TS EAMCET Chemistry Previous Questions with Key – Test 1

121) The energy of an electron in the 3rd orbit of H-atom (in J) is approximately.

1) -2.18×10^{-18} 2) -2.42×10^{-19} 3) -1.21×10^{-19} 4) -3.63×10^{-19}

122) The wavelength (in m) of a particle of mass 11.043×10^{-26}kg moving with a velocity of 6.0×10^{7} ms^{-1} is

1) 1.0×10^{16} 2) 6.0×10^{-16} 3) 1.0×10^{-16} 4) 6.0×10^{16}

123) Covalent bond length of chlorine molecule is 1.98 Å. Convalent radius (in Å) of chlorine atom is

1) 1.98 2) 0.99 3) 3.96 4) 0.49

124) The covalency of Al in $[AlCl(H_2O)_5]^{2+}$ is

1) 3 2) 5 3) 1 4) 6

125) The correct order of bond angles of the given compounds is

1) $NH_3 < PH_3 < AsH_3 < SbH_3$ 2) $SbH_3 < AsH_3 < PH_3 < NH_3$

3) $NH_3 < AsH_3 < SbH_3 < PH_3$ 4) $PH_3 < SbH_3 < AsH_3 < NH_3$

126) The molecular orbital theory supports paramagnetic behavior of

1) Be_2 2) C_2 3) N_2 4) O_2

127) Which of the following represents van der Waal's equation for n moles of the gas

1) $\left(P+\frac{a}{v^2}\right)(v-b)=nRT$ 2) $P(v-b)=nRT$

3) $\left(P+\frac{a}{v^2}\right)v=nRT$ 4) $PV+\frac{an^2}{V}-\frac{abn^3}{V^3}-Pnb=nRT$

128) The kinetic energy in J of 1 mole of N_2 at 27°C is

($R=8.314$ J $mol^{-1}K^{-1}$)

1) 2,494 2) 18,706 3) 7,482 4) 3,741

129) In the titration of I_2(aq) by $S_2O_3^{2-}$ (aq) using the starch indicator, the end point is indicated by

1) Colourless to blue 2) Blue to colourless 3) Pink to colourless 4) Blue to pink

130) When 10g of 90% pure limestone is heated, the approximate volume (in L) of CO_2 liberated at STP is

1) 4.4 2) 2.0 3) 4.0 4) 22.4

131) At 298K, the equilibrium constant of the process $1.5O_{2(g)} \rightleftharpoons O_{3(g)}$ is 3×10^{-29}. Standard free energy change (in kJ mol^{-1}) of the process is approximately (R=8.314 J $mol^{-1}K^{-1}$; log3=0.47)

1) 724
2) 612
3) 247
4) 163

132) For a reaction $2A_{(g)} \rightleftharpoons 2B_{(g)} + C_{(g)}$, $K_c=3.75\times10^{-6}$ at 1069K. The approximate value of K_p for this reaction at the same temperature is
(R=0.082 L bar $mol^{-1}K^{-1}$)

1) 2.4×10^{-4} 2) 3.3×10^{-4} 3) 33×10^{2} 4) 7.2×10^{4}

133) The degree of dissociation of 0.1 N CH_3COOH is (given $K_a=1\times10^{-5}$) approximately

1) 1×10^{-6} 2) 1×10^{-7} 3) 1×10^{-3} 4) 1×10^{-2}

134) Match the reactants in List-I with the products in List-II

List-I	List-II
(a) H_2O+H_2S	(i) (H_3O^+,HS^-)
(b) H_2O+N^{3-}	(ii) (NH_3, OH^-)
(c) $H_2O+SiCl_4$	(iii) (OH^-, H_3S^+)
(d) H_2O+F_2	(iv) (SiO_2, HCl)
	(v) (SiO_4^{4-},Cl_2)
	(vi) (O_2, F^-)
	(vii) (HF, OH^-)
	(viii) (OH^-, HN_3)

The correct answer is

1) (a) (b) (c) (d)

(i) (viii) (v) (vi)

2) (a) (b) (c) (d)

(iii) (ii) (v) (vii)

3) (a) (b) (c) (d)

(iii) (viii) (iv) (vii)

4) (a) (b) (c) (d)

(i) (ii) (iv) (vi)

135) When sodium (Na) metal is dissolved in liquid ammonia (NH_3) , it imparts a blue color to the solution. This blue coloration is due to

1) Liquid NH_3

2) $[Na(NH_3)]^+$

3) $NaNH_2$

4) $[\bar{e}(NH_3)_x]^-$

136) Identify the correct statements from the following

a) In orthoboric acid, boron is in planar geometry

b) In $BCl_3.NH_3$, boron is acidic

c) Aqueous solution of borax is acidic

1) a, b

2) b, c

3) a, c

4) a, b, c

137) Si reacts with CH_3Cl at 573 K in the presence of Cu powder to form methyl substituted chlorosilanes. Among the given methyl substituted chlorosilanes, whose yield is minimum?

1) CH_3SiCl_3

2) $(CH_3)_2SiCl_2$

3) $(CH_3)_3SiCl$

4) $(CH_3)_4Si$

138) When vegetation is burnt in the absence of oxygen, which of the following will be formed?

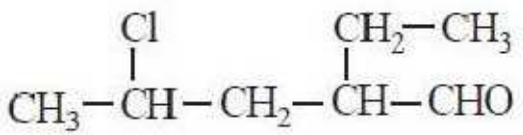
1) CH_4

2) $H_2C=CH_2$

3) H-C≡C-H

4) H_3C-CH_3

139) IUPAC name for the following compound is



1) 2-chloro-4-ethylpentanal

2) 2- ethyl-4- chloropentanal

3) 4- chloro-2- ethylpentanal

4) 2-chlorohexane-4-al

140) What are products formed in the reaction given below?

$$Ph\text{-}CH_2\text{-}CH=CH\text{-}CH_3 \xrightarrow[2)\ Zn+H_2O]{1)\ O_3} ?$$

1) Acetic acid and 2-phenyl acetic acid

2) 2-Phenyl ethanal and ethanal

3) 2-Phenyl ethanol and ethanol

4) 1-phenyl butane-2, 3-diol

141) The major product obtained in the reaction of isobutyl benzene with acetic anhydride in the presence of anhydrous $AlCl_3$ is

1) p-isobutyl acetophenone

2) acetophenone

3) m- isobutyl acetophenone

4) o- isobutyl acetophenone

142) A compound is formed by elements X, Y and Z. Atoms of Z(anions) make fcc lattice. Atoms of X(cations) occupy all the octahedral voids, Atoms of Y(catiions) occupy $\frac{1}{3}rd$ of the tetrahedral voids. The formula of the compound is..

1) $X_3Y_2Z_3$
2) X_2YZ
3) XY_2Z
4) X_2Y_2Z

143) A litre of sea water(which weighs 1030 g) contains 6×10^{-3} g of dissolved oxygen. The concentration of dissolved oxygen in ppm is

1) 5.8
2) 6.0
3) 6.2
4) 6.4

144) At 300K, a one litre solution of sucrose(molecular weight: 342) was prepared by dissolving 40g of sucrose. What is the approximate osmotic pressure(in kPa) of solution at the same temperature?
($R = 8.314 \times 10^6$ cm^3 Pa K^{-1} mol^{-1})

1) 292
2) 500
3) 292000
4) 600

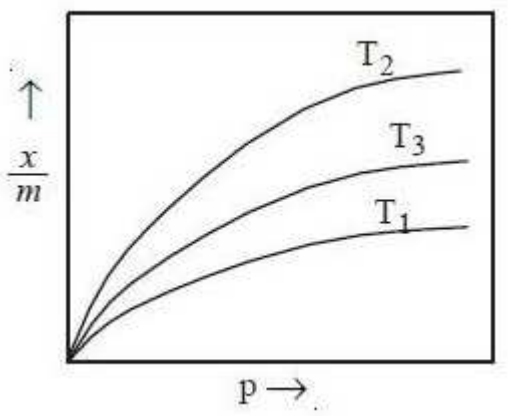
145) The EMF of a galvanic cell consisting of two hydrogen electrodes is 0.17V. If the solution of one of the electrodes has $[H^+] = 10^{-3}$ M, the P^H at the other electrode is?

1) 5.88
2) 4.88
3) 2.08
4) 3.08

146) If the rate constants of a reaction at 500K and 700K are $0.002s^{-1}$ and $0.06\ s^{-1}$ respectively, the value of K^{-1} activation energy is (R= 8.314J $mol^{-1}K^{-1}$, log3= 0.477)

1) 49.49 kJ mol^{-1}
2) 98.98 kJ mol^{-1}
3) 24.75 kJ mol^{-1}
4) 12.37 kJ mol^{-1}

147) The following graph is obtained for physisorption of a gas as a function of pressure at different temperatures.



The correct order of temperature is

1) $T_3 < T_2 < T_1$
2) $T_2 < T_3 < T_1$
3) $T_2 < T_1 < T_3$
4) $T_1 < T_3 < T_2$

148) Identify the correct set of sulphide ores from the following

1) Fool's gold, Calamine, Kaolinite
2) Sphalerite, Fool's gold, Chalcopyrites
3) Copper glance, Siderite, Malachite
4) Bauxite, Magnetite, Zincite

149) Identify the reactions in which N_2 is liberated

(a) $(NH_4)_2SO_4 + NaOH \longrightarrow$

(b) $NH_{3(excess)} + Cl_2 \longrightarrow$

(c) $(NH_4)_2Cr_2O_7 \longrightarrow$

(d) $NH_4NO_3 \longrightarrow$

(e) $NH_4Cl_{(aq)} + NaNO_2(aq) \longrightarrow$

1) a, b, c

2) c, d, e

3) b , c, e

4) a, c, d

150) What are X and Y, respectively in the following reactions?

Au+ aqua regia$\rightarrow AuCl_4^- + H_2O + X$

Pt+ aqua regia$\rightarrow PtCl_6^{2-} + H_2O + Y$

1) N_2O, NO

2) N_2O, N_2O

3) NO, NO

4) NO, NO_2

151) Which of the following sets correctly represent the increasing paramagnetic property of the ion?

1) $Cu^{2+} < V^{2+} < Cr^{2+} < Mn^{2+}$

2) $Cu^{2+} < Cr^{2+} < V^{2+} < Mn^{2+}$

3) $Mn^{2+} < V^{2+} < Cr^{2+} < Cu^{2+}$

4) $Mn^{2+} < Cu^{2+} < Cr^{2+} < V^{2+}$

152) Which of the following molecules / ions can exhibit isomerism?

A) Tetrahedral $NiCl_2Br_2^{2-}$

B) Square planar $Pt(NH_3)_2Cl_2$

C) Octahedral $Co(NH_3)_3Cl_3$

D) Square planar $Pd(NH_3)_3Br^+$

E) Octahedral $Co(en)_3^{3+}$

Where, en=1,2-di amino ethane

1) A, B, C, D
2) B, C, E
3) B, C, D
4) A, B, C, E

153) The formation of terylene (or decron) from ethylene glycol and terephthalic acid is

1) a condensation polymerization reaction
2) an anionic polymerization reaction
3) an addition polymerization reaction
4) a cationic polymerization reaction

154) Which of the following carbohydrates has a glycosidic linkage

1) Fructofuranose
2) Glucopyranose
3) Maltose
4) β-D-Fructose

155) Identify an antioxidant, an antiseptic respectively from the following

Equanil	chloramphenicol	Bithionol
(A)	(B)	(C)
Aspartame	Dimetapp	Butylatedhydroxytoluene
(D)	(E)	(F)

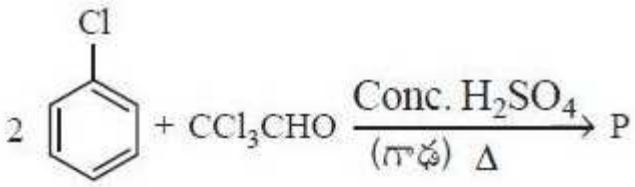
1) A, C, E

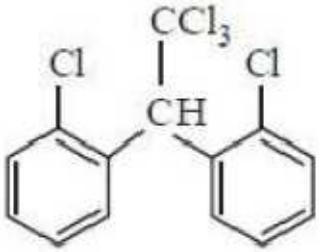
2) F, C, B

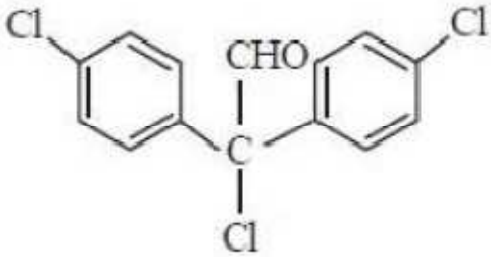
3) B, D, E

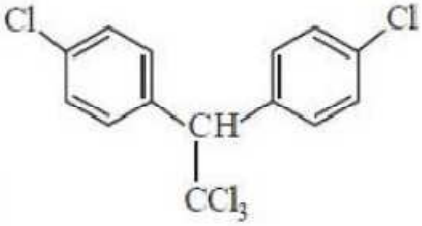
4) C, D, F

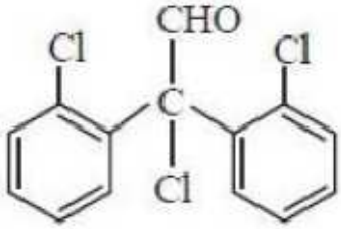
156) The major product (P) formed in the following reaction is



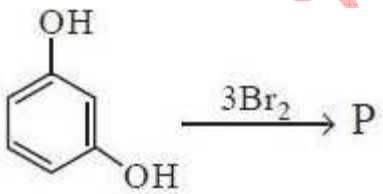
1) 

2) 

3) 

4) 

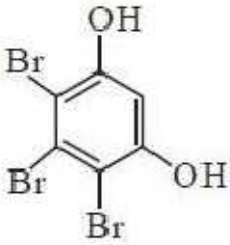
157) The product (P) of the below reaction is



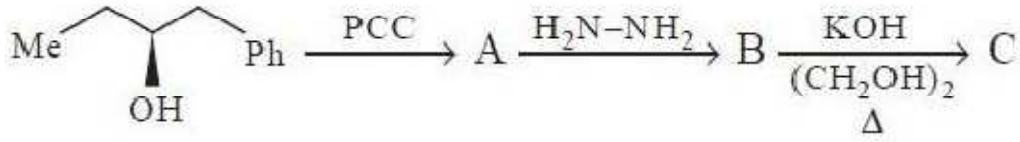
1) 

2) 

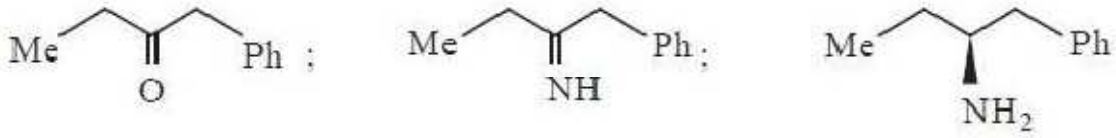
3) 

4) 

158) The products A, B and C in the following reaction sequence are

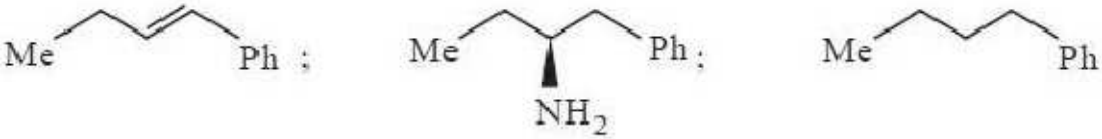


1)



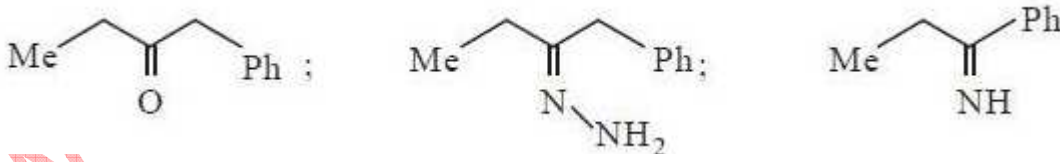
A B C

2)



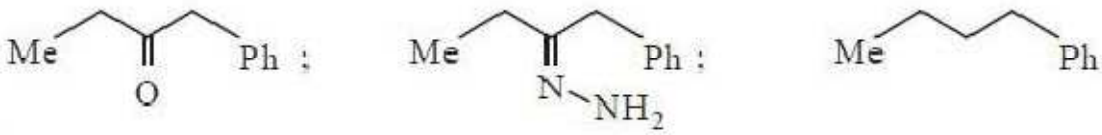
A B C

3)

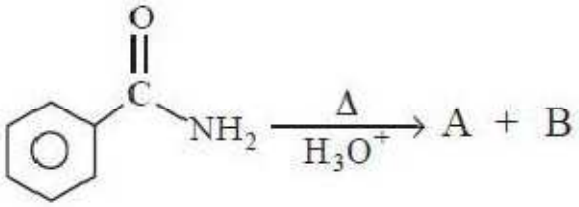


A B C

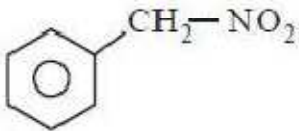
4)



159) Identify A and B in the following reaction

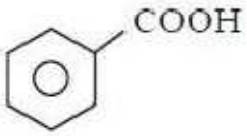


A B

1) 

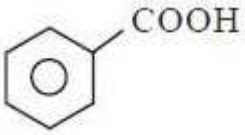
: NH_2OH

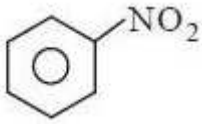
A B

2) 

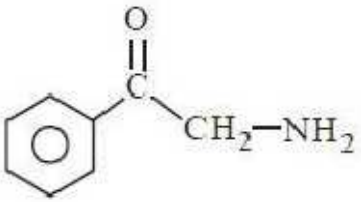
: NH_3

A B

3) 

: 

A B

4) 

: NH_3

160) Which product of the following reactions fails to give carbyl amine test?

1) Hoffmann bromide degradation

2) Gabriel phthalimide synthesis

3) Reduction of nitrites with $LiAlH_4$

4) Reduction of tertiary amides with $LiAlH_4$

TS EAMCET 2018 Engineering Stream Final Key Date: 04-05-2018 FN (Shift 1)	
121	2
122	3
123	2
124	4
125	2
126	4
127	4
128	4
129	2
130	2
131	4
132	2
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134	4
135	4
136	1
137	4
138	1
139	3
140	2
141	1
142	1
143	1
144	1
145	1
146	1
147	2
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149	3
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151	1
152	2
153	1
154	3
155	2
156	3
157	3
158	4
159	2
160	4

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