

AP EAMCET Chemistry Previous Questions with Key – Test 9

121) The ground and first excited state energies of E_1 and E_2 respectively. Which pair of species has same energy? [Note that energy is indicated in the bracket]

- 1) $H(E_1)$, $Li^{2+}(E_2)$
- 2) $He^+(E_1)$, $Be^{3+}(E_2)$
- 3) $He(E_1)$, $Li^{2+}(E_2)$
- 4) $H(E_2)$, $Be^{3+}(E_1)$

122) The Kinetic energy (in J) of a particle of mass 4.5×10^{-31} kg having a wavelength of 1000 nm is ; ($h = 6.62 \times 10^{-34}$ J s)

- 1) 2.43×10^{-24}
- 2) 2.43×10^{-26}
- 3) 4.86×10^{-24}
- 4) 4.86×10^{-24}

123) Arrange the following oxides in the increasing order of their basic nature

Al_2O_3 K_2O P_2O_5 MgO

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

- 1) $d < b < c < a$
- 2) $b < c < a < d$
- 3) $c < a < b < d$
- 4) $a < c < d < b$

124) If the dipole moment of H_2S , NH_3 , NF_3 and BF_3 are 0.95D, 1.47D, 0.23D and 0.0D respectively, the molecule that has trigonal planar structure is:

- 1) BF_3
- 2) NH_3
- 3) H_2S
- 4) NF_3

125) Identify statement (s) which is (are) not correct from the following

- a) NH_3 and H_3O^+ are isostructural
- b) ClF_3 has T-shape
- c) O_2 molecule is paramagnetic
- d) Bond order of N_2^+ is more than N_2

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

126) When 2g of a gaseous substance A is introduced into an initially evacuated flask at 25°C , the pressure is found to be 1atm. 3g of another gaseous substance B is added to it at the same temperature and pressure. The final pressure is found to be 1.5 atm. Assuming ideal gas behavior, the ratio of the molar masses of A and B is

- 1) 1:3
- 2) 3:1
- 3) 2:3
- 4) 3:2

127) What volume (in mL) of HCl solution containing 73g per litre is required to completely neutralize sodium hydroxide solution, obtained by allowing 0.46g of metallic sodium to act upon water?

- 1) 30
- 2) 20
- 3) 10
- 4) 40

128) A gas absorbs 100J of heat and is simultaneously compressed by a constant external pressure of 1.5 atm from a volume of 8.0L to 2.0L. The change in internal energy for the gas in joules is (1L – atm = 101.32J)

1) -1011.9

2) -909.9

3) +909.9

4) 1011.9

129) At T(K), 3 moles of hydrogen and 1 mole of N_2 are allowed to react to form ammonia. When 1 mole of ammonia is formed, the total pressure in the vessel is 15 atm. The partial pressure of N_2 in the vessel (in atm) is

1) 7.5

2) 2.5

3) 3.5

4) 6.5

130) When 200 ml solution of HCL of pH = 2 is mixed with 300 ml solution of NaOH of pH = 12, the pH of resulting solution is ($\log 2 = 0.3$)

1) 2.7

2) 11.3

3) 12

4) 8

131) How many milliliters of 3% (w/v) H_2O_2 solution is required to get 150 mL of oxygen at STP?

1) 10

2) 20

3) 30

4) 15

132) Gypsum is added to clinker during cement manufacture to

- 1) decrease the rate of setting of cement
- 2) bind the particles of calcium silicate
- 3) facilitate the formation of colloidal gel
- 4) to get the fine powder

133) The correct order of first ionisation enthalpy of group-13 elements is

- 1) $B > Ga > Tl$
- 2) $B > Ti > Ga$
- 3) $Ga > B > Tl$
- 4) $Tl > Ga > B$

134) Identify the incorrect statement

- 1) CO is used in the manufacture of urea
- 2) Quartz is used as a piezoelectric material
- 3) silicones are used as electrical insulators
- 4) ZSM-5 is used to convert alcohols directly into gasoline

135) Identify the correct statements from the following

- a) BOD value of clean water is less than 5ppm
- b) Oxidation of ethene in the presence of Pd^{2+} catalyst in aqueous medium gives acetic acid
- c) Photochemical smog causes damage to plant life
- d) Reducing smog is a mixture of smoke, fog and SO_2

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

136) The formulae of ammonium phosphomolybdate (X) and the compound (Y) responsible for Prussian blue colour

- | | | |
|----|---|---|
| 1) | X | Y |
| | $(\text{NH}_4)_3\text{PO}_4 \cdot 12\text{MoO}_3$ | $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3 \cdot \text{XH}_2\text{O}$ |
| 2) | X | Y |
| | $(\text{NH}_4)_3\text{PO}_3 \cdot 12\text{MoO}_3$ | $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3 \cdot \text{XH}_2\text{O}$ |
| 3) | X | Y |
| | $(\text{NH}_4)_3\text{PO}_3 \cdot 12\text{MoO}_3$ | $\text{Fe}_3[\text{Fe}(\text{CN})_6]_2 \cdot \text{XH}_2\text{O}$ |
| 4) | X | Y |
| | $(\text{NH}_4)_3\text{PO}_4 \cdot 12\text{MoO}_3$ | $\text{Fe}_3[\text{Fe}(\text{CN})_5]_2 \cdot \text{XH}_2\text{O}$ |

137) Ethylene on reaction with Baeyer's reagent gives the compound A. In the preparation of co-polymer X, compound A is used as monomer. What is X?

- 1) Nylon 6.6
- 2) Bakelite
- 3) Glyptal
- 4) Nylon 2-Nylon 6

138) Meta directing groups among the following are

- | | | | | |
|-----|------|--------|--------------------|-------------------|
| -CN | -COR | -NHCOR | -SO ₃ H | -OCH ₃ |
| (a) | (b) | (c) | (d) | (e) |

- 1) a, b, d
- 2) b, c, d
- 3) a, b, c, d
- 4) b, c, d, e

139) Which one of the following statements is correct ?

- 1) The unit cell lengths of a lattice are a , b and c . The angle between b and c is β .
- 2) A metal (M) crystallizes in bcc lattice. The number of atoms of M per unit cell is 2
- 3) SiC is an ionic solid
- 4) For triclinic lattice, the angles have the following relationship $\alpha = \beta = \gamma = 90^\circ$

140) What is the molar mass (in g mol^{-1}) of a substance, which forms a 7% by mass solution in water, which freezes at -0.93°C ? (K_f of $\text{H}_2\text{O} = 1.86 \text{ K kg mol}^{-1}$)

- 1) 140.4
- 2) 150.5
- 3) 160.6
- 4) 155.5

141) Assertion (A) : The vapour pressure of 0.1M sugar solution is less than that of 0.1M KCl solution

Reason (R) : Lowering of vapour pressure is directly proportional to the number of particles of non-volatile solute present in the solution

The correct answer is

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

142) For a reaction, $\text{A}_{(s)} + 2\text{B}^+_{(aq)} \rightleftharpoons \text{A}^{2+}_{(aq)} + 2\text{B}_{(s)}$ $K_{(c)}$ is 10^{12} at 25°C . The E°_{cell} of the corresponding cell is ($F = 96500 \text{ C mol}^{-1}$)

- 1) 0.708V
- 2) 0.534V
- 3) 0.355V
- 4) 0.453V

143) The rate constant of a first order reaction is 6.909 min^{-1} . so the time required for the completion of 75% of the same reaction in minutes is

1) $\frac{2}{3} \log 2$

2) $\frac{2}{3} \log 4$

3) $\frac{3}{2} \log 2$

4) $\frac{3}{2} \log 4$

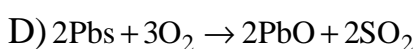
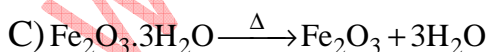
144) Identify the correct statement (s) from the following

- a) Protective power of a lyophilic sol is more if its gold number is more
- b) In the coagulation of negative sols, the coagulating power of cations follow the order $\text{Na}^+ > \text{Ba}^{2+} > \text{Al}^{3+}$
- c) Cloud is a solid in gas type of colloid
- d) Physical adsorption is non-specific and multilayered at high pressure

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

145) Match the following

List - I



List - II

I) Roasting

II) Calcination

III) vapour phase refining

IV) Electrolysis

V) Leaching

The correct answer is

1) A-V, B-III, C-II, D-I

2) A-III, B-II, C-IV, D-V

3) A-IV, B-III, C-II, D-I

4) A-I, B-II, C-IV, D-III

146) The correct order of boiling points of hydrides of 15th group elements is

1) $\text{PH}_3 < \text{AsH}_3 < \text{NH}_3 < \text{SbH}_3 < \text{BiH}_3$

2) $\text{PH}_3 < \text{AsH}_3 < \text{SbH}_3 < \text{NH}_3 < \text{BiH}_3$

3) $\text{PH}_3 < \text{AsH}_3 < \text{SbH}_3 < \text{BiH}_3 < \text{NH}_3$

4) $\text{BiH}_3 < \text{SbH}_3 < \text{AsH}_3 < \text{PH}_3 < \text{NH}_3$

147) Among the oxyacids of chlorine, the order of acidic character is

1) $\text{HClO}_4 < \text{HClO}_3 < \text{HClO}_2 < \text{HOCl}$

2) $\text{HOCl} < \text{HClO}_2 < \text{HClO}_3 < \text{HClO}_4$

3) $\text{HClO}_2 < \text{HClO} < \text{HClO}_3 < \text{HClO}_4$

4) $\text{HClO}_3 < \text{HClO}_2 < \text{HOCl} < \text{HClO}_4$

148) The catalysts used commonly used in contact process and Deacon's process are respectively

1) $\text{V}_2\text{O}_5, \text{Fe}_2\text{O}_3$ 2) $\text{V}_2\text{O}_5, \text{CuCl}_2$

3) $\text{CuCl}_2, \text{MnO}_2$ 4) $\text{MnO}_2, \text{Fe}_2\text{O}_3$

149) The hybridization of Ni, shape and number of unpaired electrons present in $[\text{NiCl}_4]^{2-}$ are respectively

1) sp^3 , tetrahedral, 2

2) dsp^2 , tetrahedral, 2

3) sp^3 , tetrahedral, 1

4) sp^3 , square planar, 2

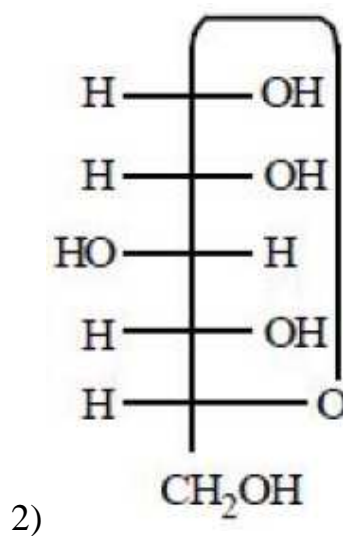
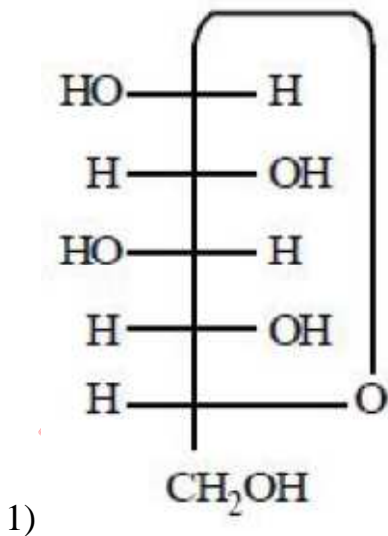
150) Which pair of actinides exhibit the highest oxidation state of +7

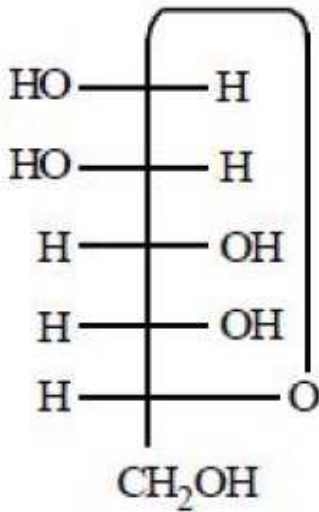
- 1) U & NP
- 2) NP & PU
- 3) U & PU
- 4) PU & Am

151) Buna-N is a co-polymer of 1,3-Butadiene and \underline{x} . What is \underline{x}

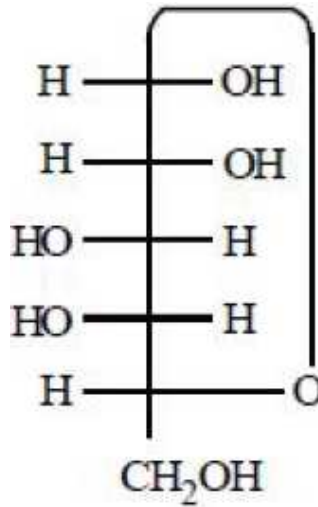
- 1) $\text{CH}_2 = \underset{\text{CN}}{\text{CH}}$
- 2) $\text{CH}_2 = \underset{\text{Cl}}{\text{CH}}$
- 3) $\text{CH}_2 = \underset{\text{C}_6\text{H}_5}{\text{CH}}$
- 4) $\text{CH}_2 = \underset{\text{CH}_3}{\text{CH}}$

152) β -D-(+)-Glucopyranose is





3)



4)

153) Identify a bacteriostatic (A) and bacteriocidal (B) antibiotic from the following

1) A

B

Erythromycin

Chloramphenicol

2) A

B

Ofloxacin

Tetracycline

3) A

B

Chloramphenicol

Norethindrone

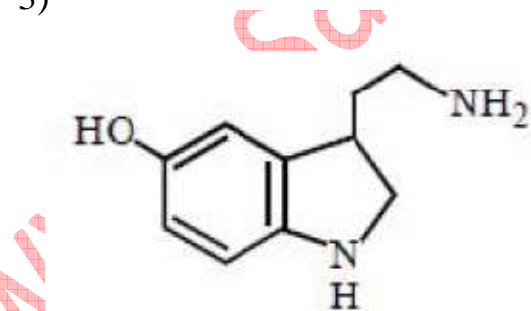
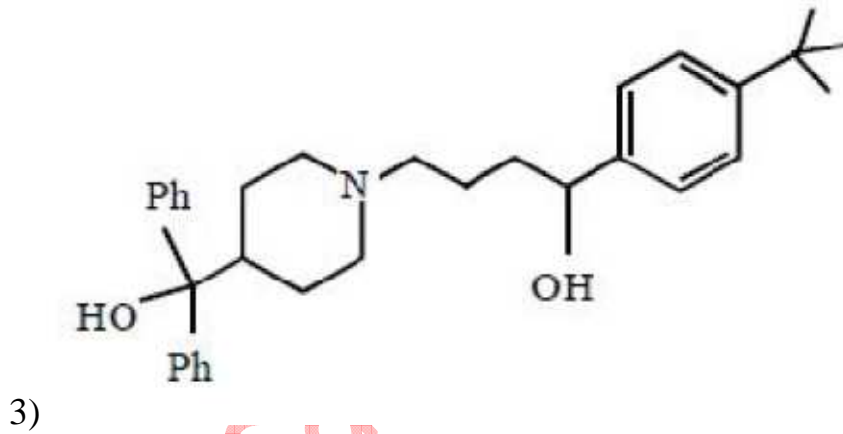
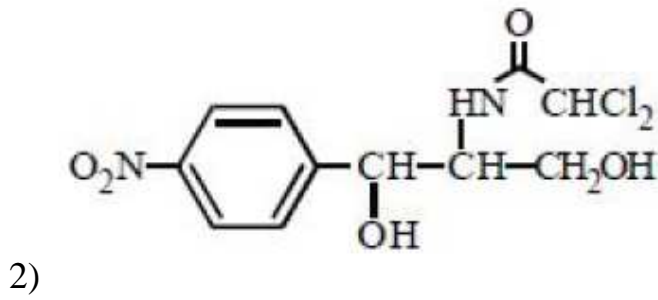
4) A

B

Tetracycline

Ofloxacin

154) Which of the following is an antihistamine?



155) Which of the following are vinyl chlorides?

3-chlorocyclohexene 1-chlorocyclohexene 4-chlorobut-1-ene

(a) (b) (c)

1-chloroethene 3-chlorobut-1-yne 3-chloro-2-methylpropene

(d) (e) (f)

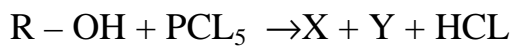
1) a, e, f

2) c, f

3) b, d

4) a, f

156) What are X and Y in the following reaction?



1) X Y



2) X Y



3) X Y



4) X Y



157) Which of the following reactions involve the carbon-carbon bond formation?

1) Hydroboration - Oxidation of alkenes 2) Cannizzaro reaction

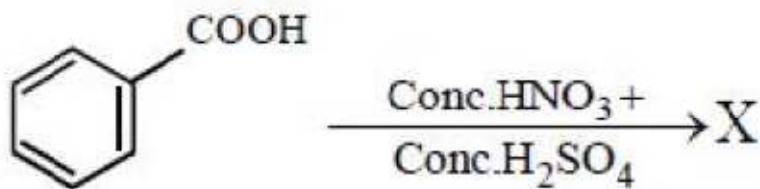
3) Reimer - Tiemann reaction 4) Stephen reaction

158) Which one of the following is not formed by aldol condensation of a mixture of ethanol and propanal

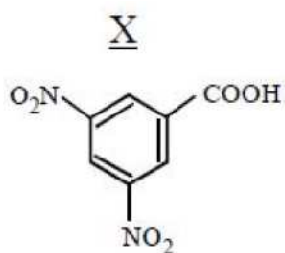
- 1) 2-Methylpent-2-enal
- 2) But-2-enal
- 3) Pent-2-enal
- 4) Hex-3-enal

159) What are X and Y in the following reactions?

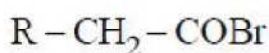
a)



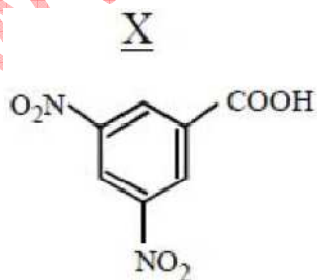
1)



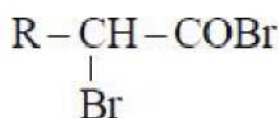
Y



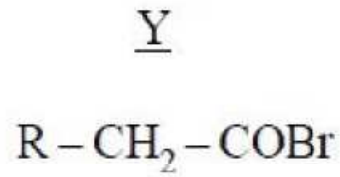
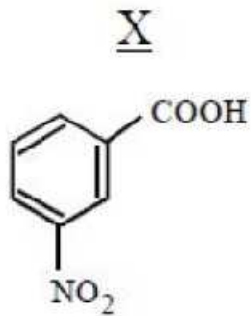
2)



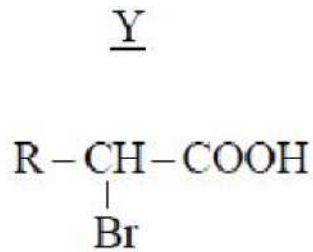
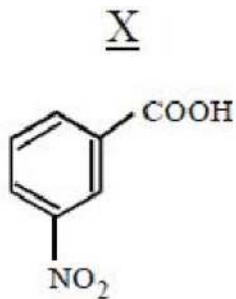
Y



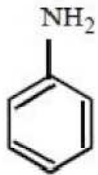
3)



4)



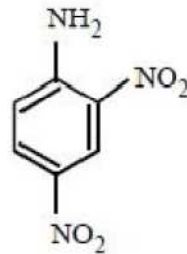
160) Arrange the following in the order of their basic strength



(a)



(b)



(c)



(d)

1) $a > c > b > d$

2) $c > b > a > d$

3) $d > a > b > c$

4) $b > d > a > c$

APEAMCET-2018 -- Engineering Stream Final Key Date: 24-04-18 FN (Shift 1)	
121	1
122	3
123	1
124	3
125	3
126	2
127	3
128	4
129	2
130	3
131	2
132	2
133	4
134	2
135	1
136	2
137	4
138	3
139	4
140	3
141	1
142	1
143	1
144	3
145	2
146	2
147	3
148	4
149	2
150	4
151	1
152	4
153	2
154	1
155	1
156	4
157	1
158	3
159	4
160	1