AP EAMCET Chemistry Previous Questions with Key – Test 10

121)If the frequency of radiation emitted for the electron transition from an excited state to ground state of Hydrogen atom is $\frac{3X}{4}$ Hz , the frequency of radiation absorbed for the electron transition from the above excited state to next immediate excited state in Hz is

1) $\frac{8X}{9}$

2) $\frac{21X}{100}$

3) $\frac{3X}{4}$

4) $\frac{5X}{36}$

122)If the kinetic energy of electron is 18.2×10^{-25} J, its de Broglie wavelength in nm is : (mass of electron = 9.1×10^{-31} kg; h= 6.626×10^{-34} J s)

1)182

2)728

3)364

4)1092

123)Observe the following statements:

a)The basic strength of $Lu(OH)_3$, $Gd(OH)_3$ and $Ce(OH)_3$ follow the order : $Ce(OH)_3 > Gd(OH)_3 > Lu(OH)_3$

b)O^{2-}, N^{3-}, O^- and Mg^+ are iso electronic species

c)The sizes of Zr and Hf are approximately same

The correct statements are :

1)a, b, c

2)a, c

3)a, b

4)b, c

124)The correct statements from the following are :

a)The total number of sigma bonds present in benzene is 12

b)Li F is more covalent than KF

c)$Sncl_2$ is more covalent than $SnCl_4$

1)a, c

2)a, b

3)b, c

4)a, b, c

125)Match the following

List – I	List – II
a)See Saw shape	i)XeF_4
b)Square Pyramidal	ii)ClF_3
c)T-shape	iii)$PbCl_2$
d)Bent shape	iv)SF_4
	v)$Br F_5$

The correct answer is

1)(a) iv (b)v (c)iii (d) ii

2)(a)iv (b)v (c)ii (d) iii

3)(a)i (b)iii (c)iv (d) ii

4)(a)i (b)iv (c)v (d) iii

126)At T(K), the RMS velocity of He is equal to RMS velocity of SO_2 at 127°C. What is T (in K) ?

1)64

2)50

3)250

4)25

127)8 g of a metal reacted with oxygen to form 9 g of its oxide. What is the weight (in g) of the metal required to react with 8 g of hydrogen? (H=1.0)

1)1024

2)128

3)256

4)512

128)Assertion (A): If heat of combustion of C_2H_6 is 'X' KJ mol^{-1}, heat liberated on combustion of 150 g C_2H_6 is $\frac{X}{5}$ KJ

Reason(R) : Enthalpy is an extensive property

1)Both (A) and (R) are correct, and (R) is the correct explanation of (A)

2) Both (A) and (R) are correct, but (R) is not the correct explanation of (A)

3)(A) is correct but (R) is not correct

4)(A) is not correct but (R) is correct

129)At 800 K in a closed vessel, the molar concentrations of N_2, O_2 and NO at equilibrium are 3.2×10^{-3} M, 4.2×10^{-3} M and 2.8×10^{-3} M respectively. The approximate values of K_c and $\frac{1}{K_c}$ for the following reaction are respectively

$$N_{2(g)} + O_{2(g)} \rightleftharpoons 2NO_{(g)}$$

1)1.714, 0.583

2)0.583, 1.714

3)0.8576, 1.166

4)1.166, 0.8576

130)The pH of a buffer solution obtained by mixing 50 mL of 0.1M NH_4OH and 25 mL of 2.0M NH_4Cl (pK_b is 4.8)

1)5.8 2)9.2 3)8.2 4)4.8

131)In which of the following reactions, O_2 is not liberated

1) $Mno^{-}_{4} + H_2O_2 + H^{+} \rightarrow$

2) $H_2O_2 + I_2 + OH^{-} \rightarrow$

3) $HOCl + H_2O_2 \rightarrow$

4) $Fe^{2+}(aq) + H^{+}(aq) + H_2O_2 \rightarrow$

132)The correct variation of the following properties of group 1 elements (M) (Li to Cs) is :

1)

Hydration enthalpy of M^{+}	Ionization enthalpy of M	Melting point of M
increases	increases	increases

2)

Hydration enthalpy of M^{+}	Ionization enthalpy of M	Melting point of M
decreases	decreases	decreases

3)

Hydration enthalpy of M^{+}	Ionization enthalpy of M	Melting point of M
decreases	decreases	increases

4)

Hydration enthalpy of M^{+}	Ionization enthalpy of M	Melting point of M
increases	decreases	decreases

[MARKS]1

[QUESTION TYPE]Multi_Choice

[TAG]Chemistry

133)Identify the correct statements from the following

a)Borax gives blue coloured $Co(BO_2)_2$ when heated with Co^{2+} salt

b)The correct formula of Borax is $Na_2[B_4O_5(OH)_4]8H_2O$

c)Trihalides of boron are Lewis bases

1)a, b, c

2)a, c

3)a, b

4)b, c

134)Which of the following is not correct ?

1)CO is powerful reducing agent

2)CO forms stable complex with haemoglobin, which is 300 times more stable then oxygen-haemoglobin complex

3)CO reduces alkali metal oxides to alkali metals

4)CO is neutral oxide

135)Which of the following statements are correct?

a)F^-ion concentration above 2 ppm causes brown mottling of teeth

b)The maximum limit of nitrate in drinking water is 400 ppm

c)Depletion of ozone layer leads to cataract and skin cancer

d)The irritant red haze in the traffic is due to oxides of sulphur

1)b, c

2)a, d

3)b, d

4)a, c

136)Identify the correct statements from the following:

a)Change in hybridization affects the electronegativity of carbon

b)The p orbitals in ethene are mutually parallel

c)The number of σ bonds in propyne is 6

d)Electromeric effect is a permanent effect

1)a, c

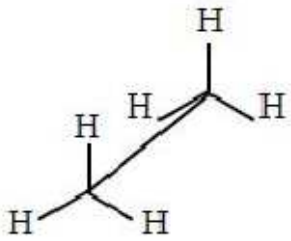
2)a, c, d

3)a, b, c

4)b, d

137)sawhorse projection of staggered conformation of ethane is

1)



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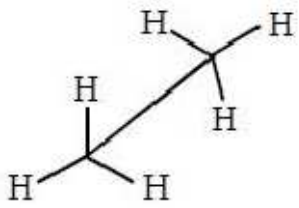

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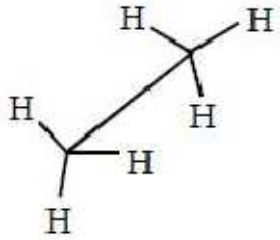

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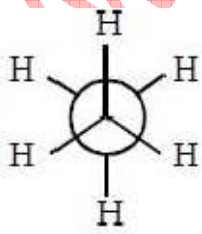


138)From which of the following, the major product is formed, in the addition of HBr to propene in the presence of peroxide?

1)CH_3-CH_2-CH_2

2)CH_3-CH-CH_2 Br

3) $CH_3-\underset{\underset{Br}{|}}{CH}-CH_2$

4)CH_3-CH-CH_3

139)Which one of the following is used to convert sunlight into electricity photovoltaic material ?

1)crystalline boron

2)amorphous silicon

3)crystalline iodine

4)amorphous radium

140)At 350K, the vapour pressure of pure liquids A and B are 450 mm and 700 mm respectively. If the total vapour pressure of liquid mixture is 600 mm of Hg, the mole fraction of A and B in vapour phase respectively are :

1)0.4, 0.6

2)0.6, 0.4

3)0.3, 0.7

4)0.7, 0.3

141)At 298 K, Henry's law constant for CO_2 in water is 1.67×10^8 Pa. At 298K, the quantity of CO_2 in 1000ml of soda water when packed at 1.67×10^2K Pa CO_2 pressure in mol L^{-1} is : (water density = 1.0 g cm^{-3})

1)5.55×10^{-3}

2)0.555

3)5.55×10^3

4)5.55×10^{-2}

142)E^0_{cell} of the reaction $Mg_{(s)} + 2Ag^+(0.0001M) \gg Mg^{2+}(0.01M) + 2Ag_{(s)}$ is 3.17 V. The E^0_{cell} of the reaction and its cell notation respectively are :

1)2.993 V, Ag | Ag^+ (0.0001M) || Mg^{2+}(0.01M) | Mg

2)3.993 V, Mg | $Mg2^+$ (0.0001M) || Ag^+(0.01M) | Ag

3)2.993 V, Mg | $Mg2^+$ (0. 01M) || Ag^+(0.0001M) | Ag

4)3.993 V, Ag | Ag^+ (0.01M) || Mg^{2+}(0.0001M) | Mg

143)The initial rates of decrease of I_2 in acetone – iodine reaction catalyzed by H^+ are given in the table

Experiment	Initial $[I_2]$ (mol L^{-1})	Initial $[H^+]$ (mol L^{-1})	Initial $[CH_3COCH_3]$ (mol L^{-1})	Initial rate of decrease of I_2 (mol$L^{-1}s^{-1}$)
1	0.01	0.1	0.1	0.096
2	0.01	0.2	0.1	0.192
3	0.02	0.2	0.1	0.192
4	0.01	0.2	0.2	0.384

The order with respect ot I_2, H^+, qcetone and total order of the reaction respectively are:

1)0, 2, 1, 3

2)1, 0, 1, 2

3)0, 1, 1, 2

4)1, 1, 0, 2

144)Which one of the following statements is not correct ?

1)The adsorption is independent of pressure when $\frac{1}{n}=0$ in Freundlich adsorption isotherm equation

2)The adsorption varies directly with pressure when $\frac{1}{n}=1$ in Freundlich adsorption isotherm equation

3)The extent of adsorption increases with increase in tempeature

4)The extent of adsorption depends on the nature of adsorbent and adsorbate

145)Identify the correct statement from the following :

1)Copper matte contains Cu_2s and Cds

2)Pig iron contains approximately 4% carbon

3)The cracks formed in the Blister copper is due to the release of H_2S gas

4)Van Arkel method is used for refining of nickel

146)The products formed, when gaseous HCl is passed into aqueous Na_2SO_3 solution are

1)Na_2SO_4, S, H_2O

2)NaCl, SO_2, H_2O

3)Na_2SO_4, SO_2, H_2O

4)NaCl , S, H_2O

147)Observe the following statements :

a)The thermal stability of hydrides of group 16 elements follow the order

$H_2O > H_2S > H_2Se > H_2Te$

b)Acidic nature of hydrides of group 16 elements follow the order

$H_2O > H_2S > H_2Se > H_2Te$

c)The reducing nature of H_2S, H_2Se and H_2Te follow the order

$H_2S < H_2Se < H_2Te$

The correct statements are :

1)a, b, c 2)a, b 3)b, c 4)a, c

148)XeF_2 is hydrolyzed in the presence of small amount of water. What are the gaseous products formed ?

1)Xe, O_2

2)F_2, O_2

3)Xe, O_3

4)O_2 F_2, Xe

149)Which pair of ions have same magnetic moment ?

1)Mn^{2+}, Fe^{2+}

2)Ti^{2+}, Co^{2+}

3)V^{2+}, Co^{2+}

4)Cr^{2+}, Co^{2+}

150)Which one of the following ions exhibit paramagnetic property ?

1)Lr^{3+}

2)Ac^{3+}

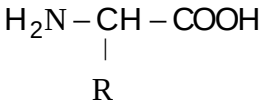
3)Th^{3+}

4)Lu^{3+}

151)Identify the fibre (X) and elastomer (Y) from the following

	X	Y
1)	Dacron	Neoprene
2)	Novolac	Polystyrene
3)	Teflon	Buna - S
4)	Glyptal	Polypropene

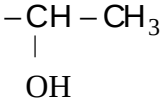
152)The general formula of a α- amino acid is

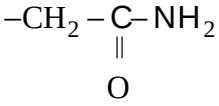


Identify- R in serine

1)-CH_2SH

2)-CH_2OH

3) 

4) 

153)An artificial sweetener X is a halogen containing compound and artificial sweetener Y is a sulphur containing compound. X and Y respectively are :

1)Aspartame, sucrose

2)Sucralose, Aspartame

3)Alitame, Sucralose

4)Sucralose, Alitame

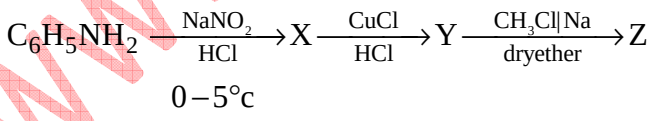
154)The –As = As – linkage is present in which of the following medicines ?

1)Prontosil

2)Sulphapyridine

3)Salvarsan

4)Serotonin

155) 

What is Z in the sequence of reactions ?

1)Biphenyl 2)Toulene

3)Ethylbenzene 4)4- Chlorotoluene

156)The order of reactivity of the following alkyl bromides towards S_N^1 reactions is

a)$(CH_3)_2CHBr$ b)CH_3CH_2Br c)$(CH_3)_3C\text{-}Br$

1)a > b > c

2)b > a > c

3)c > a > b

4)c > b > a

157)Alkenes react with water in the presence of acid to form alcohols. Identify the steps involved in the mechanism of the reaction from the following :

a)Nucleophilic addition of hydroxide ion to alkene

b)Protonation of alkene by electrophilic attack of H_3O^+

c)Electrophilic attack of H_2O on carbanion

d)Nucleophilic attack of H_2O on carbocation

e)$^{\sigma}OH$ to form an alcohol

f) Loss of H^{ρ} to form an alcohol

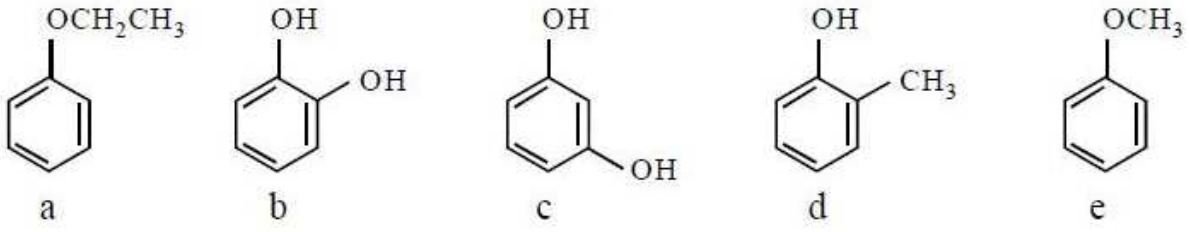
1)a, c, e

2)b, c, e

3)b, d ,f

4)a ,c, f

158)Identify o-cresol (A), catechol(B), Phenetole (C) and resorcinol (D) from the following



a b c d e

1)A : c B : d C : b D : a

2)A : d B : b C : a D : c

3)A : b B : a C : d D : e

4)A : a B : c C : e D : b

159)But-1-ene reacts with diborane to give ‘X’ . on oxidation of ‘X’ with H_2O_2 in the presence of aqueous NaOH forms alcohol ‘Y’. What are ‘X’ and ‘Y’

1) X: $(CH_3CH_2\underset{\displaystyle CH_3}{\underset{|}{C}}H)_3B$ Y: $CH_3CH_2\underset{\displaystyle OH}{\underset{|}{C}}H-CH_3$

2) X: $[(CH_3)_2CH-CH_2]_3B$ Y: $(CH_3)_2CH-CH_2OH$

3) X: $(CH_3CH_2CH_2CH_2)_3B$ Y: $CH_3CH_2CH_2CH_2OH$

4) X: $(CH_3CH_2CH_2)_3B$ Y: $CH_3CH_2CH_2OH$

160)Which of the following would produce an alcohol on treatment with $NaNO_2$ and HCl in presence of water ?

1) CH_3-CH_2-CH_2-NH_2

2) CH_3-CH_2-NH-CH_3

3) $CH_3-\underset{\displaystyle CH_3}{\underset{|}{N}}-CH_3$

4) C_6H_5-NH_2

APEAMCET-2018 -- Engineering Stream Final Key Date: 24-04-18 AN (Shift 2)	
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122	3
123	4
124	2
125	2
126	4
127	4
128	2
129	4
130	1
131	4
132	4
133	3
134	3
135	3
136	1
137	4
138	3
139	4
140	2
141	3
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160	3