CHEMISTRY

BOOKS - NEET PREVIOUS YEAR (YEARWISE + CHAPTERWISE)

NEET 2018

Question

1. The correct order of N-compounds in its decreasing order of oxidation states is

A. HNO_3, NH_4Cl, NO, N_2

B. HNO_3, NO, NH_4Cl, N_2

C. HNO_3, NO, N_2, NH_4Cl

D. NH_4Cl, N_2, NO, HNO_3

Answer: C

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2. Which one of following elements is unable to from MF_6^{3-} ion?

A. B

B. Al

C. Ga

D. In

Answer: A

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3. Considering Ellingham diagram, which of the following metals can be used to reduce alumina?

A. Mg

B. Zn

C. Fe

D. Cu

Answer: A

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4. The increasing order of atomic radii of the following group 13 elements is

A. $B < Ga < Al < Tl < In$

B. $B < Al < Ga < In < Tl$

C. $B < Al < In < Ga < Tl$

D. $B < Ga < Al < In < Tl$

Answer: D

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5. Which of the following is not true for halogens ?

A. All but fluorine show positive oxidation states

B. All are oxidising agents

C. All form monobasic oxyacids

D. Chlorine has the highest electron-gain enthalpy

Answer: A

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6. In the structure of ClF_3, the number of lone pairs of electrons on central atom 'Cl' is

A. four

B. two

C. one

D. three

Answer: B

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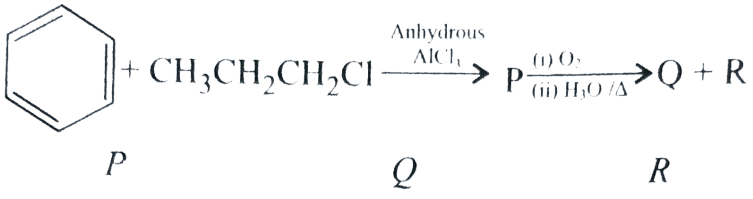
7. Identify the major product P, Q and R in the following sequence of reactions:



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8. Which of the following compounds can form a Zwitter ion ?

A. Benzoic acid

B. Acetanilide

C. Aniline

D. Glycine

Answer: D

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9. Regarding cross-linked or network polymers, which of the following statements is incorrect?

A. Examples are bakelite and melamine

B. They are formed from bi-and tri-functional monomers

C. They contain covalent bonds between various linear polymer chains

D. They contain strong covalent bonds in their polymer chains

Answer: D

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10. Nitration of aniline in strong acidic medium also gives m-nitroaniline because

A. in absence of substituents nitro group always goes to m-position

B. in electrophilic substitution reactions amino group is meta directive

C. in spite of substituents nitro group always goes to only m-position

D. in acidic (strong) medium aniline is present as anilinium ion

Answer: D

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11. The difference between amylose and amylopectin is

A. amylopectin have $1 \rightarrow 4\alpha$-linkage and $1 \rightarrow 6\beta$-linkage

B. amylose have $1 \rightarrow 4\alpha$-linkage and $1 \rightarrow 6\beta$-linkage

C. amylopectin have $1 \rightarrow 4\alpha$-linkage and $1 \rightarrow 6\alpha$-linkage

D. amylose is made up of glucose and galactose

Answer: C

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12. A mixture of 2.3 g formic acid and 4.5 g oxalic acid is treated with conc. H_2SO_4. The evolved gaseous mixture is passed through KOH pellets. Weight (in g) of the remaining product at STP will be

A. 2.8

B. 3.0

C. 1.4

D. 4.4

Answer: A

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13. Which of the following oxides is most acidic in nature ?

A. BaO

B. BeO

C. MgO

D. CaO

Answer: B

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14. Which oxide of nitrogen is not a common pollutant introduced into the atmosphere both due to natural and human activity?

A. N_2O

B. NO_2

C. N_2O_5

D. NO

Answer: C

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15. The compound A on treatment with Na gives B, and with PCl_5 gives C. B and C react together to give di Ethyl ether. A, B and C are in the order

A. $C_2H_5Cl, C_2H_6, C_2H_5OH$

B. $C_2H_5OH, C_2H_5Cl, C_2H_5Ona$

C. $C_2H_5OH, C_2H_6, C_2H_5Cl$

D. $C_2H_5OH, C_2H_5Ona, C_2H_5Cl$

Answer: D

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16. The compound C_7H_8 undergoes the following reactions :

$$C_7H_8 \xrightarrow{3Cl_2 / \Delta} A \xrightarrow{Br_2 / Fe} B \xrightarrow{Zn / HCl} C$$

The product 'C' is

A. 3-bromo-2,4,6-trichlorotoluene

B. o-bromotoluene

C. m-bromotoluene

D. p-bromotoluene

Answer: C

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17. Hydrocarbon (A) reacts with bromine by substitution to form an alkyl bromide which by Wurtz reaction is converted to gaseous hydrocarbon containing less than four carbon atoms. A is

A. $CH_3 - CH_3$

B. $CH_2 = CH_2$

C. $CH \equiv CH$

D. CH_4

Answer: D

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18. Which of the following molecules represents the order of hybridisation `sp^(2),sp^(3),sp from left to right atoms ?

A. $CH_2 = CH - CH = CH_2$

B. $CH_2 = CH - C \equiv CH$

C. $CH \equiv C - C \equiv CH$

D. $CH_3 - CH = CH - CH_3$

Answer: B

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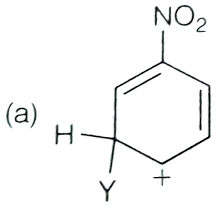
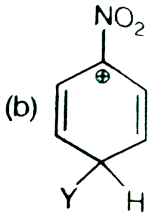
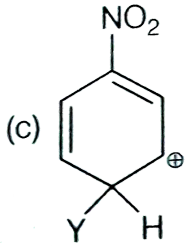
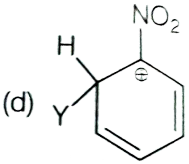
19. Which of the following carbocations is expected to be most stable ?

A. 

B. 

C. 

(d) 

D.

Answer: A

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20. Which of the following is correct with respect to $-I$ effect of the substitutes? $(R = alkyl)$

A. $-NH_2 > -OR > F$

B. $-NR_2 < -OR < -F$

C. $-NH_2 < -OR < -F$

D. $-NH_2 > -OR > -F$

Answer: B::C

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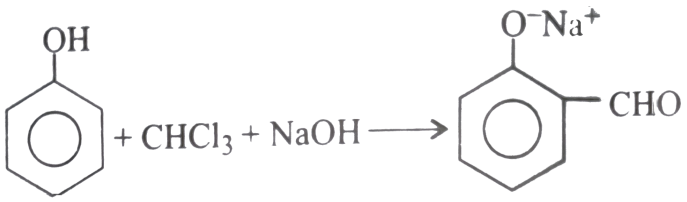
21. In the reaction



the electrophile involved is

A. dichloromethyl anion $(\overline{C}HCl_2)$

B. formyl cation $\left(\overset{+}{C}HO\right)$

C. dichloromethyl cation $\left(\overset{+}{C}HCl_2\right)$

D. dichlorocarbene $(:CCl_2)$

Answer: D

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22. Carboxylic acid have higher boiling points than aldehydes, ketones and even alcohol of comparable molecular mass. It is due to their

A. more extensive association of carboxylic acid via van der Waals' force of attraction

B. formation of carboxylate ion

C. formation of intramolecular H-bonding

D. formation of intermolecular H-bonding

Answer: D

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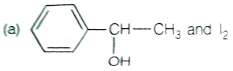
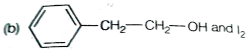
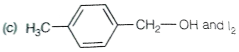
23. Compound A, $C_8H_{10}O$, is found to react with $NaOI$ (produced by reacting Y with $NaOH$)

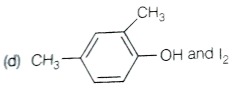
and yields a yellow precipitate with characteristic smell.

A and Y are respectively

A. 

B. 

C. 

D. 

Answer: A

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24. Match the metal ions given in Column I with the spin magnetic moments of the ions given in Column II and assign the correct code :

	Column I		Column II
1.	Co^{3+}	i.	$\sqrt{8}$ BM
2.	Cr^{3+}	ii.	$\sqrt{35}$ BM
3.	Fe^{3+}	iii.	$\sqrt{3}$ BM
4.	Ni^{2+}	iv.	$\sqrt{24}$ BM
		v.	$\sqrt{15}$ BM

A. $\begin{matrix} 1 & 2 & 3 & 4 \\ iv & I & ii & iii \end{matrix}$

B. $\begin{matrix} 1 & 2 & 3 & 4 \\ I & ii & iii & iv \end{matrix}$

C. $\begin{matrix} 1 & 2 & 3 & 4 \\ iv & v & ii & i \end{matrix}$

D. $\begin{matrix} 1 & 2 & 3 & 4 \\ iii & v & I & ii \end{matrix}$

Answer: C

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25. Which one of the following ions exhibits d-d transition and paramagnetism as well ?

A. MnO_4^-

B. $Cr_2O_7^{2-}$

C. CrO_4^{2-}

D. MnO_4^{2-}

Answer: D

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26. Iron carbonyl, $Fe(CO)_5$ is

A. trinuclear

B. mononuclear

C. tetranuclear

D. dinuclear

Answer: B

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27. The type of isomerism shown by the complex $\left[COCl_2(en)_2\right]$ is

A. ionisation isomerism

B. coordination isomerism

C. geometrical isomerism

D. linkage isomerism

Answer: C

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28. The geometry and magnetic behaviour of the complex $\left[Ni(CO)_4\right]$ are

A. square planar geometry and paramagnetic

B. tetrahedral geometry and diamagnetic

C. square planar geometry and diamagnetic

D. tetrahedral geometry and paramagnetic

Answer: B

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29. Following solutions were prepared by mixing different volumes of NaOH and HCl of different concentrations:

a. 60 mL $\frac{M}{10} HCl + 40mL \frac{M}{10}$ NaOH

b. 55 mL $\frac{M}{10} HCl + 45mL \frac{M}{10}$ NaOH

c.75 mL $\frac{M}{5} HCl + 25mL \frac{M}{5}$ NaOH

d. 100 mL $\frac{M}{10} HCl + 100mL \frac{M}{10}$ NaOH

pH of which one of them will be equal to 1 ?

A. IV

B. I

C. II

D. III

Answer: D

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30. On which of the following properties does the coagulating power of an ion depend?

A. Both magnitude and sign of the charge on the ion

B. Size of the ion alone

C. The magnitude of the charge on the ion alone

D. The sign of charge on the ion alone

Answer: A

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31. Given van der Waals constant for NH_3, H_2, O_2 and CO_2 are respectively $4.17, 0.244, 1.36$ and 3.59, which one of the following gases is most easily liquefied?

A. O_2

B. H_2

C. NH_3

D. CO_2

Answer: C

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32. The solubility of $BaSO_4$ in water is $2.42 \times 10^{-3} gL^{-1}$ at $298K$. The value of its

solubility product (K_{sp}) will be (Given molar mass of $BaSO_4 = 233gmol^{-1}$)

A. $1.08 \times 10^{-14} \quad \mathrm{mol}^2 L^{-2}$

B. $1.08 \times 10^{-12} \quad \mathrm{mol}^2 L^2$

C. $1.08 \times 10^{-10} \quad \mathrm{mol}^2 L^{-2}$

D. $1.08 \times 10^{-8} \quad \mathrm{mol}^2 L^{-2}$

Answer: C

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33. In which case is the number of molecules of water maximum?

A. 0.00224 L of water vapours at 1 atm and 273 K

B. 0.18 g of water

C. 18 mL of water

D. 10^{-3} mol of water

Answer: C

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34. The correct difference between first and second order reactions is that

A. a first-order reaction can be catalysed , a second-order reaction cannot be catalysed

B. the half-life of a first-order reaction does not depend on $[A]_0$, the half-life of a second-order reaction does depend on $[A]_0$

C. the rate of a first-order reaction does not depend on reactant concentrations, the

rate of a second-order reaction does depend on reactant concentrations

D. the rate of a first-order reaction does depend on reactant concentrations, the rate of a second-order reaction does not depend on reactant concentrations

Answer: B

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35. Among $CaH_2, BeH_2, BaH_2,$ the order of ionic character is

A. $BeH_2 < BaH_2 < CaH_2$

B. $CaH_2 < BeH_2 < BaH_2$

C. $BeH_2 < CaH_2 < BaH_2$

D. $BaH_2 < BeH_2 \leq CaH_2$

Answer: C

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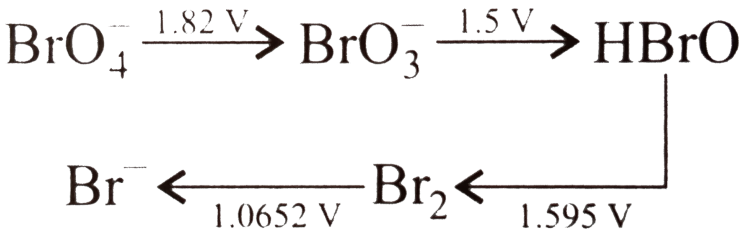
36. Consider the change in oxidation state of Bromine corredponding to different emf values as shown in the diagram below :



The the species undergoing dispropprtionation is .

A. Br_2

B. BrO_4^-

C. BrO_3^-

D. $HBrO$

Answer: D

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37. For the redox reaction,

$$MnO_4^- + C_2O_4^{2-} + H^+ \rightarrow Mn^{2+} + CO_2 + H_2O$$

the correct coefficients of the reactants for the balanced reaction are

A.

MnO_4^-	$C_2O_4^{2-}$	H^+
2	16	5

B.

MnO_4^-	$C_2O_4^{2-}$	H^+
2	5	16

C. MnO_4^- $C_2O_4^{2-}$ H^+
16 5 2

D. MnO_4^- $C_2O_4^{2-}$ H^+
5 16 2

Answer: B

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38. Which one of the following condition will favour maximum formation of the product in the reaction. $A_2(g) + B_2(g) \Leftrightarrow X_2(g) \Delta_r H = -X$ kJ ?

A. High temperature and high pressure

B. Low temperature and low pressure

C. Low temperature and high pressure

D. High temperature and low pressure

Answer: C

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39. When initial concentration of the reactant is doubled, the half-life period of a zero order reaction

A. is tripled

B. is doubled

C. is halved

D. remains unchanged

Answer: B

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40. If the bond dissociation energies of XY,X_2 and Y_2 are in the ratio of $1:1:0.5$ and ΔH_f for the formation of Xy is $-200KJ/mol$. The bond dissociation energy of X_2 will be : $-$

A. $800 \quad \mathrm{kJ\ mol^{-1}}$

B. $100 \quad \mathrm{kJ\ mol^{-1}}$

C. $200 \quad \mathrm{kJ\ mol^{-1}}$

D. $400 \quad \mathrm{kJ\ mol^{-1}}$

Answer: A

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41. The correction factor 'a' to the ideal gas equation corresponds to

A. electric field present between the gas molecules volume of the gas molecules

B. density of the gas molecules

C. density of the gas molecules

D. forces of attraction between the gas molecules

Answer: D

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42. Consider the following species

CN^-, CN^-, NO and CN`.

Which one of these will hqave the highest bond order ?

A. CN^+

B. CN^-

C. NO

D. CN

Answer: B

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43. Magnesium reacts with an element (X) to form an ionic compound. If the ground state electronic configuration of (X) is $1s^2, 2s^2 2p^3$, the simplest formula for this compound is

A. Mg_2X

B. MgX_2

C. Mg_2X_3

D. Mg_3X_2

Answer: D

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44. Iron exhibits b structure at roomj temperature. Above $9000^\circ C$, it transformers to f structure. The ratio of density of iron at room temperature to that at $900^\circ C$ (assuming molar mass and atomic radius of iron remains constant with temperature) is

A. $\frac{3\sqrt{3}}{4\sqrt{2}}$

B. $\frac{4\sqrt{3}}{3\sqrt{2}}$

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

D. $\frac{1}{2}$

Answer: A

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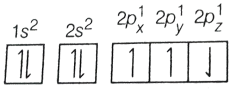
45. Which one is a wrong statement ?

A. The electronic configuration of N-atom is



B. An orbital is designated by three quantum numbers while an electron in an atom is designated by four quantum numbers

C. Total orbital angular momentum of electron in 's' orbital is equal to zero

D. The value of m for d_{z^2} is zero

Answer: A

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