CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET SET 46

Chemistry

1. Which of the following reacting substances will not liberate ethyne gas ?

A. CH_3Cl and Ag

B. CaC_2 and H_2O

C. CHI_3 and Ag

D. All are equally reactive

Answer: A

Watch Video Solution

2. Does phenol react with $NaHCO_3$ solution ?

A. Phenol is a weaker acid than carbonic acid

B. Phenol is stronger acid than carbonic acid

C. Phenol is as strong as carbonic acid

D. Phenol is insoluble in water.

Answer: A

Watch Video Solution

3. Which of the following is a cyclic oxoacid

A. $H_4P_2O_2$

B. $H_2P_2O_6$

C. $H_2P_2O_{15}$

D. $H_3P_3O_9$

Answer: D

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4. Which of the following is the correct order of radius ?

A. $H^- > H > H^+$

B. $Na^+ > F^- > O^{2-}$

C. $F^- > O^{2-} > Na^+$

D. $Al^{3+} > Mg^{2+} > N^{3-}$

Answer: A

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5. The hybrid state of central oxygen atom in diethyl ether is :

A. sp

B. sp^2

C. sp^3

D. sp^3d

Answer: C

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6. Which of the following statements is CORRECT about carboxyl group ?

A. The carbonyl carbon is sp - hybridised

B. The carbonyl carbon is sp^3 - hybridised

C. The three groups attached to the carbonyl carbon lie in the same plane

D. The three groups attached to the carbonyl carbon lie in different planes

Answer: C

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7. Nylon-6,6 is a

A. Condensation polymer

B. Polyamide

C. Both (Condensation polymer) and (Polyamide)

D. None of the above

Answer: D

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8. Ethylene reacts with Baeyer's reagent to given

A. Ethane

B. Ethyl alcohol

C. Ethylene glycol

D. None of these

Answer: C

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9. Stadard reduction electrode potentials of three metals A,B and C are respectively $+0.5V$, $-3.0V$ and $-1.2V$. The reducing powers of these metals are:

A. $A > B > C$

B. $C > B > A$

C. $A > C > B$

D. $B > C > A$

Answer: D

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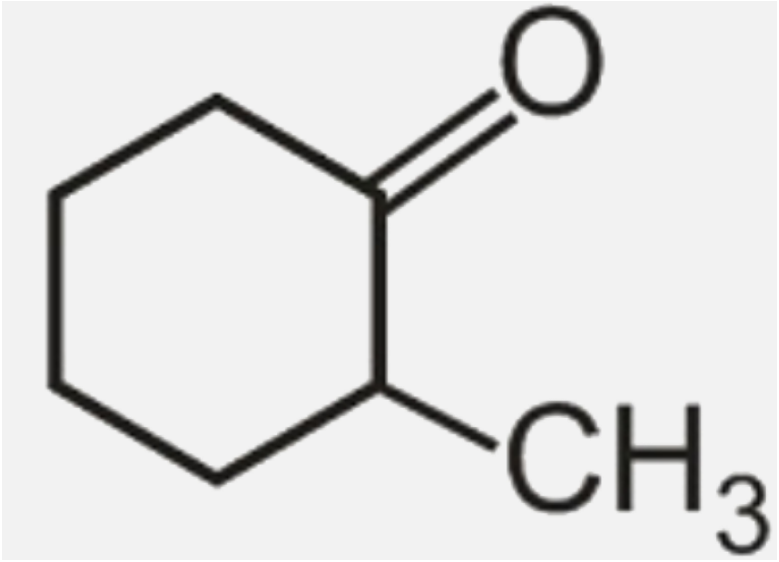
10. IUPAC name for the compound is



A. 2 - methylcyclohexanone

B. 2 - methylcylochexanone

C. Heptanone - 2

D. Methylcyclohexnone

Answer: A

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11. $._{11}^{23}Na$ and $_{12}^{24}Mg$ are

A. Isotopes

B. Isobars

C. Isodiaphers

D. Isotones

Answer: D

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12. Which of the following on reduction with lithium aluminium hydride yields a secondary amine ?

A. Methyl isocyanide

B. Acetanmide

C. Methyl cyanide

D. Nitroethane

Answer: A

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13. 2 mol of an ideal gas at $27^\circ C$ temperature is expanded reversibly from $2L$ to $20L$. Find entropy change $\left(R = 2calmol^{-1}K^{-1}\right)$

A. 92.1

B. 0

C. 4

D. 9.2

Answer: D

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14. Which statement is true for cyclohexane ?

A. It has two possible isomers

B. It has three conformations

C. Boat conformation is most stable

D. Chair and boat conformations differ in energy by 44 kJ / mol

Answer: D

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15. In which of the following pairs A is more stable than B?

A. 

B. 

C. 

D. 

Answer: D

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16. The oxidation state of Fe in $Fe(CO)_5$ is

A. Zero

B. 5

C. $+5$

D. $+3$

Answer: A

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17. Which of the following is called marsh gas?

A. C_2H_4

B. C_2H_6

C. C_2H_2

D. CH_4

Answer: D

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18. Which of the following has highest value of K_{sp} ?

A. $Be(OH)_2$

B. $Mg(OH)_2$

C. $Ca(OH)_2$

D. $Ba(OH)_2$

Answer: D

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19. Minamata disease is due to pollution of

A. Organic waste into drinking water

B. Oil spill in water

C. fishing water by Industrial waste

D. Aresenic into the atmosphere

Answer: C

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20. Equivalent weight of crystalline oxalic acid is

A. 90

B. 53

C. 63

D. 45

Answer: C

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21. The reaction , $M^{2+}(aq) + M(s) \Leftrightarrow 2M^{+}(aq)$ is an example of :

A. Reduction

B. Oxidation

C. Comproportionation

D. Disproportionation

Answer: C

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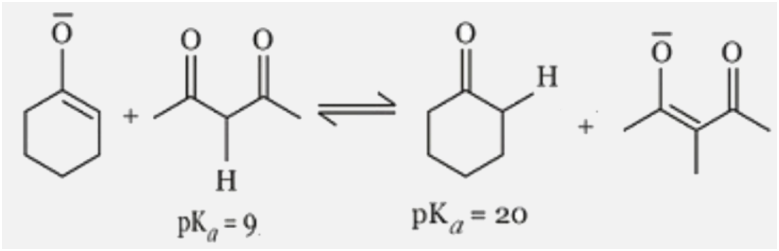
22. The equilibrium constant for the following reaction is



A. 10^{11}

B. 10^{-11}

C. 10^{29}

D. 10^{-29}

Answer: A

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23. Which of the following is paramagnetic

A. O_2

B. CN^-

C. CO

D. NO^+

Answer: A

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24. Which of the following is not an organometallic compound ?

A. Zeise's salt

B. TEL

C. Sodium ethoxide

D. Ferrocene

Answer: C

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25. Choose the correct answer. A thermodynamic state function is a quantity

A. used to determine heat changes .

B. whose value is independent of path.

C. used to determine pressure - volume work.

D. whose value depends on temperature only .

Answer: B

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26. An open flask containing air is heated from $300K$ to $500K$. What percentage of air will be escaped to the atmosphere, if the pressure is kept constant ?

A. $40\ \%$

B. $30\ \%$

C. $80\ \%$

D. $66\ \%$

Answer: D

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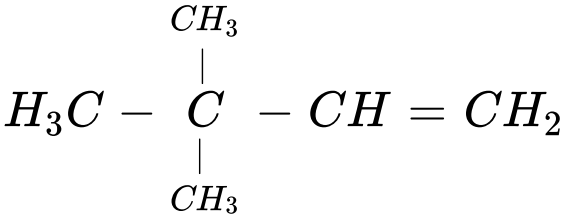
27. The IUPAC name of the compound having the formula is



A. 3,3,3 - Trimethyl -1-propene

B. 1,1,1 - Trimethyl -2-propene

C. 3,3 - Dimethyl -1-butene

D. 2,2-Dimethyl -3-butene

Answer: C

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28. A solution of metal hydroxide (MOH) with copper sulphate and mixed tartarate of metal M with another metal M_1 of the same group is used in the detection of $-CHO$ group. Metal M and M_1 are respectively

A. Na , K

B. K,Rb

C. Na , Li

D. Rb, Na

Answer: A

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29. A quantity of PCI_5 was heated in a 2 litre vessel at 525 K . It dissociates as $PCI_5(g) \Leftrightarrow PCI_3(g) + CI_2(g)$ At equilibrium 0.2 mol each of PCI_5, PCl_3 and Cl_2 is found in the reaction

mixture. The equilibrium constant K_c for the reaction is -

A. 0.2

B. 0.5

C. 0.1

D. 0.05

Answer: C

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30. When aqueous NaOH is added to an aqueous solution of chromium (III) ions, a green blue precipitate is first formed which re - dissolves to give a green solution. The green colour is due to

A. $\left[Cr(H_2O)_6\right]^{3+}$

B. $\left[Cr(OH)_4\right]^{-}$

C. CrO_4^{2-}

D. $\left[Cr(OH)_3(H_2O)_3\right]$

Answer: B

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31. Which product is formed when the following compound is treated with B.. in the presence of $FeBr_3$?

A. 

B. 

C. 

D. 

Answer: C

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32. The interatomic distance in H_2 and CI_2 molecules are 74 an d198 pm respectively. The bond length of HCI is

A. 124 pm

B. 248 pm

C. 272 pm

D. 136 pm

Answer: D

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33. Which of the following is not a broad spectrum antibiotic?

A. Tetracycline

B. Chloromycetin

C. Penicillin

D. None of these

Answer: C

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34. Van Arkel method of purification of metals involves converting the metal to

A. Volatile stable compound

B. Volatile unstable compound

C. Nonvolatile stable compound

D. None of the above

Answer: A

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35. The complex showing a spin - only magnetic moment

A. $\left[Ni(CO)_4\right]$

B. $\left[NiCl_4\right]^{2-}$

C. $\left[Ni(PPh_3)_4\right]$

D. $\left[Ni(CN)_4\right]^{2-}$

Answer: B

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36. The chemical formula of feldspar is

A. $KAlSi_3O_8$

B. Na_3AlF_6

C. $NaAlO_2$

D. $K_2SO_4.\ Al_2(SO_4)_3.4Al(OH)_3$

Answer: A

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37. Determine the relationship between the two compounds :

A. Functional Group isomers

B. Metamers

C. tautomers

D. Position isomers

Answer: B

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38. 1.00 g of a non-electrolyte solute dissolved in 50g of benzene lowered the freezing point of benzene by 0.40 K. The freezing point depression constant of benzene is 5.12 K kg mol^{-1}. Find the molar mass of the solute.

A. 256 kg/mol

B. 256 g mol

C. 256 g / mol

D. 256 mg /mol

Answer: C

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39. Molish's test is answered by

A. All carbohydratres

B. Sucrose only

C. Fructose only

D. Glucose only

Answer: A

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40. When phenol reacts with phthalic anhydride in presence of H_2SO_4 and heated and hot reaction mixture is poured in $NaOH$ solution. The product formed is

A. Phenol red

B. Methyl orange

C. Salicylic acid

D. Phenolphthalein

Answer: D

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41. The energy of activation for ab uncatalysed reaction is $100KJmol^{-1}$ presence of a catalyst lowers the energy of activation by 75% . The $\log_{10}.\frac{K_2}{K_1}$ of the ratio of rate constant of catalysed and uncatalysed reactions at $27^\circ C$ is ?

Assume the frequency factor is same for both reactions. (Given $2.303 \times 8.314 = 19.147$)

A. 13.05

B. 26.10

C. 6.52

D. None of these

Answer: A

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42. The oxidation states of P in the following compounds

$H_3PO_3, PCl_3, Ca_3P_2, Na_3PO_4, POF_3$

respectively by

A. $+3, +3, -3, +5, +5$

B. $+5, +5, -3, +3, +3$

C. $+4, +3, -3, +4, +5$

D. $+3, +3, -2, +4, +5$

Answer: A

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43. The density of solid argon is $1.65 g/mL$ at $-233^{\circ} C$. If the argon atom is assumed to be sphere of radius $1.54 \times 10^{-8} cm$, what percentage of solid argon is apparentaly empty space ? $(At. Wt. of Ar = 40)$

A. $62\ \%$

B. $72\ \%$

C. $52\ \%$

D. $42\ \%$

Answer: A

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44. The atomic masses of Li and K are 7 and 39, respectively . According to law of triads the atomic mass of Na will be

A. 23

B. 32

C. 46

D. 64

Answer: A

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45. Which one is most reactive towards nucleophilic addition reaction?

A. 

B. 

C. 

D. 

Answer: D

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46. Which of the following reaction does not produce ethyne ?

A. CH_3Cl and Ag

B. CaC_2 and H_2O

C. CHI_3 and Ag

D. All are equally reactive

Answer: A

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47. Does phenol react with $NaHCO_3$ solution ?

A. Phenol is a weaker acid than carbonic acid

B. Phenol is stronger acid than carbonic acid

C. Phenol is as strong as carbonic acid

D. Phenol is insoluble in water.

Answer: A

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48. Which of the following is a cyclic oxoacid

A. $H_4P_2O_2$

B. $H_2P_2O_6$

C. $H_2P_2O_{15}$

D. $H_3P_3O_9$

Answer: D

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49. Which of the following is the correct order of radius ?

A. $H^- > H > H^+$

B. $Na^+ > F^- > O^{2-}$

C. $F^- > O^{2-} > Na^+$

D. $Al^{3+} > Mg^{2+} > N^{3-}$

Answer: A

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50. Hybridisation of oxygen in diethyl ether is

A. sp

B. sp^2

C. sp^3

D. sp^3d

Answer: C

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51. Which of the following statements is CORRECT about carboxyl group ?

A. The carbonyl carbon is sp - hybridised

B. The carbonyl carbon is sp^3 - hybridised

C. The three groups attached to the carbonyl carbon lie in the same plane

D. The three groups attached to the carbonyl carbon lie in different planes

Answer: C

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52. Nylon-6,6 is a

A. Condensation polymer

B. Polyamide

C. Both (Condensation polymer) and (Polyamide)

D. None of the above

Answer: D

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53. Ethylene reacts with Baeyer's reagent to given

A. Ethane

B. Ethyl alcohol

C. Ethylene glycol

D. None of these

Answer: C

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54. Stadard reduction electrode potentials of three metals A,B and C are respectively $+0.5V$, $-3.0V$ and $-1.2V$. The reducing powers of these metals are:

A. $A > B > C$

B. $C > B > A$

C. $A > C > B$

D. $B > C > A$

Answer: D

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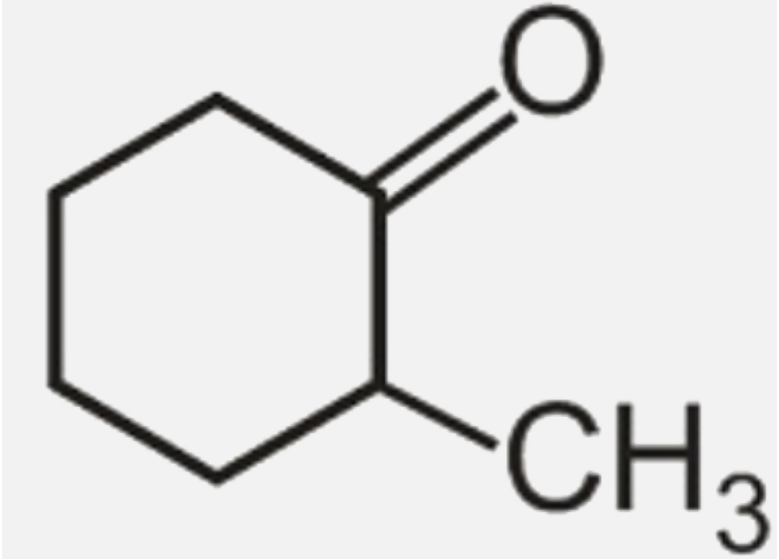
55. IUPAC name for the compound is



A. 2 - methylcyclohexanone

B. 2 - methylcylochexanone

C. Heptanone - 2

D. Methylcyclohexnone

Answer: A

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56. ${}^{23}_{11}Na$ and ${}^{24}_{12}Mg$ are

A. Isotopes

B. Isobars

C. Isodiaphers

D. Isotones

Answer: D

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57. Which of the following on reduction with lithium aluminium hydride yields a secondary amine ?

A. Methyl isocyanide

B. Acetanmide

C. Methyl cyanide

D. Nitroethane

Answer: A

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58. 2 mol of an ideal gas at $27^\circ C$ temperature is expanded reversibly from $2L$ to $20L$. Find entropy change $\left(R = 2calmol^{-1}K^{-1}\right)$

A. 92.1

B. 0

C. 4

D. 9.2

Answer: D

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59. Which statement is true for cyclohexane ?

A. It has two possible isomers

B. It has three conformations

C. Boat conformation is most stable

D. Chair and boat conformations differ in energy by 44 kJ / mol

Answer: D

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60. In which of the following pairs A is more stable than B?

A. 

B. 

C. 

D. 

Answer: D

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61. The oxidation state of Fe in $Fe(CO)_5$ is

A. Zero

B. 5

C. $+5$

D. $+3$

Answer: A

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62. Which of the following is called marsh gas?

A. C_2H_4

B. C_2H_6

C. C_2H_2

D. CH_4

Answer: D

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63. Which of the following has highest value of K_{sp} ?

A. $Be(OH)_2$

B. $Mg(OH)_2$

C. $Ca(OH)_2$

D. $Ba(OH)_2$

Answer: D

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64. Minamata disease is due to pollution of

A. Organic waste into drinking water

B. Oil spill in water

C. fishing water by Industrial waste

D. Aresenic into the atmosphere

Answer: C

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65. Equivalent weight of crystalline oxalic acid is

A. 90

B. 53

C. 63

D. 45

Answer: C

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66. The reaction , $M^{2+}(aq) + M(s) \Leftrightarrow 2M^{+}(aq)$ is an example of :

A. Reduction

B. Oxidation

C. Comproportionation

D. Disproportionation

Answer: C

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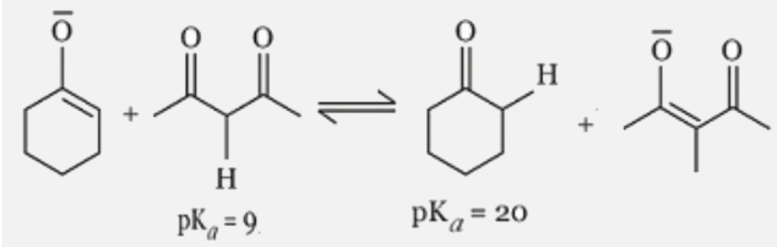
67. The equilibrium constant for the following reaction is



A. 10^{11}

B. 10^{-11}

C. 10^{29}

D. 10^{-29}

Answer: A

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68. Which of the following is paramagnetic ?

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B. CN^-

C. CO

D. NO^+

Answer: A

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69. Which of the following is not an organometallic compounds ?

A. Zeise's salt

B. TEL

C. Sodium ethoxide

D. Ferrocene

Answer: C

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70. Choose the correct answer. A thermodynamic state function is a quantity

A. used to determine heat changes .

B. whose value is independent of path.

C. used to determine pressure - volume work.

D. whose value depends on temperature only .

Answer: B

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71. An open flask containing air is heated from $300K$ to $500K$. What percentage of air will be escaped to the atmosphere, if the pressure is kept constant ?

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C. $80\ \%$

D. $66\ \%$

Answer: D

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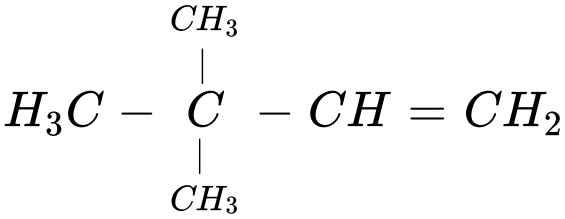

A. 3,3,3 - Trimethyl -1-propene

B. 1,1,1 - Trimethyl -2-propene

C. 3,3 - Dimethyl -1-butene

D. 2,2-Dimethyl -3-butene

Answer: C

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73. A solution of metal hydroxide (MOH) with copper sulphate and mixed tartarate of metal M with another metal M_1 of the same group is used in the detection of $-CHO$ group. Metal M and M_1 are respectively

A. Na , K

B. K,Rb

C. Na , Li

D. Rb, Na

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Answer: B

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B. 

C. 

D. 

Answer: C

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77. The interatomic distance in H_2 and CI_2 molecules are 74 an d198 pm respectively. The bond length of HCI is

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B. Chloromycetin

C. Penicillin

D. None of these

Answer: C

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79. Van Arkel method of purification of metals involves converting the metal to

A. Volatile stable compound

B. Volatile unstable compound

C. Nonvolatile stable compound

D. None of the above

Answer: A

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80. The complex showing a spin -magnetic momnet of $2.82BM$ is .

A. $\left[Ni(CO)_4\right]$

B. $\left[NiCl_4\right]^{2-}$

C. $\left[Ni(PPh_3)_4\right]$

D. $\left[Ni(CN)_4\right]^{2-}$

Answer: B

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81. The chemical formula of feldspar is

A. $KAlSi_3O_8$

B. Na_3AlF_6

C. $NaAlO_2$

D. $K_2SO_4.\ Al_2(SO_4)_3.4Al(OH)_3$

Answer: A

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82. Determine the relationship between the two compounds :

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83. 1.00 g of a non-electrolyte solute dissolved in 50g of benzene lowered the freezing point of benzene by 0.40 K. The freezing point depression constant of benzene is 5.12 K kg mol^{-1}. Find the molar mass of the solute.

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Watch Video Solution

84. Molish test is given by :

A. All carbohydratres

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C. Fructose only

D. Glucose only

Answer: A

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C. Salicylic acid

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D. None of these

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87. The oxidation states of P in the following compounds

$H_3PO_3, PCl_3, Ca_3P_2, Na_3PO_4, POF_3$

respectively by

A. $+3,\ +3,\ -3,\ +5,\ +5$

B. $+5,\ +5,\ -3,\ +3,\ +3$

C. $+4,\ +3,\ -3,\ +4,\ +5$

D. $+3,\ +3,\ -2,\ +4,\ +5$

Answer: A

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88. The density of solid argon is $1.65 g/mL$ at $-233^{\circ} C$. If the argon atom is assumed to be sphere of radius $1.54 \times 10^{-8} cm$, what percentage of solid argon is apparentaly empty space ? $(At. Wt. of Ar = 40)$

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B. 32

C. 46

D. 64

Answer: A

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90. Which one is most reactive towards nucleophilic addition reaction?

A. 

B. 

C. 

D. 

Answer: D

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