CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET SET 63

Chemistry

1. Food preservatives prevent spoilage of food due to microbial growth. The commonly used preservatives are :

A. Table salt and sugar

B. Vegetable oils and sodium benzoate (C_6H_5COONa)

C. Salts of sorbic acid and propionic acid.

D. All of these

Answer: D

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2. Number of protons, neutrons and electrons in the element ${}_{89}^{231}Y$ is.

A. 89,89,242

B. 89,71,89

C. 89,142,89

D. 89,231,89

Answer: C

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3. Calculate the mass of $BaCO_3$ produced when excess CO_2 is bubbled through a solution containing 0.205 moles of $Ba(OH)_2$.

A. 40.5g

B. 48.5g

C. 4.5g

D. 60.5g

Answer: A

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4. Calculate the octane number of gasoline fuel, which contains 25% n - heptane and 75% is iso - octane.

A. 25

B. 50

C. 75

D. 100

Answer: C

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5. Which of the given compound have a permanent dipole moment ?

A. X_eF_4

B. SiF_4

C. BF_3

D. SF_4

Answer: D

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6. What is the product when acetylene reacts with HCN

A. CH_3COCl

B. $ClCHCOOH$

C. Cl_2CHCHO

D. $ClCH_2CHO$

Answer: C

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7. Which element in the given below does not show variable valency ?

A. Zn

B. Cu

C. Ni

D. Mn

Answer: A

8. Which of the following pairs is an example of a positive deviation from Raoult's law ?

A. Water - hydrchloric acid

B. Water - nitric acid

C. Benzene - methanol

D. Acetone - chloroform

Answer: C

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9. In Brikeland-Eyde process, the raw material used is

A. Air

B. NH_3

C. NO_2

D. HNO_3

Answer: A

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10. The order of increasing reactivity of the following compounds towards HCl will be

(1) $CH_2 = CH_2$

(2) $(CH_3)_2C = CH_2$

(3) $CH_3CH = CHCH_3$

A. $1 < 2 < 3$

B. $1 < 3 < 2$

C. $3 < 2 < 1$

D. $2 < 1 < 3$

Answer: B

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11. The ratio of density of a gas A and gas B is three. If the molecular mass of A is M, then molecular mass of B is

A. $\sqrt{3}M$

B. $M/\sqrt{3}$

C. $M/3$

D. 3M

Answer: C

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12. Which of the following is least soluble in water ?

A. AgCl

B. AgBr

C. AgI

D. AgF

Answer: C

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13. A sample of chloroform before using as an anaesthetic is tested by :

A. Ammoniacal Cu_2Cl_2

B. Fehling solution

C. $AgNO_3$ solution

D. Adding Ag to the solution after boiling with alcoholic KOH solution

Answer: C

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14. Calculate the amount of $.53^{I^{128}}\left(t_{1/2} = 25 \text{ min}\right)$ left after 75 minutes.

A. $\frac{1}{4}$

B. $\frac{1}{6}$

C. $\frac{1}{8}$

D. $\frac{1}{9}$

Answer: C

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15. $CH_3CH = CHCHO$ is oxidised to $CH_3CH = CHCOOH$ using :

A. Selenium dioxide

B. MnO_2

C. Alkaline Tollen's reagent

D. All of these

Answer: C

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16. What product is formed when H_2S gas is passed through acidified $KMnO_4$ solution ?

A. MnO_2

B. S

C. K_2SO_3

D. K_2S

Answer: B

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17. Which reagent is used to differentiate between aldehyde and ketone ?

A. Fehling's solution

B. Tollen's reagent

C. Schiff's reagent

D. All of these

Answer: D

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18. In a chemical reaction equilibrium is established when

A. Concentration of reactants and products are equal

B. Opposing reaction ceases

C. Velocity of oppsing reaction is the same as that of forward reaction

D. When Reaction heat becomes negative

Answer: C

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19. Three alcohols

(i) $CH_3CH_2CH_2OH$,

(ii) $CH_3 - CHOH - CH_3$ and

(iii) $CH_3 - C(CH_3)(OH) - CH_3$

were treated seperately with Lucas reagent (Conc. $HCl + ZnCl_2$) . What results do you expect at room temperature.

A. (i) reacts is about 5 minutes , (ii) reacts in about 15 minutes and (ii) not at all

B. (iii) reacts immediately , (ii) reacts in about 5 minutes and (i) not at all

C. (ii) and (iii) react immediately and (i) in about 5 minutes

D. (i) reacts immediately , (ii) reacts in about 5 minutes and (iii) not at all

Answer: B

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20. For the weak electrolyte , their degree of dissociation increase

A. One increasing dilution

B. On decreasing diluation

C. On increasing pressure

D. None of these

Answer: A

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21. In the reaction

$$CH_3COOH \xrightarrow{LiAlH_4} (A) \xrightarrow{I_2+NaOH} (B) \xrightarrow{Ag\,(\text{Dust})} (C)$$

, the final product C is:-

A. C_2H_5OH

B. CH_3COCH_3

C. C_2H_2

D. C_2H_5I

Answer: C

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22.

$Be_2C + 4H_2O \rightarrow 2X + CH_4X + 2HCl \rightarrow Y$

'X' and 'Y' formed in the above two reactions are

-

A. $BeCO_3$ and $Be(OH)_2$, respectively

B. $Be(OH)_2$ and $BeCl_2$ respectively

C. $Be(OH)_2$ and $\left[Be(OH)_4\right]Cl_2$

respectively

D. $\left[Be(OH)_4\right]^2$ and $BeCl_2$, respectively

Answer: B

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23. The set of four quantum number not possible from the following .

A. $n = 3, l = 0, m = 0, s = -\frac{1}{2}$

B. $n = 3, l = 2, m = 0, s = -\frac{1}{2}$

C. $n = 3, l = 3, m = -3, s = -\frac{1}{2}$

D. $n = 3, l = 2, m = -2, s = -\frac{1}{2}$

Answer: C

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24. A metal M readily forms its sulphate MSO_4 which is water soluble. It forms its oxide MO which becomes inert on heating. It forms its insoluble hydroxide $M(OH)_2$ which is soluble in $NaOH$ solution. Then M is

A. Mg

B. Ba

C. Ca

D. Be

Answer: D

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25. In which compound the C – H bond distance is longest ?

A. C_2H_2

B. C_2H_4

C. $C_2H_4Br_2$

D. C_6H_5OH

Answer: C

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26. The elevation in boilng point of a solution of 13.44 g of $CuCl_2$ 1 kg of water will be _____. (Molecular mass of $CuCl_2 = 134.4$ and $K_b = 0.52km^{-1}$)

A. 0.05

B. 0.16

C. 0.1

D. 0.2

Answer: B

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27. In the series of reaction X and Y are respectively are

$$C_6H_5NH_2 \xrightarrow{NaNO_2/HCl} X \xrightarrow{HNO_2} Y + N_2 + HCl$$

A. $C_6H_5 - N = N - C_6H_5, C_6H_5N_2^{\oplus}Cl^{\Theta}$

B.

$$C_6H_5N_2^{\oplus}Cl^{\Theta}, C_6H_5 - N = N - C_6H_5,$$

C. $C_6H_5N_2^{\oplus}Cl^{\Theta}, C_6H_5NO_2$

D. $C_6H_5NO_2, C_6H_6$

Answer: C

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28. The IUPAC name of the complex $\left[Co(NO_2)(NH_3)_5\right]Cl_2$ is

A. Pentamminenitrocobalt (III) chloride

B. Pentamminenitrosocobalt (III) chloride

C. Pentamminenitraetcobalt (III) chloride

D. None of these

Answer: A

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29. Iodine crystals are placed in which category among the following

A. Ionic crystal

B. Metallic crystal

C. Molecular crystal

D. Covalent crystal

Answer: C

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30. For a reactions $A + B \rightarrow$ product ,it was found that rate of reaction increases four times if concentration of 'A' is doubled. But the rate of

reaction remains unaffected, if concentration of 'B' is doubled . Hence , the rate law for the reaction is

A. rate = k[A][B]

B. rate = $k[A]^2$

C. rate = $k[A]^2[B]^1$

D. rate = $k[A]^2[B]^2$

Answer: B

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31. Which statement is incorrect among the following ?

A. Calamine and siderite are carbonates

B. Argentite and cuprite are oxides

C. Zinc blende and pyrites are sulphides

D. Malachite and azurite are ores of copper

Answer: B

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32. Saturated solution of KNO_3 is ued to make 'salt - bridge' because ,

A. Velocity of K^+ is greater than that of NO_3^-

B. Velocities of both K^+ and NO_3^- are nearly the same

C. Velocity of NO_3^- is greater than that of K^+

D. KNO_3 is highly soluble in water

Answer: C

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33. The monomer for Teflon polymer is

A. Monofluoroethene

B. Difluoroethene

C. Trifluoroethene

D. Tetrafluoroethene

Answer: D

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34. The dissociation constant of a weak monoprotic acid, which is 0.01 % ioniosed in 1 .00M solution , is

A. 1×10^{-8}

B. 1×10^{-4}

C. 1×10^{-6}

D. 10^{-5}

Answer: A

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35. What is isoelectric point?

A. Specific temperature

B. Suitable concentration of amino acid

C. Hydrogen ion concentration that does not allow migration of amino acid under electric field

D. Melting point of an amino acid under the influence of electric field

Answer: C

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36. For the process

$H_2O(l)(1\text{bar}, 373K) \rightarrow H_2O(g)(1\text{bar}, 373K)$

the correct set of thermodynamic parameters is

A. $\Delta G = 0, \Delta S = +ve$

B. $\Delta G = 0, \Delta S = -ve$

C. $\Delta G = 0, \Delta G = -ve$

D. $\Delta G = -ve, \Delta S = 0$

Answer: A

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37. Which of the following is a π – complex

A. Trimethyl aluminum

B. Ferrocene

C. Diethyl zinc

D. Nickel carbonyl

Answer: B

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38. Substances used in bringing down the body temperature in high fevers are called :

A. Pyretics

B. Antipyretics

C. Antibiotics

D. Antiseptics

Answer: B

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39. Under normal conditions which of the given electronic configuration is able to from dispositive ion?

A. Br

B. Cl

C. Mg

D. None of these

Answer: C

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40. Which of the following type of catalysis can be explained by the adsorption theory ?

A. Homogeneous catalysis

B. Acid base catalysis

C. Heterogeneous catalysis

D. Enzyme catalysis

Answer: C

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41. Which one of the following reactions does not involve either oxidation ore reduction ?

A. $MnO_4^- \rightarrow MnO_2$

B. $Na \rightarrow Na^+$

C. $CrO_4^{2-} \rightarrow Cr_2O_7^{2-}$

D. $Zn^{2+} \rightarrow Zn$

Answer: C

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42. For the given cell reaction of an electrochemical cell, the change in free energy at a given temperature is a function of

$$Cu^{2+}(C_1aq) + Zn(s) \rightarrow Zn^{2+}(C_2aq) + Cu(s)$$

A. In (C_1)

B. In (C_2)

C. In $(C_1 + C_2)$

D. In (C_2/C_1)

Answer: D

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43. Which is true for the temperature coefficient of a reaction ?

A. ific reaction rate at $25^\circ C$

B. Rate of the reaction at $100^\circ C$

C. Ratio of the rate constants at temperature $35^\circ C \text{ and } 25^\circ C$

D. Ratio of the rate constants at two temperature differing by $1^\circ C$

Answer: C

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44. The change in the internal energy of a substance

A. Increase with increase in temperature

B. Decrease with increase in temperature

C. Can be calculated the relation $E = mc^2$

D. Remains unaffected with change in temperature

Answer: A

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45. The gaseous mixture used by deep sea divers for respiration is

A. Oxygen and helium

B. Oxygen and argon

C. Oxygen and hydrogen

D. Oxygen and nitrogen

Answer: A

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