



CHEMISTRY

BOOKS - SAI CHEMISTRY (TELUGU ENGLISH)

EAMCET QUESTION PAPER 2017

Chemistry

1. The energy and radius of electron present in second orbit of He^+ respectively are

A. $-2.18 \times 10^{-18} J, 105.8 \pm$

B. $-4.36 \times 10^{-18} J, 52.9 \pm$

C. $-1.09 \times 10^{-18} J, 105.8 \pm$

D. $-8.72 \times 10^{-18} J, 211.6 \pm$

Answer: A



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2. The work functions of Ag, Mg, K and Na respectively in eV are 4.3, 3.7, 2.25, 2.30. when an electromagnetic radiation of wavelength of

300 nm is allowed to fall on these metal surfaces, the number of metals from which the electrons are ejected is.

$$(1eV = 1.6022 \times 10^{-19} J)$$

A. 5

B. 4

C. 3

D. 2

Answer: C



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3. Assertion (A) : Na^+ and Mg^{2+} ions are isoelectronic but the ionic radius of Na^+ is greater than the of Mg^{2+} . Reason (R) : The effective nuclear charge of Na^+ ion is less than that of Mg^{2+} ion.

A. Both A and R are true. R is correct explanation of A.

B. Both A and R are true. R is not correct explanation of A

C. A is true, R is false

D. A is false, R is true

Answer: A



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4. Which among the following are having, diamagnetic property? (a) B_2 (b) N_2 (c) O_2
(d) C_2

A. a,b

B. b,c

C. a,d

D. b,d

Answer: D



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5. At $27^{\circ}C$ in a 10L flask 4.0g of an ideal gaseous mixture containing He (molar mass 4.0 g mol^{-1}) and Ne (molar mass 20 g mol^{-1}) has a pressure of 1.23 atm. What is the mass% of neon? ($R = 0.082 \text{ Latm K}^{-1} \text{ mol}^{-1}$)

A. 84.2

B. 25.2

C. 74.2

D. 62.5

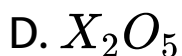
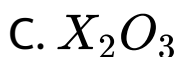
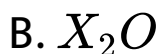
Answer: D



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6. Two oxides of a non-metal X contain 50% and 40% of non -metal respectively. If the

formula of the first oxide is XO_2 , then the formula of second oxide is



Answer: B



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7. The enthalpy of formation ($\Delta_r H$) of methanol, formaldehyde and water -239 , -116 and -286KJmol^{-1} respectively. The enthalpy change for the oxidation of methanol to formaldehyde and water in KJ is

A. -136

B. -173

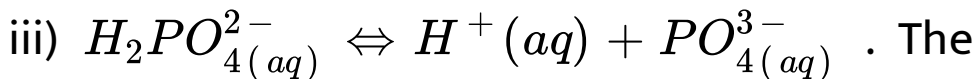
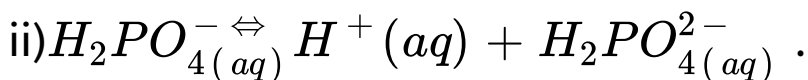
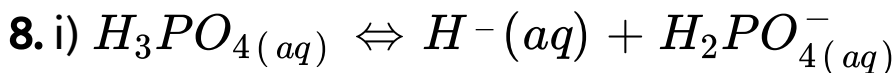
C. -163

D. 163

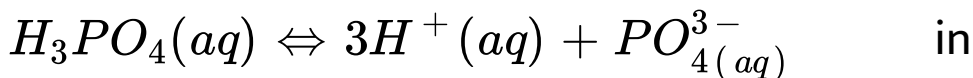
Answer: C



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The equilibrium constants for the above reactions at a certain temperature are K_1 , K_2 and K_3 respectively. The equilibrium constant for the reaction.



terms K_1 , K_2 and K_3 is

A. $K_1 + K_2 + K_3$

B. $\frac{K_1}{K_2 + K_3}$

C. $\frac{K_3}{K_1 K_2}$

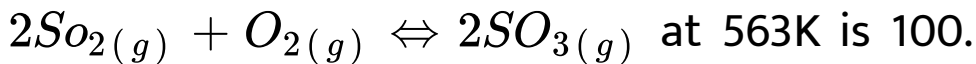
D. K_1, K_2 and K_3

Answer: D



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9. The equilibrium constant (K_c) for the following equilibrium



at equilibrium, the number of moles of SO_3 in the 10 litre flask is twice the number of moles of SO_2 , then the numbers of moles of oxygen is

A. 0.3

B. 0.4

C. 0.1

D. 0.2

Answer: B



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10. How many milliliters of 20 volume of H_2O_2 solution is needed to react completely with 500mL of acidified 1N $KMnO_4$ solution?

A. 56

B. 140

C. 224

D. 280

Answer: B



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11. Which one of the following statements is not correct?

A. Alkali metals react with water liberating oxygen gas

B. The hydration enthalpies of alkali metal ions decrease down the group

C. KO_2 is paramagnetic

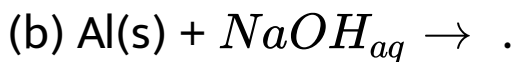
D. Lithium halides are some what Covalent in nature.

Answer: A



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12. In which of the following reactions, Hydrogen is liberated?



A. a,c

B. a,b

C. b,c

D. a,b,c

Answer: D



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13. Which one of the following statements is not correct?

A. In CO molecule, there are one 'sigma (sigma) and "two Pi" (pi)` bonds.

B. Both $[SiF_6]^{2-}$ and $[SiCl_6]^{2-}$ ions are known

C. In CO_2 molecule, carbon hybridisation is sp

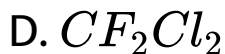
D. Fullerenes are made by heating graphite in an electric arc in the presence of argon gas.

Answer: B



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14. Which of the following forms holes in the Ozone layer?



Answer: D



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15. Identify the correct statements from the following

Electromeric effect is a permanent effect.

Hyper conjugation is a temporary effect.

Fractional distillation is used to separate two liquids from a mixture if the difference in their boiling points is less .

Different compounds are adsorbed on an adsorbent to different extents. the correct answer is

A. c,d

B. a,b,c

C. b,d

D. b,c,d

Answer: A



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16. The gaseous products formed at cathode (X) and anode (Y), when an aqueous solution acetate is electrolysed are

A. $\begin{matrix} X & Y \\ C_2H_6, H_2 & CO_2 \end{matrix}$

- B. X Y
 CO_2 C_2H_6, H_2
- C. X Y
 H_2 C_2H_6, CO_2
- D. X Y
 H_2, CO_2 C_2H_6

Answer: C



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17. Identify the correct statements for a ring system to exhibit aromaticity

a) It must not be planar .

b) It must possess $(4n + 2)\pi$ electrons.

c) it must be planar .

d) It must possess $4n\pi$ electrons . the correct answer is

A. a,b

B. b,c

C. a,d

D. b,d

Answer: B



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18. An element has a body centered cubic structure with a unit cell edge length of 400 pm. Atomic mass of an element is 24g mol^{-1}

What is the density of the element?

$$(N_A = 6 \times 10^{23} \text{mol}^{-1})$$

A. 3.60g cm^{-3}

B. 1.80g cm^{-3}

C. 1.25g cm^{-3}

D. 2.50g cm^{-3}

Answer: C



19. 31 g of ethylene glycol ($C_2H_6O_2$) is dissolved in 600g of water. The freezing point depression of the solution is (K_f for water is $1.86 \text{ K Kg mol}^{-1}$)

A. 3.10K

B. 4.65K

C. 0.77K

D. 1.55K

Answer: D



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20. Which one of the following solutions of compounds show highest osmotic pressure?

(AB , AB_2 and A_2B_3 are ionic compounds)

A. 3.0 M AB type I = 1.6 and temperature is

$27^\circ C$

B. 2.5 M AB_2 type I = 2.5 and temperature

is $57^\circ C$

C. 1.5 M A_2B_3 type I = 4.1 and temperature is $27^\circ C$

D. 5.0 M urea I = 1.0 and temperature is $67^\circ C$

Answer: B



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21. Same amount of electricity is passed through aqueous solutions of $AgNO_3$ and $CuSO_4$. The number of Ag and

Cu atoms deposited are x and y respectively.

The correct relationship between x and y is

A. $x = y$

B. $x = 2y$

C. $y = 2x$

D. $x < y$

Answer: B



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22. Colloidal solution of gold is in different colours like red, purple, blue and golden because of

- A. Size difference in the particles of gold
- B. Variable oxidation states of gold
- C. Presence of impurities
- D. Difference in the concentration of gold particles

Answer: A





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23. Copper matte contains

A. CuO , Cu_2S

B. CuO , FeS

C. Cu_2S , FeS

D. Cu_2S , FeO

Answer: C



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24. $S + \text{conc. } H_2SO_4 \rightarrow X + Y$ here X is a gas and Y is a liquid and both are triatomic molecules. The number of electron lone pairs present on the central atoms of X and Y are respectively.

A. 2,1

B. 2,2

C. 1,2

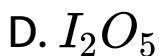
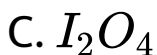
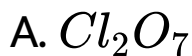
D. 1,0

Answer: C



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25. Which of the following is used in the estimation of carbon monoxide?



Answer: D



26. To prepare XeF_6 , Xe and F_2 are mixed at 573K and 60 -70 bar in the ratio of

A. 1:20

B. 20:1

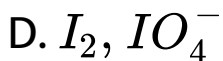
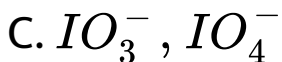
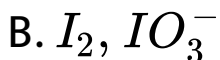
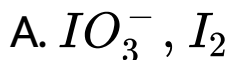
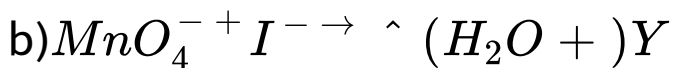
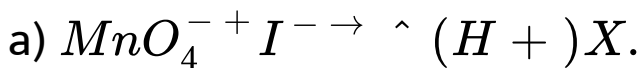
C. 1:5

D. 5:1

Answer: A



27. What are X_- and Y_- in the following reactions?

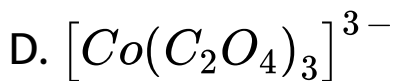
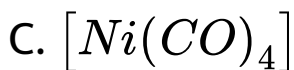
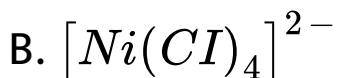
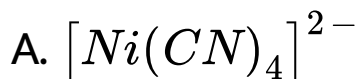


Answer: B



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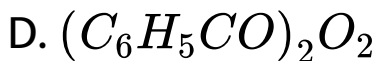
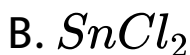
28. Identify, from the following the dimagnetic, tetrahedral complex



Answer: C



29. Which one of the following is not used as an initiator in ionic polymerisation?



Answer: D



30. Identify the statements which are not correct from the following

a) Carbohydrates are stored as glycogen in animals .

b) In glycylalanine, $-C \overset{O}{\parallel}$ of peptide bond belongs to alanine .

c) Base - sugar - phosphate unit is known as nucleoside .

d) Obesity is due to hypothyroidism . the correct answer is

A. a,c,d

B. a,d

C. b,c

D. b,c,d

Answer: C



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31. The drug, which was designed to prevent the interactions of histamine with the receptors present in the stomach wall is:

A. Equanil

B. Prontosil

C. Aspartame

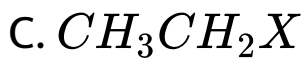
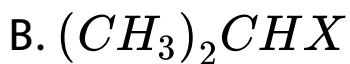
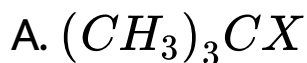
D. Cimetidine

Answer: D



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32. Which one of the following is more reactive towards S_N2 reaction?



Answer: D



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33. Identify the statement which is not correct?

- A. Freon 12 is manufactured by Swarts reaction
- B. $CHCl_3$ is stored in closed, dark coloured bottles
- C. Chronic exposure to $CHCl_3$ causes liver damage
- D. Dehydrobromination of 2-bromopentane gives pent-1-ene as the major product

Answer: D



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