CHEMISTRY

BOOKS - TS EAMCET PREVIOUS YEAR PAPERS

TS EAMCET 2017

Chemistry

1. Which of the following conditions are correct for real solutions showing negative deviation from Raoult's law?

A. $\Delta H_{mix} < 0, \Delta V_{mix} > 0$

B. $\Delta H_{mix} > 0, \Delta V_{mix} > 0$

C. $\Delta H_{mix} > 0, \Delta V_{mix} < 0$

D. $\Delta H_{mix} < 0, \Delta V_{mix} < 0$

Answer: D

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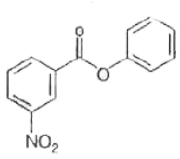
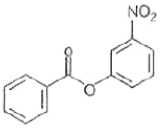
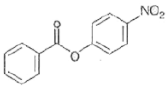
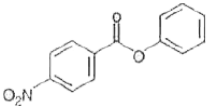
2. Nitration of phenyl benzoate yields the product

A. 

B. 

C. 

D. 

Answer: C

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3. The electronic configuration of Pr_{59}(praseodimium) is

A. $[_{54}Xe]4f^2 5d^1 6s^2$

B. $[_{54}Xe]4f^2 5d^2 6s^2$

C. $[_{54}Xe]4f^3 6s^2$

D. $[_{54}Xe]4f^3 6s^2$

Answer: C

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4. Which of the following is the most basic oxide?

A. SO_3

B. SeO_3

C. PoO

D. TeO

Answer: C

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5. The element that forms stable compunds in low oxidation state is

A. Mg

B. Al

C. Ga

D. TI

Answer: D

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6. Atomic radius (pm) of Al, Si, N and F respectively is

A. 117,143,64,74

B. 143,117,74,64

C. 143,47,64,74

D. 64,74,117,143

Answer: B

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7. Reaction of calgon with hard water containing Ca^{2+} ions produce

A. $[Na_2CaP_6O_{18}]^{2-}$

B. $Ca_2(PO_4)_3$

C. $CaCO_3$

D. $CaSO_4$

Answer: A

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8. Which of the following statement(s) is /are true

A. The pressure of a fixed amount of an ideal gas is proportional to its temperature only

B. Frequency of collisions increases in proportion to the square root of temperature

C. Tha value of van der waal's constant 'a' is smaller for ammonia than for nitrogen

D. IF a gas is expanded at constant temperature , the kinetic energy of the molecules decrease

Answer: B

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9. Conversion of esters to aldehydes can be accomplished by

A. stephen reduction

B. Rosenmund reduction

C. Reduction with lithium aluminium hydride

D. Reduction with disobutyl aluminimum hydride

Answer: D

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10. Consider the following electrode processes of a cell,

$Cl^- \rightarrow \frac{1}{2}Cl_2 + e^- \cdot \left[MCl + e^- \rightarrow M + Cl^-\right].$

If EMF of the cell is -1.140 V and E° value of the cell is -0.55V

at 298K, the value of the equilibrium constant of the sparingly soluble salt MCl is in the order of

A. 10^{-10}

B. 10^{-8}

C. 10^{-7}

D. 10^{-11}

Answer: A

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11. Which of the following is true for spontaneous adsorption of H_2 gas without dissociation on solid surface

A. Process is exothermic and $\Delta S < 0$

B. Process is endothermic and $\Delta S > 0$

C. Process is exothermic and $\Delta S > 0$

D. Process is endothermic and $\Delta S < 0$

Answer: A

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12. Consider the single electrode process $4H^+ 4e^- = 2H_2$ catalyzed by platinum black electrode in HCl electrolyte. The potential of the electrode is -0.059V Vs. SHE. What is the concenteration of the acid in the hydrogen half cell if the H_2 pressure is 1 bar?

A. 1m

B. 10m

C. 0.1m

D. 0.01m

Answer: C

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13. Which of the following elements has the lowest melting point?

A. Sn

B. Pb

C. Si

D. Ge

Answer: A

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14. The number of complementary Hydrogen bond(s) between a guanine and cytosine pair is

A. 2

B. 1

C. 4

D. 3

Answer: D

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15. Given ΔH_r° for $CO_2(g), CO_g$ and $H_2O(g)$ are -393.5, -110.5 and -241.8 $KJmol^{-1}$ respectively. The $\Delta H_r^\circ \left(\in KJmol^{-1} \right]$ for the reaction $CO_2(g) + H_2(g) \rightarrow CO_g + H_2O(g)$ is

A. 524.1

B. -262.5

C. -41.7

D. 41.2

Answer: D

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16. Which one of the following is the strongest acid?

A. HF

B. HCl

C. HBr

D. HI

Answer: D

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17. The species having pyramidal shape according to VESPR theory is

A. SO_3

B. BrF_3

C. SiO_3^{2-}

D. OsF_2

Answer: D

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18. The bonding in diborane (B_2H_6) can be described by

A. 4 two centre - two electron bonds and 2 three centre - two electron bonds

B. 3 two centre - two electron bonds and 3 three - centre - two electron bonds

C. 2 two centre - two electron bonds and 4 three centre - two electron bonds

D. 4 two centre - two electron bonds and 4 two centre - two electron bonds

Answer: A

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19. The monomers of Buna -S rubber are

A. Isoprene and butadiene

B. Butadiene and phenol

C. Styene and butadiene

D. Vinyl chloride and sulphur

Answer: C

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20. Heating a mixture of Cu_2O and Cu_2S will give

A. $CuO + CuS$

B. $Cu + SO_3$

C. $Cu + SO_2$

D. $Cu(OH)_2 + CuSO_4$

Answer: C

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21. Which of the following corresponds to the energy of the possible excited state of hydrogen?

A. $-13.6eV$

B. $13.6eV$

C. $-3.4eV$

D. $3.4eV$

Answer: C

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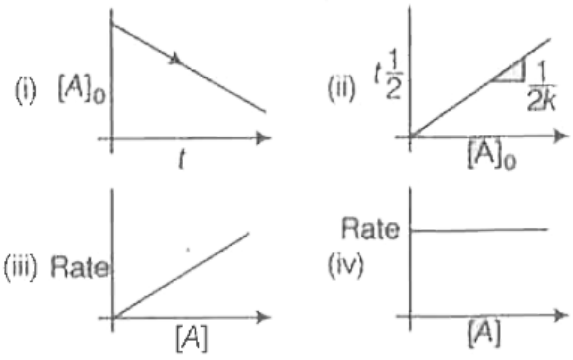
22. Which of the following are the correct representations of a zero order reaction where A represents the reactant ?



A. I,II,III

B. I,II,IV

C. II,III,IV

D. I,III,II

Answer: B

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23. The set representing the right order of ionic radius is

A. $Li^+ > Na^+ > Mg^{2+} > BE^{2+}$

B. $Mg^{2+} > BE^{2+} > Li^+ > Na^+$

C. $Na^+ > Mg^{2+} > Li^+ > Be^{2+}$

D. $Na^+ > Li^+ > Mg^{2+} > Be^{2+}$

Answer: D

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24. Which one of the following statement is correct for d^4 ions [P = pairing energy]

A. when $\Delta_0 > P$, low - spin complex form

B. when $\Delta_0 < P$ low ,spin complex form

C. when $\Delta_0 > P$ high - spin complex form

D. when $\Delta_0 < P$, both high - spin and low -spin complexes form

Answer: A

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25. The reactivity of alkyl bromides

(A) CH_3CH_2Br (B) $CH_3 - \underset{\underset{CH_3}{|}}{CH} - Br$ (C) $CH_3 - \overset{\overset{CH_3}{|}}{\underset{\underset{CH_3}{|}}{CH}} - Br$

(D) CH_3Br

towards iodide ion in dry acetone decrease in the order .

A. IV $> I > II >$ III

B. $I > IV > II > III$

C. $III > II > I > I$

D. $III > II > IV > I$

Answer: A

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26. Optically active $CH_3 - CH_2 - \overset{OH}{\underset{|}{C}}H - CH_3$ was found to have lost its optical activity after standing in water containing a few drops of acid, mainly due to the formation of

A. $CH_3 - CH_2 - CH = CH_2$

B. $CH_3 - CH = CH - CH_3$

C. $CH_3 - \overset{CH_3}{\underset{|}{C}}H - CH_2 - OH$

D. $CH_3 - CH_2 - CH_2 - CH_2 - OH$

Answer: B

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27. Commercially available H_2SO_4 is 98 gms by weight of H_2SO_4 and 2gms by weight of water. It's density is

$1.83gcm^{-3}$. Calculate the molality (m) of H_2SO_4 (molar mass of H_2SO_4 is $98mol^{-1}$)

A. 500m

B. 20 molal

C. 50 m

D. 200m

Answer: A

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28. Cylohexylamine and aniline can be distinguished by

A. Hinsberg test

B. carbylamine test

C. Lassaigne test

D. Azo dye test

Answer: D

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29. - is a potent vasodilator.

A. Histamine

B. Serotonin

C. Codeine

D. Cimetidine

Answer: A

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30. Standard Enthalpy (Heat) of formation of liquid water at $25^{\circ}C$ is around

$H_2(g) + \frac{1}{2}O_2(g) \rightarrow H_2O_l.$

A. $-237kj/mol$

B. $237kj/mol$

C. $-286kj/mol$

D. $286kj/mol$

Answer: C

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31. The alcohol that reacts faster with Lucas reagent is

A. $CH_3 - CH_2 - CH_2 - CH_2 - OH$

B. $CH_3 - CH_2 - \underset{\displaystyle OH}{\underset{|}{C}}\,H - CH_3$

C. $CH_3 - \underset{\displaystyle CH_3}{\underset{|}{C}}\,H - CH_2 - OH$

D. $CH_3 - \underset{\displaystyle CH_3}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}} - OH$

Answer: D

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32. Balance the following equation by choosing the correct option

$xKNO_3 + yC_{12}H_{22}O_{11} \rightarrow pN_2 + qCO_2 + rH_2O + sK_2 + CO_3$

.

A.

x	y	p	q	r	s
36	55	24	24	5	48

B.

x	y	p	q	r	s
48	5	24	36	55	24

C.

x	y	p	q	r	s
24	24	36	55	48	5

D.

x	y	p	q	r	s
24	48	36	24	5	55

Answer: B

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33. Which of the following element is purified by vapour phase refining?

A. Fe

B. Zr

C. Cu

D. Au

Answer: B

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34. When helium gas is allowed to expand into vaccum, heating effect is observed. The reason for this is (Assume He as a non ideal gas)

A. He is an inert gas

B. The inversion temperature of helium is very high

C. THE inversion temperature of helium is very low

D. He has the lowest boiling point

Answer: C

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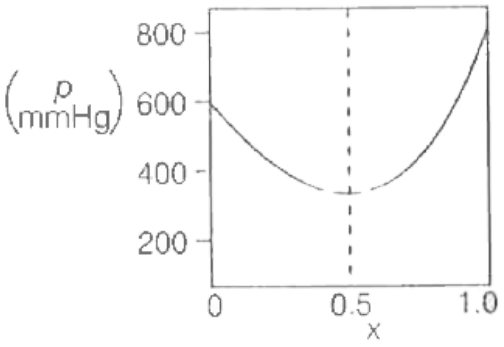
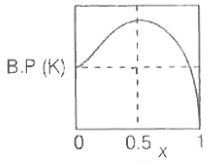
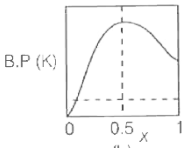
35. The vapour pressure of a non-ideal two component solutio

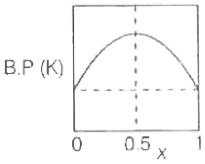
is given below

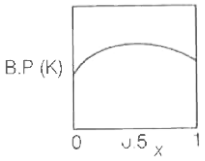


Identify the correct T-X curve for the same mixture ,

A. 

B. 

C. 

D. 

Answer: A

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36. Cyclopentadienyl anion is

A. benzenoid and aromatic

B. Non-benzenoid and aromatic

C. Non-benzenoid and non-aromatic

D. Non-benzenoid and anti -aromatic

Answer: B

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37. Oxidation of cyclohexene in presence of acidic potassium permanganate leads to

A. Glutaric acid

B. Adipic acid

C. Primelic acid

D. Succinic acid

Answer: B

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38. How many emission spectral lines are possible when hydrogen atom is excited to n^th energy level?

A. $\frac{n(n+1)}{2}$

B. $\frac{(n+1)}{2}$

C. $\frac{(n-1)n}{2}$

D. $\frac{n^2}{4}$

Answer: C

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39. The bond length (pm) of F_2, H_2, Cl_2 and I_2, respectively is

A. 144, 74, 199, 267

B. 74, 144, 199, 267

C. 74, 267, 199, 144

D. $144, 74, 267, 199$

Answer: B

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40. The number of tetrahedral and octahedral voids in CCP unit cell are respectively

A. 4,8

B. 8,4

C. 12,6

D. 6,12

Answer: B

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