



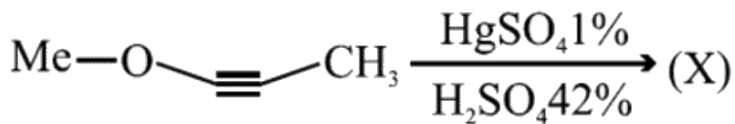
CHEMISTRY

BOOKS - NTA MOCK TESTS

NEET MOCK TEST 20

Chemistry

1. Complete the following reaction



A. X is an ester

B. X is a ketone

C. X is a vicinal diol

D. X is a carboxylic acid.

Answer: A



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2. The pH of $0.5M$ aqueous solution of HF

($K_a = 2 \times 10^{-4}$) is

A. 2

B. 4

C. 6

D. 10

Answer: A



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3. A negatively charged sol can be formed by peptizing a solution of

A. *AgI* with $AgNO_3$

B. *AgI* with KI

C. $Fe(OH)_3$ with $FeCl_3$

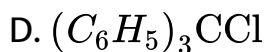
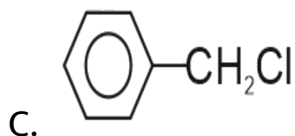
D. Any of these

Answer: B



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4. Which of the following compound is most rapidly hydrolysed by S_N1 mechanism?



Answer: D

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5. The destruction of the biological nature and activity of proteins by heat or chemical agent is called :

- A. Dehydration
- B. Denaturation
- C. Denitrogenation
- D. Deamination

Answer: B



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6. Which of the following cations is detected by the flame test?

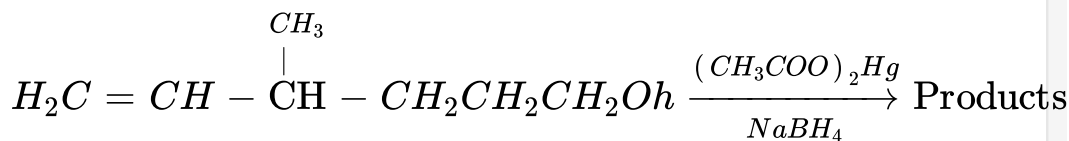
- A. K^+
- B. Ba^{2+}
- C. Sr^{2+}

D. Mg^{2+}

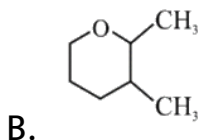
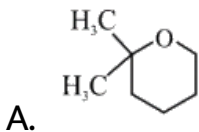
Answer: D

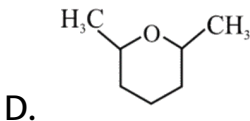
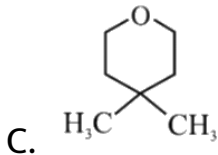
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7. In the oxymercuration - demercuration of the following compound



The major product is expected to be





Answer: B

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8. There is no $d - d$ transition in Cu^+ but Cu_2O is coloured due to

A. The presence of unpaired electron

B. The presence of coloured O^{2-} ion

C. Charge transfer from oxygen to metal

D. Charge transfer from metal to oxygen

Answer: C



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9. The degree of hydrolysis of which of the following salt is independent of the concentration of salt solution?



Answer: B



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10. $CH_3CH = CHCHO$ is oxidised to $CH_3 - CH = CHCOOH$, using oxidising agent as :

- A. Alkaline $KMnO_4$
- B. Selenium dioxide
- C. Osmium tetroxide
- D. Ammonical $AgNO_3$

Answer: D



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11. Likely bond angles of SF_4 molecule are :

A. 120° , 180°

B. 45° , 118°

C. 117° , 92°

D. 89° , 117°

Answer: D

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12. K_2CO_3 cannot be prepared by solvay process because

A. K_2CO_3 is more soluble

B. K_2CO_3 is less soluble

C. $KHCO_3$ is more soluble than $NaHCO_3$

D. $KHCO_3$ is less soluble than $NaHCO_3$

Answer: C



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13. Metal $M + \text{air} \xrightarrow{\delta} A \xrightarrow{H_2O} B \xrightarrow{HCl}$ White fumes, Metal

M can be:

A. Li, Mg or Al

B. Li, Al or K

C. Na, K or Mg

D. Li, Na or K

Answer: A



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14. Equal weight of CH_4 and H_2 are mixed in an empty container at $25^\circ C$. The fraction of the total pressure exerted by H_2 is

A. $1/2$

B. $8/9$

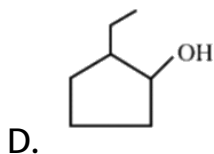
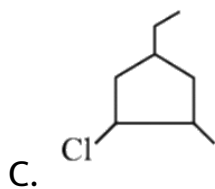
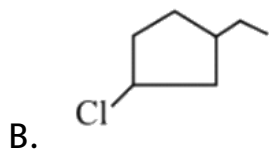
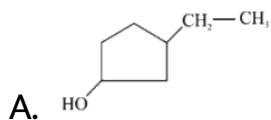
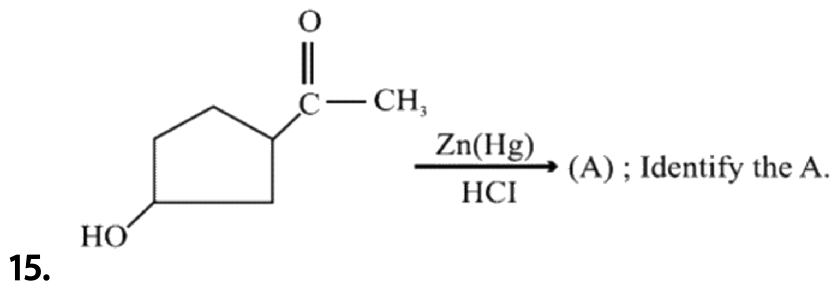
C. $1/9$

D. $16/17$

Answer: B



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Answer: B



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16. The correct statement is

A. Glucose and mannose are C - 3 epimers

B. Glucose and Galactose are C - 4 epimers

C. Glucose and fructose are anomers

D. $\alpha - D -$ glucose and $\beta - D -$ glucose are enantiomers

Answer: B



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17. The bond dissociation energies for Cl_2 , I_2 and ICl are 242.3, 151.0 and 211.3kJ/mole respectively. The enthalpy of sublimation of iodine is 62.8kJ/mole . What is the standard enthalpy of formation of $ICl(g)$ nearly equal to

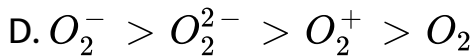
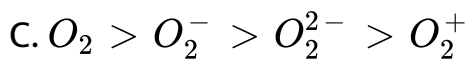
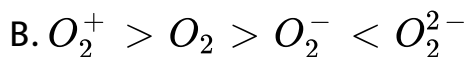
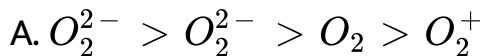
- A. -211.3 kJ/mol
- B. -14.6kJ/mol
- C. -16.8kJ/mol
- D. 33.5 kJ/mol

Answer: C



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18. The bond length the species O_2 , O_2^+ and O_2^- are in the order of

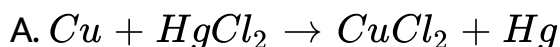


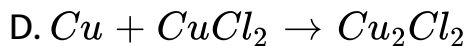
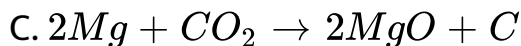
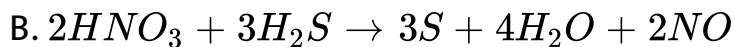
Answer: A



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19. Which reaction gives colloidal solution





Answer: B

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20. How much will the reduction potential of a hydrogen electrode change when its solution initially at $pH = 0$ is neutralized to $pH = 7$?

A. Increase by 0.059 V

B. Decrease by 0.059 V

C. Increase by 0.41 V

D. Decrease by 0.41 V

Answer: D



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21. Formic acid and formaldehyde can not be distinguished by treating with

A. Benedict's solution

B. Tollen's reagent

C. Fehling's solution

D. NaHCO_3

Answer: D



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22. 5 mol of an ideal gas at 27°C expands isothermally and reversibly from a volume of 6L to 60L . The work done in kJ is

- A. -14.7 KJ
- B. -28.72 KJ
- C. 27.72 KJ
- D. -56.72 KJ

Answer: B



23. Which of the following will not undergo aldol condensation-

- A. Acetaldehyde
- B. Propanaldehyde
- C. Benzaldehyde
- D. Trideuteroacetaldehyde

Answer: C

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24. 90 g non - volatile, non - dissociative solution is added to 1746 g water to form a dilute, ideal solution. The vapour

pressure of water has decreased from 300 mm of Hg to 291 mm of Hg. The molecular weight of solute is.

A. 90

B. 60

C. 30

D. 15

Answer: C

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25. An aqueous solution containing $1M$ each of Au^{3+} , Cu^{2+} , Ag^+ , Li^+ is being electrolysed by using inert electrodes. The value of standard potentials are :

$E_{Ag^+ / Ag}^\circ = 0.80V$, $E_{Cu^{2+} / Cu}^\circ = 0.34V$ and

$$E_{Au^{+3}/Au}^{\circ} = 1.50, E_{Li^{+}/Li}^{\circ} = - 3.03V$$

will increasing voltage, the sequence of deposition of metals on the cathode will be :

A. *Li, Cu, Ag, Au*

B. *Cu, Ag, Au*

C. *Au, Ag, Cu*

D. *Au, Ag, Cu, Li*

Answer: C



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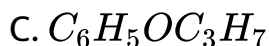
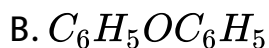
26. By which process Pb and Sn are extracted respectively are:

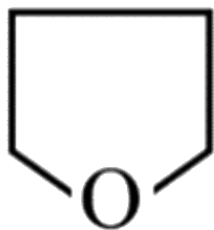
- A. Carbon reduction - self reduction
- B. Self reduction - carbon reduction
- C. Electrolytic reduction - cyanide process
- D. Cyanide process - electrolytic reduction

Answer: B

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27. Which of the following is not cleaved by HI even at 525K ?





D.

Answer: B

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28. The Brownian motion is due to :

A. Temperature fluctuation within the liquid phase

B. Attraction and repulsion between charges on the colloidal particles

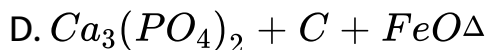
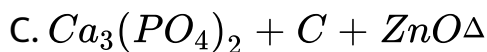
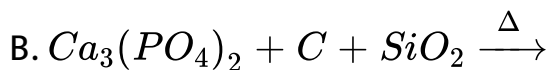
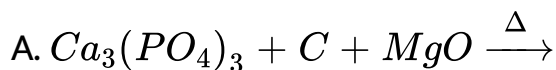
C. Impact of the molecules of the dispersion medium on the colloidal particles

D. Convictional currents

Answer: C

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29. $Ca_3(PO_4)_2$ is :



Answer: B



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30. The number of possible enantiomeric pairs that can be produced during monochlorination of 2-methyl butane is :

A. 2

B. 3

C. 4

D. 1

Answer: A



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31. At 25°C the enthalpy change, for the ionization of trichloroacetic acid is $+6.3\text{ kJ mol}^{-1}$ and the entropy change, is $+0.0084\text{ kJ mol}^{-1}\text{K}^{-1}$. Then pKa of trichloroacetic acid is

- A. 1.74
- B. 2.52
- C. 0.66
- D. 4.72

Answer: C



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32. In a half reaction, nitrate is reduced by $6e^-$ reduction to x as follows

$7H^+ + NO_3^- + 6e^- \rightarrow 2H_2O + x$. The 'x' in the reaction is

A. NO

B. NH_2NH_2

C. NH_3

D. NH_2OH

Answer: D



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33. Number of identical Cr-O bonds in dichromate ion $Cr_2O_7^{2-}$ is :

- A. 4Cr – O bonds are equivalent
- B. 6Cr – O bonds are equivalent
- C. All Cr – O bonds are equivalent
- D. None of Cr – O bonds are equivalent

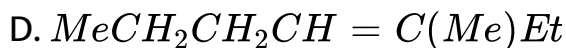
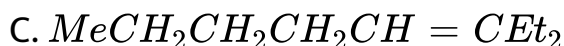
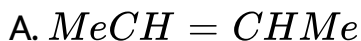
Answer: B



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34. An alkene (A) ozonolysis gives a mixture of two carbonyl compounds. Mixture on Clemmensen reduction gives just

one alkane (B). (B) is the lowest alkane which in pure form can not be prepared by standard Wurtz method. (A) is



Answer: B

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35. Which statement is NOT correct ? (According to Valence bond theory)

A. A sigma(σ) bond is weaker than a π - bond

- B. A sigma bond is stronger than a π – bond
- C. A double bond is stronger than a single bond
- D. A double bond is shorter than a single bond

Answer: A

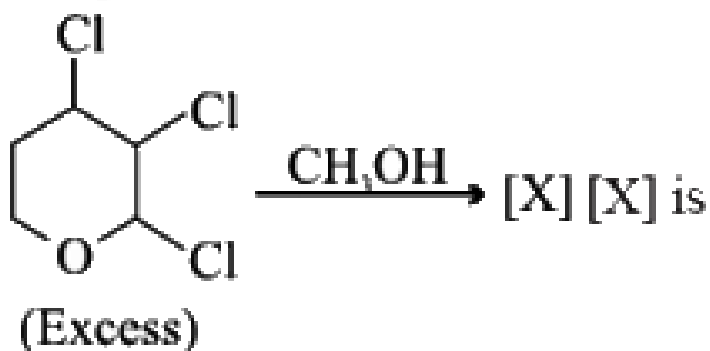
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36. When H_2O_2 is added to a acidified solution of $K_2Cr_2O_7$:

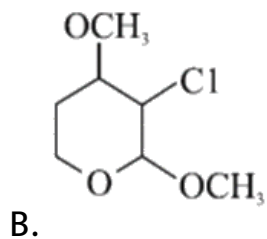
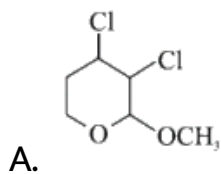
- A. solution turns green due to formation of Cr_2O_3
- B. solution turns yellow due to formation of K_2CrO_4
- C. a deep blue - violet coloured compound $CrO(O_2)_2$ is formed
- D. solution gives the green precipitate of $Cr(OH)_3$

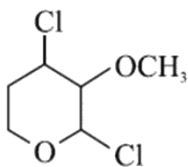
Answer: C

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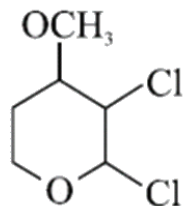


37.





C.



D.

Answer: A

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38. A cation is in the centre touches three anions. Assume that the anions also touch each other. The limiting radius ratio, r^+ / r^- is

A. 0.1547

B. 0.4141

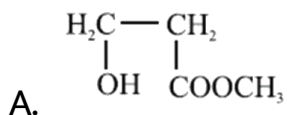
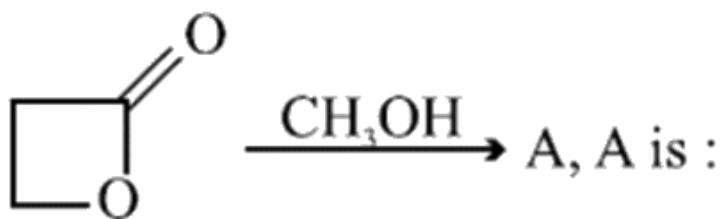
C. 0.7322

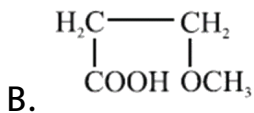
D. 0.2252

Answer: A

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39. Complete the following reaction





C. Both are correct

D. None of these

Answer: A

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40. The rate constant of a reaction is

$1.5 \times 10^{-4} \text{ s}^{-1}$ at 27°C and

$3 \times 10^{-4} \text{ s}^{-1}$ at 127°C . The E_a is

A. $1.663 \times 10^3 \text{ Cal}$

B. $3.326 \times 10^3 \text{ cal}$

C. 8.314×10^3 cal

D. 2.255×10^3 cal

Answer: A

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41. In a redox reaction, H_2O_2 oxidizes $K_4[Fe(CN)_6]$ into Fe^{3+} , CO_3^{2-} and NO_3^- ions in acidic medium, then how many moles of H_2O_2 will react with 1 mole of $K_4[Fe(CN)_6]$

A. 5 moles

B. 9 moles

C. 8 moles

D. 30.5 moles

Answer: D



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42. Unknown salt '*A*' + $K_2Cr_2O_7$ + conc. $H_2SO_4 \rightarrow$

Reddish brown fumes. Which is the correct statement regarding the above observation?

A. It confirms the presence of Cl^- ions

B. It confirms the presence of Br^- ions

C. It confirms the presence of both ions

D. It neither confirms the presence of Cl^- , nor Br^- ions

unless it is passed through $NaOH$ solution

Answer: D



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43. A certain buffer solution contains equal concentration of X^{\ominus} and HX . The K_b for X^{\ominus} is 10^{-10} . The pH of the buffer is

- A. 4
- B. 7
- C. 10
- D. 4

Answer: A



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44. Which of the following drugs is a tranquilizer and sedative

A. Sulphadiazine

B. Papaverine

C. Equanil

D. Mescaline

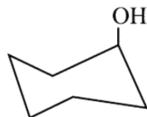
Answer: C



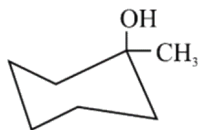
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45. Which of the following react with HBr at faster rate ?

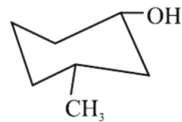
A.



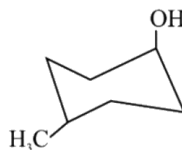
B.



C.



D.



Answer: B



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