

TS EAMCET Chemistry Previous Questions with Key – Test 4

121) When uncertainty in position and momentum are equal, then the uncertainty in velocity is

1) $\sqrt{\frac{h}{\pi}}$

2) $\frac{1}{2}\sqrt{\frac{h}{\pi}}$

3) $\frac{1}{2m}\sqrt{\frac{h}{\pi}}$

4) $2m\sqrt{\frac{h}{\pi}}$

122) Which of the following are correct?

a) Electron density in XY plane for $d_{x^2-y^2}$ orbital is zero

b) The energy of 3p orbital is higher than the energy of 2p orbital

c) $3p_z$ orbital has one angular node

d) 4f orbital has no radial node

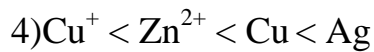
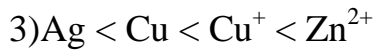
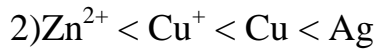
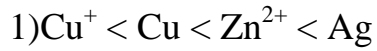
1) a, b, c, d

2) b, c, a

3) b, c, d

4) c, d, a

123) What is the correct order of atomic/ionic size for



124) Identify the correct statements from the following

a) The dipole moment of CO_2 and BF_3 is zero

b) The dipole moment of NF_3 is higher than the dipole moment of NH_3

c) The dipole moment of HI is lower than the dipole moment of HCl

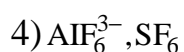
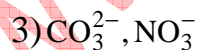
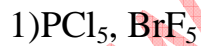
1) a, c

2) a, b

3) b, c

4) a, b, c

125) Identify the pair that is not isostructural



126) Find the odd-electron molecules from the following



1) a, c, d

2) b, c

3) a, d

4) c, e

127) The ratio between the RMS velocity of N_2 at 200K and that of CO at 800 K is (molecular mass of $N_2 = 28 \text{ g mol}^{-1}$, molecular mass of $CO = 28 \text{ g mol}^{-1}$)

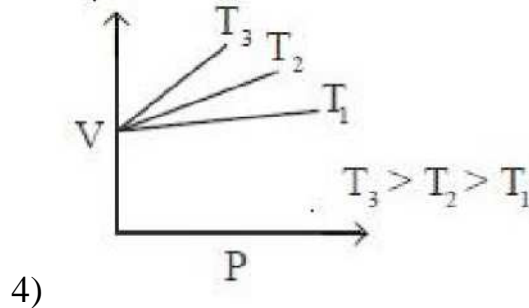
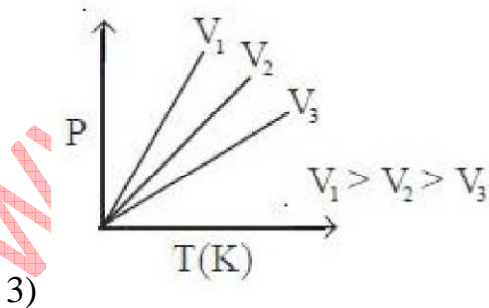
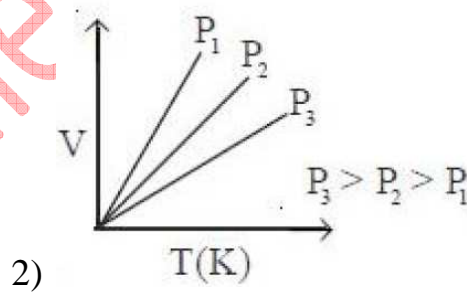
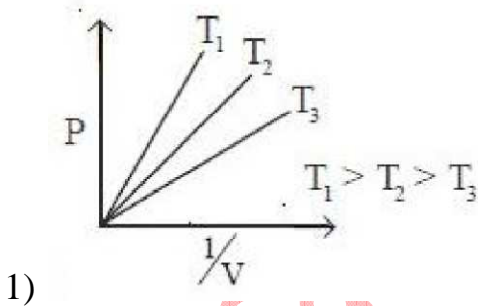
1) 1.00

2) 0.75

3) 0.25

4) 0.50

128) For a fixed mass of an ideal gas the correct representation is



129) The amount of iron (Fe) in g which can be produced from 600 g of magnetite ore is [atomic mass of Fe : 55.8]

- 1) 450
- 2) 379
- 3) 434
- 4) 210

130) If stoichiometric quantities of KMnO_4 and $\text{K}_2\text{Cr}_2\text{O}_7$ mixture is added for the oxidation of Fe^{2+} to Fe^{3+} in acidic medium, then Fe^{2+} will be oxidized

- 1) Equally by KMnO_4 and $\text{K}_2\text{Cr}_2\text{O}_7$
- 2) More by KMnO_4
- 3) More by $\text{K}_2\text{Cr}_2\text{O}_7$
- 4) No reaction

131) A sample of argon of 1 atm pressure and 300 K expands reversibly and adiabatically from 1.25 dm^3 to 2.5 dm^3 . Calculate the approximate enthalpy (in J) change

[i) C_v for argon is 12.48 JK^{-1} , ii) Assume argon to be an ideal gas, iii) $\Delta T = 111.5 \text{ K}$]

- 1) 20.9
- 2) 117
- 3) 234
- 4) 58.5

132) If equilibrium constant of a process is 3.8×10^{-3} at 25°C , standard free energy change of the process is

($R = 8.314 \text{ J mol}^{-1}\text{k}^{-1}$, $\log 0.0038 = -2.42$)

1) 5.7 kJ mol^{-1}

2) 9.9 kJ mol^{-1}

3) 13.8 kJ mol^{-1}

4) 15.6 kJ mol^{-1}

133) Which of the following compounds give basic solution on hydrolysis?

a) NH_4Cl

b) K_2CO_3

c) $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$

d) NaCl

1) a, b, c

2) b, c

3) b, c, d

4) c, d

134) Hardness of water is 200 ppm. Calculate the molarity and normality of CaCO_3 of the water

1) $4 \times 10^{-3} \text{ M}$; $2 \times 10^{-3} \text{ N}$

2) $2 \times 10^{-6} \text{ M}$; $4 \times 10^{-3} \text{ N}$

3) $2 \times 10^{-3} \text{ M}$; $4 \times 10^{-3} \text{ N}$

4) $1 \times 10^{-3} \text{ M}$; $4 \times 10^{-3} \text{ N}$

135) which pair of elements on combustion in give superoxides?

- 1) Li, Cs
- 2) K, Rb
- 3) Li, Rb
- 4) K, Li

136) When borax is dissolved in water, the product formed is

- 1) H_3BO_3
- 2) H_2BO_3
- 3) B_2H_6
- 4) B_2O_3

137) SiO_2 reacts with

- 1) H_2SO_4, HF
- 2) $HF, NaOH$
- 3) $Na_2CO_3, NaOH$
- 4) Na_2CO_3, H_2SO_4

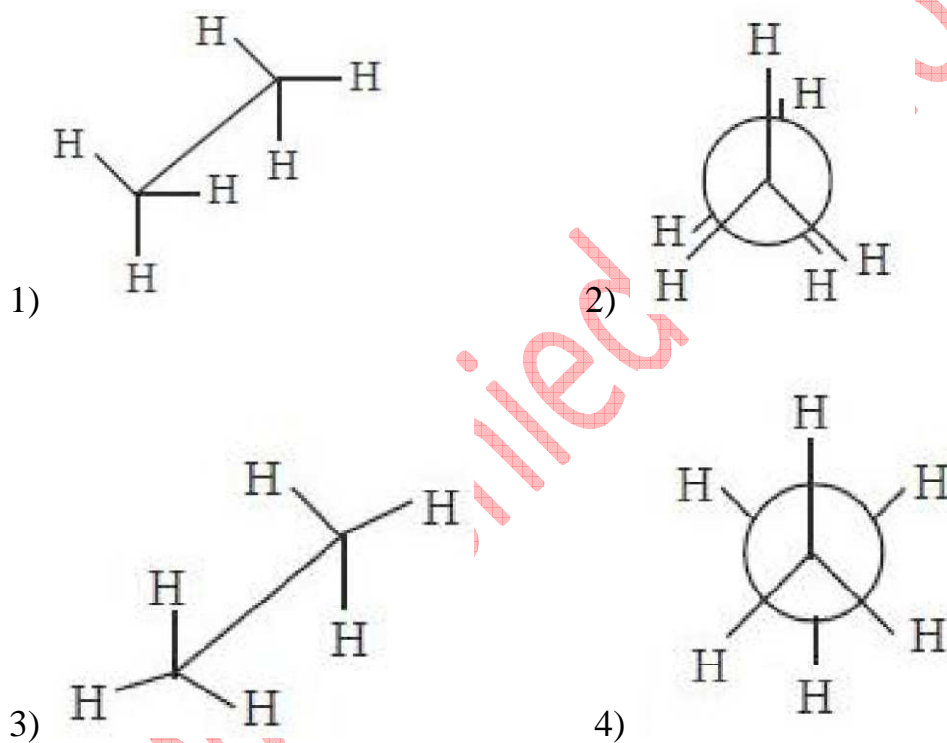
138) Pure water would have a BOD value of

- 1) about 1 ppm
- 2) 5-10 ppm
- 3) 10-15 ppm
- 4) 15-20 ppm

139) Tropolone is

- 1) benzenoid and aromatic
- 2) non-benzenoid and not aromatic
- 3) non-benzenoid and aromatic
- 4) non-benzenoid and anti-aromatic

140) Newman projection of staggered conformation of ethane is



141) 2-Pentyne on reaction with sodium in liquid ammonia produced compound A. What is A?

- 1) n-Pentane
- 2) 1-Pentyne
- 3) cis-2-Pentene
- 4) trans-2-Pentene

142) A solid has hcp lattice. Atoms of Z (anions) form hcp lattice. Atoms of X (cations) occupy all the octahedral voids in the lattice. Atoms of Y (cations) occupy half of the tetrahedral voids. What is the molecular formula of the solid?

1) $X_{2/3}Y_{1/3}Z$

2) XYZ

3) $X_{1/3}Y_{2/3}Z$

4) XYZ_2

143) In an experiment to estimate the molecular weight of benzoic acid by elevation in boiling point method, the experimental value of molecular weight was double the actual value. Calculate the degree of association of dimer if the elevation in B.P. is 2°C .

1) 1.0

2) 0.5

3) 0.9

4) 2.0

144) 2.0 g of a non-electrolyte dissolved in 100 g of benzene lowers the freezing point of benzene by 1.2 K. The freezing point depression constant of benzene is 5.12 kg mol^{-1} . The molar mass of the solute is

1) 55 g mol^{-1}

2) 85 g mol^{-1}

3) 120 g mol^{-1}

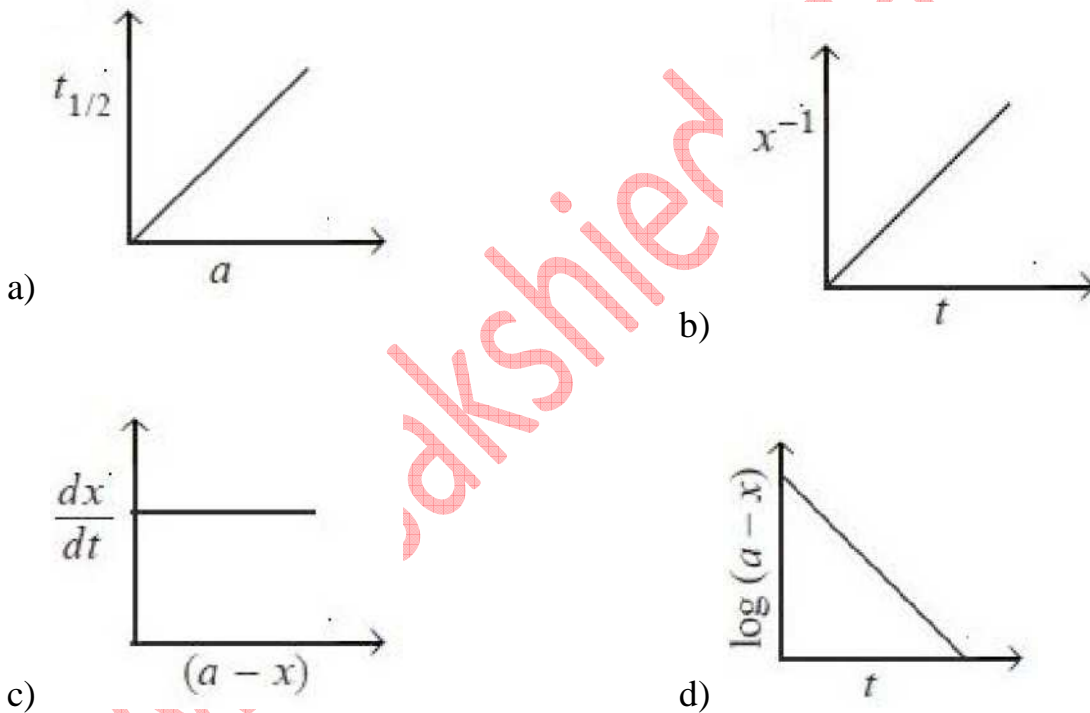
4) 155 g mol^{-1}

145) The potential of hydrogen electrode of pH = 10 with respect to standard hydrogen electrode is

- 1) -0.0591 V
- 2) -0.591 V
- 3) 0.2 V
- 4) 0

146) Which of the following graphs represent a zero order reaction?

(a = initial concentration of reactant, x = concentration of reactant consumed, t = time)



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

147) Fog is a dispersion of

- 1) liquid in liquid
- 2) solid in gas
- 3) gas in solid
- 4) liquid in gas

148) Which of the following reactions is used for Mond's process of metal refining

- 1) $\text{Ni} + 4\text{CO} \xrightarrow{350\text{K}} \text{Ni}(\text{CO})_4$
- 2) $2[\text{Au}(\text{CN})_2]^- + \text{Zn} \rightarrow 2\text{Au} + [\text{Zn}(\text{CN})_4]^{2-}$
(aq) (s) (s) (aq)
- 3) $\text{ZnO} + \text{C} \xrightarrow{1673\text{K}} \text{Zn} + \text{CO}$
- 4) $\text{Fe}_2\text{O}_3 + \text{CO} \rightarrow 2\text{FeO} + \text{CO}_2$

149) The most acidic among the following compounds is

- 1) NO_2
- 2) N_2O_4
- 3) N_2O_5
- 4) N_2O_3

150) Oxidation states of S in $\text{H}_2\text{S}_2\text{O}_7$ are

- 1) IV, IV
- 2) VI, VI
- 3) II, VI
- 4) I, VII

151) Identify the number of complexes that are optically active



1) 0

2) 1

3) 2

4) 3

152) Statement (a): Co^{2+} has higher magnetic moment than Cr^{3+}

Statement (b): Ionization enthalpies of Ce, Pr and Nd are higher than Th, Pa, U

Which of the following is correct?

1) Both (a) and (b) are not correct

2) Both (a) and (b) are correct

3) (a) is correct but (b) is not correct

4) (a) is not correct but (b) is correct

153) The schematic illustrations of macromolecules given below represent



D) None

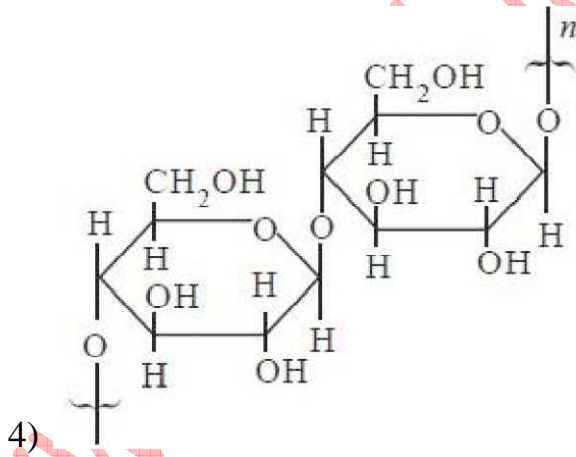
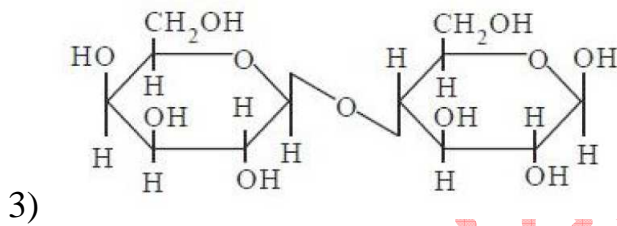
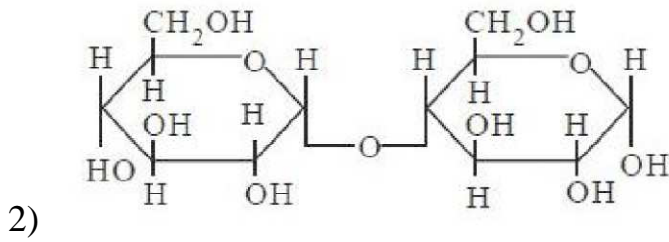
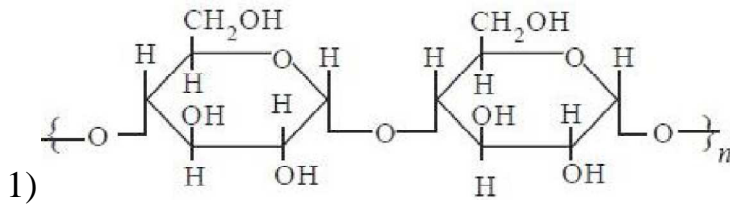
1) A-HDPE, B-LDPE, C-Bakelite

2) A-Bakelite, B-HDPE, C-LDPE

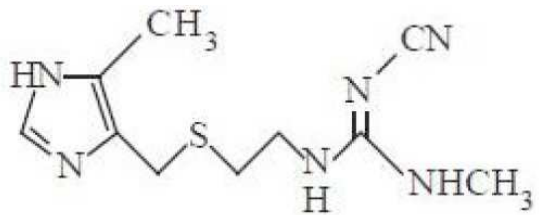
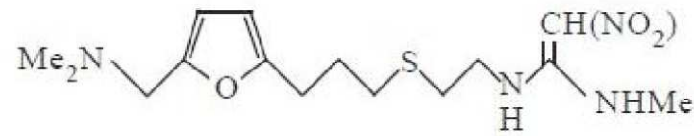
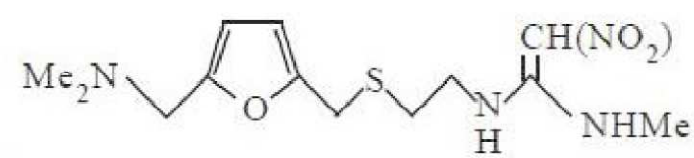
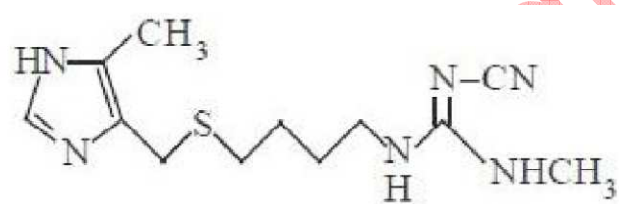
3) A-HDPE, B-Bakelite, C-LDPE

4) A-LDPE, B-Bakelite, C-HDPE

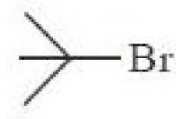

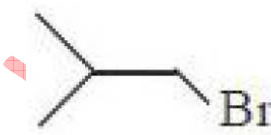
154) Which one of the following structures represent amylose?



155) The structure of ranitidine is

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

156) Arrange the following bromides in the order of reactivity in undergoing S_N1 reaction

- i) 
- ii) 
- iii) 
- iv) None

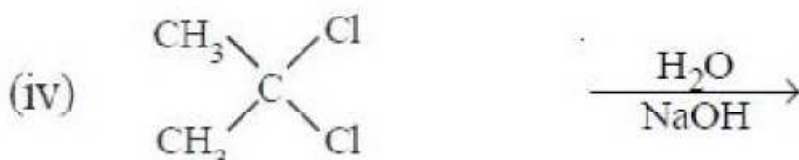
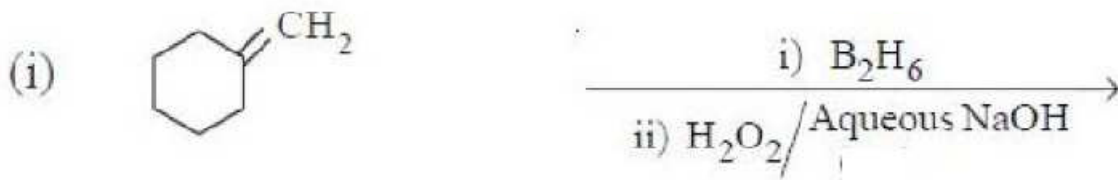
1) i > iii > ii > iv

2) iv > ii > iii > i

3) i > ii > iii > iv

4) ii > iv > iii > i

157) From the following identify the reactions that give alcohol as the product



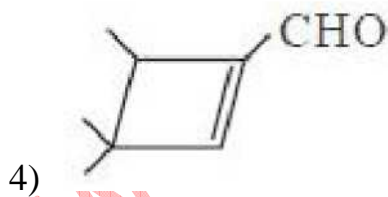
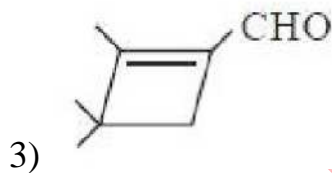
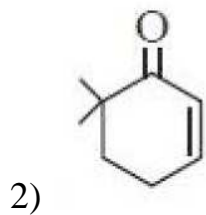
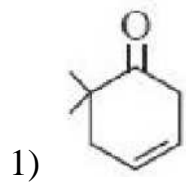
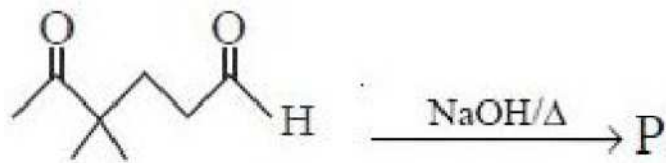
1) i, iii, uiv

2) i, ii, iv

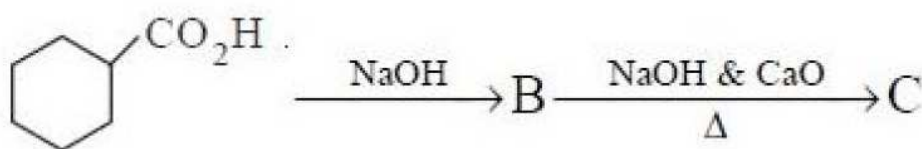
3) i, ii, iii

4)ii, iii, iv

158) What is the possible product (P) in the following reaction?

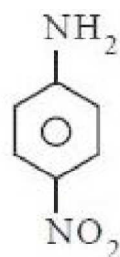
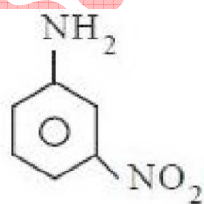
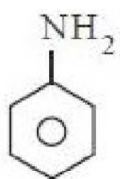


159) What are the products B and C in the following reaction sequence?



- 1) (B) C1CCCCC1C(=O)O[Na] (C) C1CCCCC1
- 2) (B) C1CCCCC1C(=O)O[Na] (C) C1CCCCC1O
- 3) (B) C1CCCCC1[Na] (C) C1CCCCC1O
- 4) (B) C1CCCCC1C(=O)O[Na] (C) C1CCCCC1[Na]

160) Which of the options correctly represent the basicity for these compounds



1) a > c > b

2) a > b > c

3) c > b > a

4) c > a > b

TS EAMCET 2018 Engineering Stream Final Key Date: 05-05-2018 AN (Shift 2)	
121	3
122	3
123	2
124	1
125	1
126	4
127	4
128	1
129	3
130	2
131	2
132	3
133	2
134	3
135	2
136	1
137	2
138	1
139	3
140	4
141	4
142	2
143	1
144	2
145	2
146	2
147	4
148	1
149	3
150	2
151	3
152	4
153	2
154	1
155	3
156	1
157	3
158	2
159	1
160	2