

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 1 atm. 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 N₂ 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 N₂ 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) H₂O₂ 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 $\text{Na}^+ > \text{Ba}^{2+} > \text{Al}^{3+}$

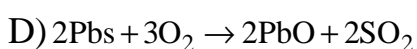
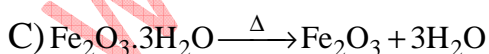
c) Cloud is a solid in gas type of colloid

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

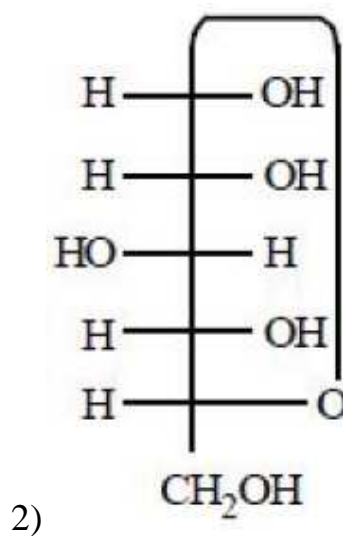
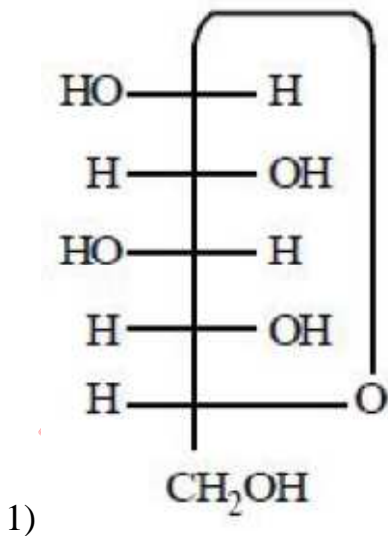
150) Which pair of actinides exhibit the highest oxidation state of +7

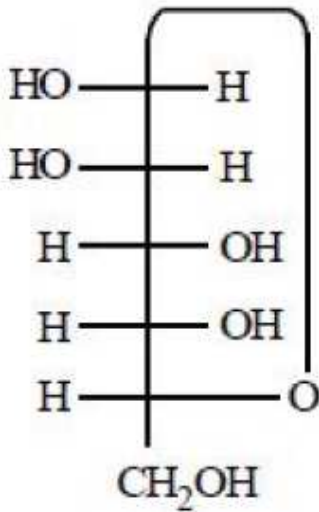
- 1) U & NP
- 2) NP & PU
- 3) U & PU
- 4) PU & Am

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

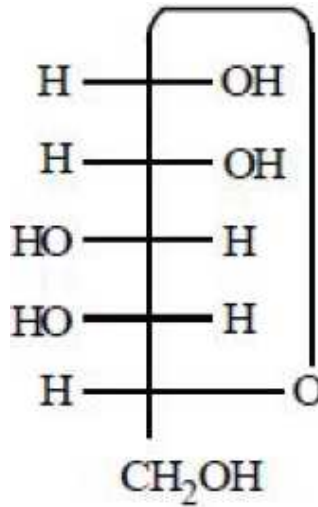
- 1) $\text{CH}_2 = \text{CH} \begin{array}{c} | \\ \text{CN} \end{array}$
- 2) $\text{CH}_2 = \text{CH} \begin{array}{c} | \\ \text{Cl} \end{array}$
- 3) $\text{CH}_2 = \text{CH} \begin{array}{c} | \\ \text{C}_6\text{H}_6 \end{array}$
- 4) $\text{CH}_2 = \text{CH} \begin{array}{c} | \\ \text{CH}_3 \end{array}$

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

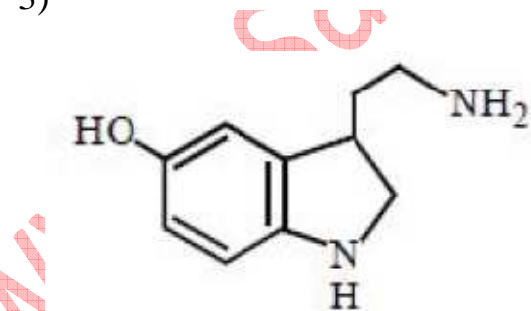
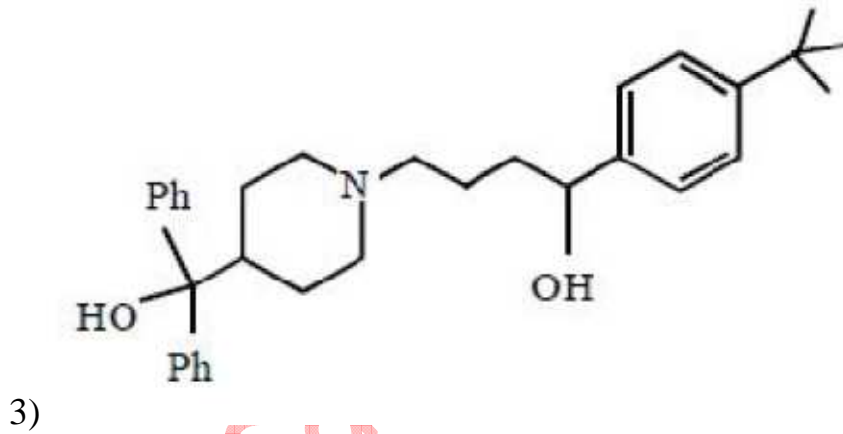
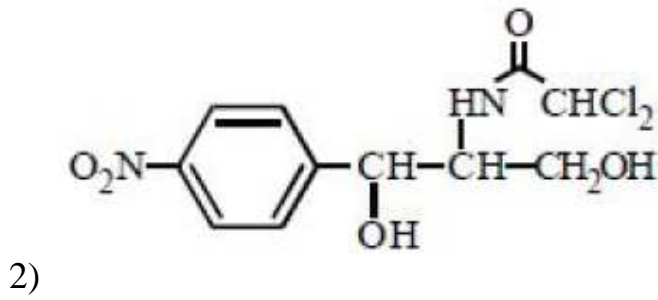
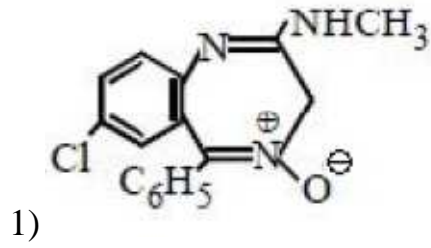
4) A

B

Tetracycline

Ofloxacin

154) Which of the following is an antihistamine?

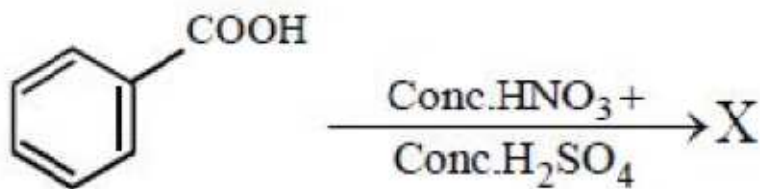


158) Which one of the following is not formed by aldol condensation of a mixture of ethanol and propanal

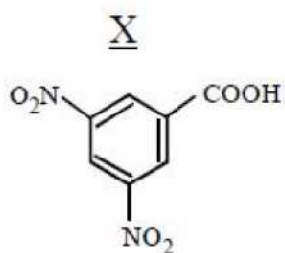
- 1) 2-Methylpent-2-enal
- 2) But-2-enal
- 3) Pent-2-enal
- 4) Hex-3-enal

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

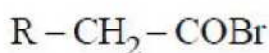
a)



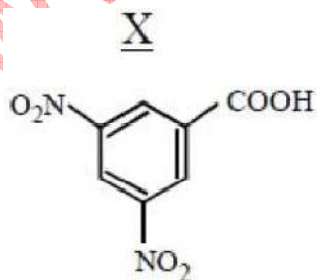
1)



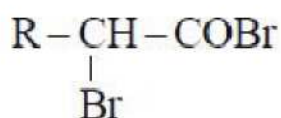
Y



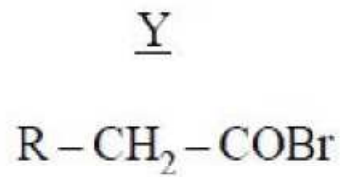
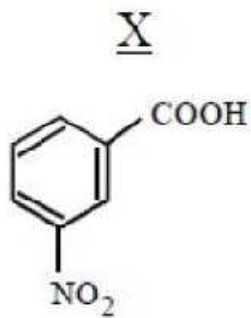
2)



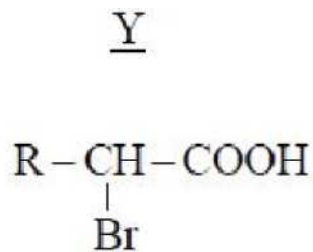
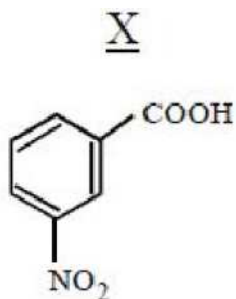
Y



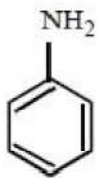
3)



4)



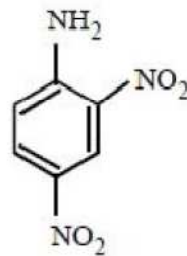
160) Arrange the following in the order of their basic strength



(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