \frac{-1}{2} \frac{d[B]}{dt}$

Answer: A



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21. In a F.C.C arrangement edge length of unit cell is a , which of the following is correct distance between two nearest tetrahedral voids?

A. $\frac{a}{2}$

B. a

C. $\frac{\sqrt{3}a}{2}$

D. $\frac{\sqrt{3}a}{4}$

Answer: A



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22. For the endothermic reaction $A_2 \rightarrow 2A$, which of the following will increase yield of monomer?

- A. Increase in both temperature and concentration of reactant
- B. Increase in temperature and decrease in concentration of reactant.
- C. Decrease in temperature and increase in concentration of reactant.

D. Decrease in both temperature and concentration of reactant.

Answer: A



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23. Difference in ionization energy & ionisation enthalpy is :

A. Zero

B. $\frac{5}{2} RT$

C. $\frac{3}{2} RT$

D. None

Answer: B



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24. In $Fe(CO)_5$ is $Cr(CO)_6$, how many CO ligands can be replaced by NO?

A. 3,3

B. 3,6

C. 6,3

D. 2,4

Answer: D



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25. Which of the following has maximum iron content?

A. Cast Iron

B. Wrought Iron

C. Pig Iron

D. Stainless steel

Answer: B



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26. Calculate Molarity of a 63% W/W HNO_3 solution if density is 5.4 g/mL :

A. 14M

B. 12M

C. 10M

D. 8M

Answer: A



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27. pH of a salt solution of wak acid ($pK_a = 4$)

& weak base ($pK_b = 5$) at $25^\circ C$ is :

A. 6.5

B. 6

C. 7

D. 7.5

Answer: A



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28. Radius of 1^{st} orbit of H & some orbit of Be^{3+} is same . Energy of their orbit of Be^{3+} is :

A. $-54.4eV$

B. $-13.6eV$

C. $-108.8eV$

D. $-27.2eV$

Answer: A



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29. Select the correct statement regarding shapes of PCl_5 , BrF_5 & IF_7 :

A. All are square pyramidal

B. All are trigonal bipyramidal

C. One of the following is square pyramidal

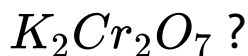
D. one of the following is tetrahedral

Answer: C



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30. Which of the following is incorrect about



A. It can be prepared from K_2CrO_4 .

- B. It is used in redox titrations.
- C. It is stable in both acid & base.
- D. It is orange in colour

Answer: C



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31. The conductivity of a 0.05 M solution of a weak monobasic acid is $10^{-3} 5 \text{ cm}^{-1}$, If λ_m^∞ for weak acid $500 5 \text{ cm}^2 \text{ mol}^{-1}$, calculate K_a of weak monobasic acid :

A. 8×10^{-5}

B. 4×10^{-6}

C. 16×10^{-7}

D. 14×10^{-8}

Answer: A



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