CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET SET 33

Chemistry

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

A. Pyretics

B. antipyretics

C. antibiotics

D. antiseptics

Answer: B

2. Determine the oxidation number of the underlined atom in

$Rb_4Na[HV\underline{10}O_{28}]$

   A. $+9$

   B. -4

   C. 0

   D. $+5$

Answer: D

3. The equation for the reaction in the figure below is :

$$H_2(g) + i_2(g) + \text{Heat} \Leftrightarrow 2Hl(g)$$
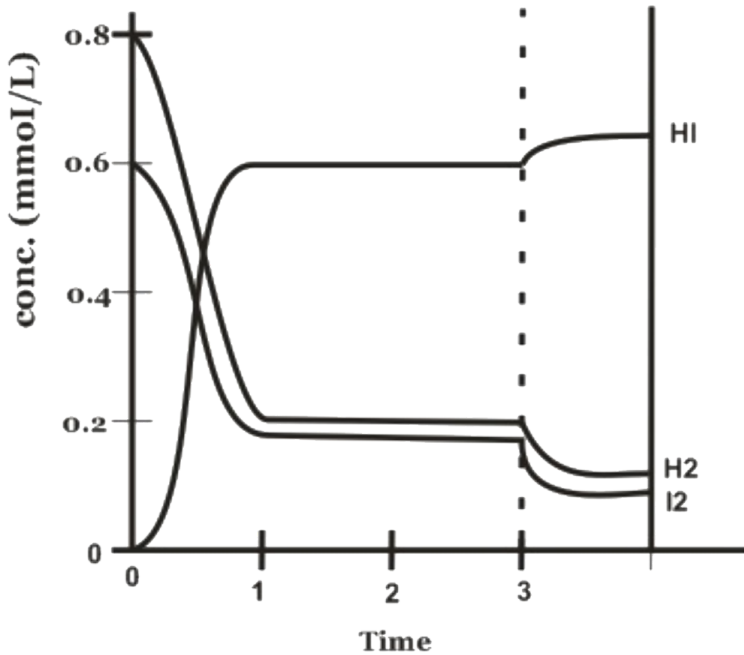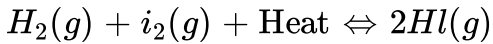
At instant 3 min , what change was imposed into the equilibrium ?

A. pressure was increased

B. Temperature was increased

C. Volume of system decreased

D. Catalyst added to reaction mixture

Answer: B

4. The elements having the maximum and minimum melting points among the members of group 13 are respectively

A. B, TI

B. TI,B

C. B, Ga

D. Al,TI

Answer: C

5. A solution which is 10^{-3} M each in Mn^{2+}, Fe^{2+}, Zn^{2+} and Hg^{2+} is treated with 10^{-16} M sulphide ion. If K_{sp} of MnS, FeS, ZnS and HgS are $10^{-13}, 10^{-18}, 10^{-24}$ and 10^{-53} respectively. Which one will precipitate first ?

A. FeS

B. MgS
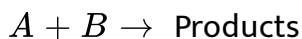
C. HgS

D. Zns

Answer: C

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6. For the given reaction ,

$A + B \rightarrow$ Products

Following data are given :

initial conc.(m/L)	initial conc.(m/L)	initial conc.$(mL^{-1}S^{-1})$
$[A]_0$	$[B]_0$	
0.1	0.1	0.05
0.2	0.1	0.1
0.1	0.2	0.05

calculate the Rate constant

A. $0.5\sec^{-1}$

B. $0.4\sec^{-1}$

C. $0.2\sec^{-1}$

D. $0.7\sec^{-1}$

Answer: A

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7. The reagent needed for converting

$$Ph-C\equiv C-Ph \longrightarrow \underset{H}{\overset{Ph}{\diagdown}}C=C\underset{Ph}{\overset{H}{\diagup}}$$

is :
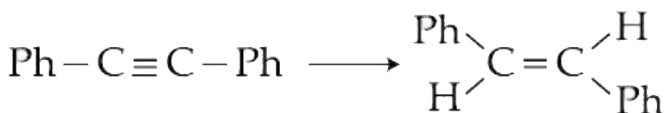
A. $LiAiH_4$

B. H_2/Lindlar Catalyst

C. Li/NH_3

D. Catalyst hydrogenation

Answer: C

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8. One mole of an ideal gas $(C_V = 20JK^{-1}mol^{-1})$ initially at STP is heated at constant volume to twice the initial temeprature. For the process W and q will be

A. $W = 0, q = 5.46kJ$

B. $W = 0, q = 0$

C. $W = -5.46kJ, q = 5.46kJ$

D. $W = 5.46kj, q = 5.46kJ$

Answer: A

9. Total number of geometrical isomers for the complex

$[RhCl(CO)(PPh_3)(NH_3)]$ is

A. 1

B. 2

C. 3

D. 4

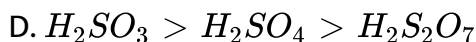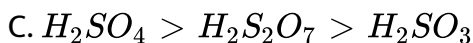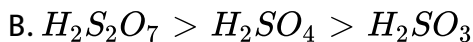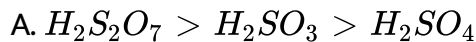**Answer: C**

10. The correct sequence of decreasing number of π - bonds in the structure of H_2SO_3, H_2SO_4 and $H_2S_2O_7$ is :

A. $H_2S_2O_7 > H_2SO_3 > H_2SO_4$

B. $H_2S_2O_7 > H_2SO_4 > H_2SO_3$

C. $H_2SO_4 > H_2S_2O_7 > H_2SO_3$

D. $H_2SO_3 > H_2SO_4 > H_2S_2O_7$

Answer: B

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11. Which property of colloids is not dependent on the change on colloidal particles?

A. Coagulation

B. Electrophoresis

C. Electro - osmosis

D. Tyndall effect

Answer: D

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12. In a closed vessel of 5 litres capacity, 1 g of O_2 is heated from 300 to $600K$. Which statement is not correct ?

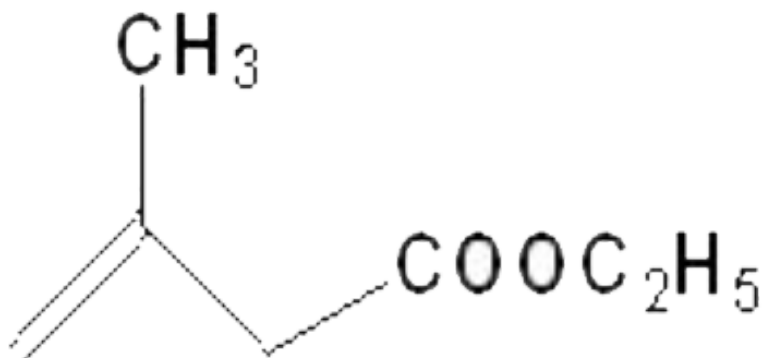A. The number of moles of gas increases

B. The rate of collision increases

C. The energy of gaseous molecules increases

D. Pressure of the gas increases

Answer: A

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13. The IUPAC name of

A. Ethyl acetylate

B. Ethyl methyl butenoate

C. Ethyl acetoethanoate

D. Ethyl (3 methyl) but -3- enoate

Answer: D

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14. What product (s) is (are) obtained when 2 - bromobutane undergoes an elimination reaction with a strong base ?

A. Only 1 - butene

B. Only 2 - butene

C. 1 - butene and 2 - butene , with more 1 - butene

D. 1 - butene and 2 - butene , with more 2 - butene

Answer: C

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15. The radius of La^{3+} $(Z = 57)$ is 106 pm. Which one of the following given values will be closest to the radius of Lu^{3+} $(Z = 71)$?

A. 1.60Å

B. 1.40Å

C. 1.06Å

D. 0.85Å

Answer: D

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16. Alcohols react with Grignard reagent to form

A. Alkanes

B. Alkenes

C. alkynes

D. All of these

Answer: A

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17. The aqueous solution of D - glucose contains two forms of D - glucopyranose , which are :

A. Tautomers

B. Anomers

C. Epimers

D. Enantiomers

Answer: B

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18. What volume of water is required to make $0.20N$ solution from $1600mL$ of $0.2050N$ solution?

A. 90 mL

B. 40 mL

C. 60 mL

D. 20 mL

Answer: B

19. Adsorbed hydrogen by Palladium is known as

A. Nascent

B. Atomic

C. Heavy

D. Occluded

Answer: D

20. Chromatography was discovered by

A. Kekule

B. Pauling

C. Rutherford

D. Tswett

Answer: D

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21. According to the Valence bond theory, which statement is incorrect

regarding bonding between two carbon atoms ?

A. A sigma (σ) bond is weaker than a $\pi-$ bond

B. A sigam bond is stronger than a $\pi-$ bond

C. A double bond is stronger than a single bond

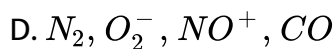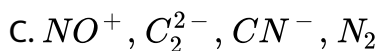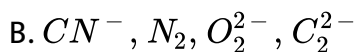D. A double bond is shorter than a single bond

Answer: A
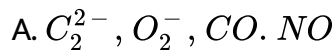
22. Which of the following named reaction is not used for introducing

a - COOH group ?

    A. Cannizzaro reaction

    B. Benzylic acid rearrangement

    C. Iodoform reaction

    D. none of these

Answer: D

23. Which one of the following constitutes a group of the isoelectronic species

A. C_2^{2-}, O_2^-, CO. NO

B. CN^-, N_2, O_2^{2-}, C_2^{2-}

C. NO^+, C_2^{2-}, CN^-, N_2

D. N_2, O_2^-, NO^+, CO

Answer: C

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24. Electrolytic reduction of nitrobenzene in weakly acidic medium gives .

A. N - phenylhdroxylamine

B. Nitrobenzene

C. Aniline

D. p - hydroxyaniline

Answer: C

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25. For the zero order reaction $A \rightarrow B + C$, initial concentration of A is 0.1 M. If [A]=0.08 M after 10 minutes,then its half-life and completion time are respectively :

A. 10 min , 20 min

B. 25min, 50 min

C. 2×10^{-3} min , 4×10^{-3} min

D. 250 min , 500 min

Answer: B

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26. Which of the following is thermoplastic ?

    A. Dacron

    B. Nylon

    C. Polythene

    D. All of these

Answer: C

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27. Extraction of zinc from zinc blende is achieved by:

    A. Roasting followed by reduction with carbon

    B. Roasting followed by reduction with another metal

    C. Electrolytic reduction

D. Roasting followed by self - reduction

Answer: A

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28. Which of the following species is non- polar ?

A. trans - pent - 2 - ene

B. cis - pent - 2 - ene

C. cis - 1 - chloropropene

D. SF_6

Answer: D

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29. Solid carbon dioxide is an example of

A. Metallic crystal

B. Covalent crystal

C. Molecular crystal

D. Ionic crystal

Answer: C

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30. When equal number of coulomb of electricity is passed through aqueous solution of AX and BX_2 and if number of moles of A and B deposited respectively are Y and Z then -
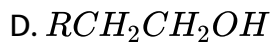
A. Y = Z

B. $Y > Z$

C. Z = 2Y

D. Y = 2Z

Answer: D

31. The structure of Oxirane is

The reaction of Oxirane with RMgX followed by hydrolysis will lead to product ?

A. RCHOHR

B. $RCHOHCH_3$

C. R_2CHCH_2OH

D. RCH_2CH_2OH

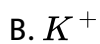**Answer: D**

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32. The coordination number of a central metal atom in a complex is

determined by:

A. The number of σ - bond formed by the ligands

B. The number of ligands around a metal ion bonded by π - bonds

C. The number of ligands around a metal ion bonded by

$\sigma -$ and $\pi -$ bonds both

D. The number of only anionic ligands bonded to the metal ion

Answer: A

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33. The carbonate of which of the following cation is soluble in water ?
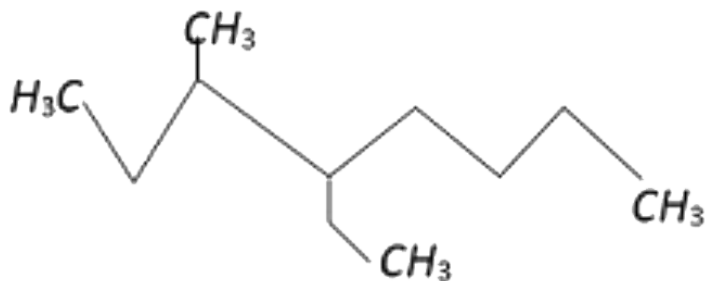
A. Na^+

B. K^+

C. NH_4^+

D. Ca^{2+}

Answer: D

34. Name of the compound given below is

A. 5 - ethyl - 6 - methyloctane

B. 4 - ethyl - 3- methyloctane

C. 3 - ethyl - 4- methyloctane

D. 2,3 - diethylheptane

Answer: B

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35. The basis for the classification of elements in the modern periodic table is

    A. Atomic Number

    B. Atomic weight

    C. Atomic volume

    D. Equivalent weight

Answer: A

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36. The best method to prepare cyclohexene from cyclohexanol is by using
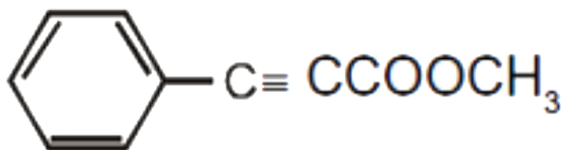
    A. Conc. $HCl + ZnCl_2$

    B. Conc . H_3PO_4

C. HBr

D. Conc. HCl

Answer: B

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37. Consider the following molecule:

What are the number of sigma and pi bonds present in the above molecule respectively ?

A. 20,6

B. 18,5

C. 15,5

D. 14,4

Answer: A

38. A solid has a $b.\ c.\ c.$ structure . If the distance of closest approach between the two atoms is 1.73Å. The edge length of the cell is :

A. 200 pm

B. $\sqrt{\dfrac{3}{2}}$

C. 142.2 pm

D. $\sqrt{2}$ pm

Answer: A

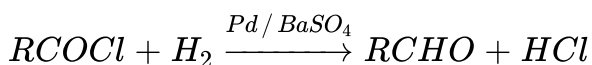**39.** Ratio in hydrogen and oxygen in water molecule by volume is

A. $2:1$

B. $3:1$

C. $1:2$

D. $1:1$

Answer: A

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40. Consider the following Rosenmund reaction,

$$RCOCl + H_2 \xrightarrow{Pd/BaSO_4} RCHO + HCl$$

Here, $BaSO_4$

A. Promotes catalytic activity of Pd

B. Removes the HCl formed in the reaction

C. Deactivates Pd

D. Activates Pd

Answer: C

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41. A weak acid $HX\left(K_a = 10^{-5}\right)$ on reaction with $NaOH$ gives $NaX.$

For $0.1M$ aqueous solution of $NaX,$ the $\%$ hydrolysis is

A. $0.001\,\%$

B. $0.01\,\%$

C. $0.15\,\%$

D. $1\,\%$

Answer: B

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42. Benzene and toluene form nearly ideal solution. At $20°C$ the vapour pressure of benzene is 75 torr and that of toluene is 22 torr. The partial vapour pressure of benzene at $20°C$ for a solution containing 78g of benzene and 46 g of toluene in torr is-

A. 50

B. 25

C. 37.5

D. 53.5

Answer: A

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43. 0.1mole aqueous solution of NaBr freezes at -0.335$°C$ at atmospheric pressure , k_f for water is $1.86°C$. The percentage of dissociation of the salt in solution is

A. 90

B. 80

C. 58

D. 98

Answer: B

44. Considering entropy (S) as a thermodynamics parameter, the criterion for the spontaneity of any process is

A. $\Delta S_{\text{system}} + \Delta S_{\text{surroundings}} > 0$

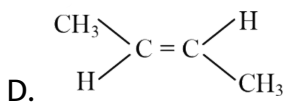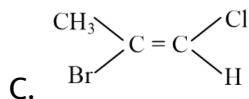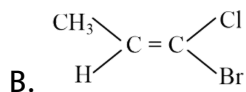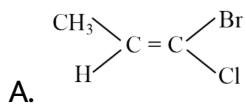B. $\Delta S_{\text{system}} - \Delta S_{\text{surroundings}} > 0$

C. $\Delta S_{\text{system}} > 0$ only

D. $\Delta S_{\text{surroundings}} > 0$ only

Answer: A

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45. Which one the following is an Z isomer ?

A.

$$CH_3, C = C, Br$$
$$H \qquad Cl$$

B.

$$CH_3, C = C, Cl$$
$$H \qquad Br$$

C.

$$CH_3, C = C, Cl$$
$$Br \qquad H$$

D.

$$CH_3, C = C, H$$
$$H \qquad CH_3$$

Answer: A