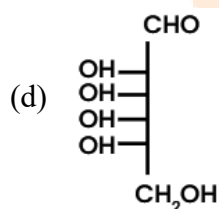
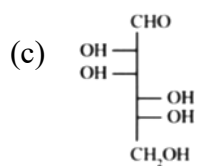
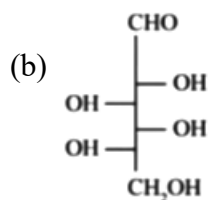
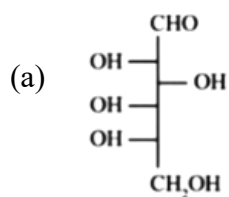


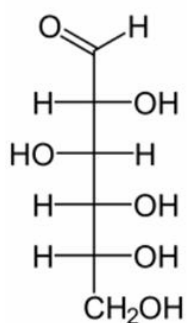
JEE-Main-04-04-2024 (Memory Based)  
[MORNING SHIFT]

Chemistry

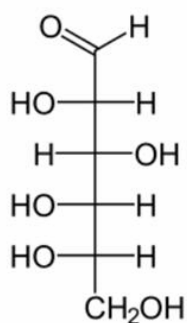
Question: Which of the following is the correct structure for L - Glucose  
Options:



Answer: (a)



D-Glucose



L-Glucose

Question: Which of the following have the maximum dipole moment

Options:

- (a)  $\text{NH}_3$
- (b)  $\text{NF}_3$
- (c)  $\text{PF}_5$
- (d)  $\text{CH}_4$

Answer: (a)

Maximum dipole moment in  $\text{NH}_3$

Question: Which shows one oxidation state other than its elemental state

Options:

- (a) Ti
- (b) Sc
- (c) Co
- (d) Ni

Answer: (b)

Sc show one oxidation state other than it's elemental state +3

Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn
	+2	+2	+2	<b>+2</b>	<b>+2</b>	<b>+2</b>	<b>+2</b>	+1	<b>+2</b>
<b>+3</b>	+3	+3	<b>+3</b>	+3	<b>+3</b>	<b>+3</b>	+3	<b>+2</b>	
	<b>+4</b>	+4	+4	+4	+4	+4	+4		
		<b>+5</b>	+5	+5					
			<b>+6</b>	+6	+6				
				<b>+7</b>					

Question: No. of complexes from the following with even number of unpaired 'd' electrons is \_\_\_\_\_  $[\text{V}(\text{H}_2\text{O})_6]^{3+}$ ,  $[\text{Fe}(\text{H}_2\text{O})_6]^{3+}$ ,  $[\text{Ni}(\text{H}_2\text{O})_6]^{3+}$ ,  $[\text{Cu}(\text{H}_2\text{O})_6]^{2+}$ ,  $[\text{Cu}(\text{H}_2\text{O})_6]^{2+}$

Options:

- (a) 1
- (b) 5
- (c) 2
- (d) 3

Answer: (c)

$[\text{V}(\text{H}_2\text{O})_6]^{3+}$ ,  $[\text{Cu}(\text{H}_2\text{O})_6]^{2+}$  Even number of unpaired 'd' electrons.

Question: Central atom is involved in  $\text{Sp}^3$  hybridization  $\text{NO}_3^-$ ,  $\text{BCl}_3$ ,  $\text{ClO}_2^-$ ,  $\text{ClO}_3^-$

Options:

- (a)  $\text{NO}_3^-$  and  $\text{ClO}_2^-$
- (b)  $\text{ClO}_2^-$  and  $\text{BCl}_3$
- (c)  $\text{ClO}_3^-$  and  $\text{ClO}_2^-$
- (d)  $\text{NO}_3^-$  and  $\text{BCl}_3$

Answer: (c)

Question: Statement 1 : Acidity of alpha H is the reason for aldol reaction.

Statement 2 : Benzaldehyde and ethanal won't give cross aldol product

Options:

- (a) S1 is correct and S2 is correct

- (b) S1 is correct and S2 is incorrect  
 (c) S1 is incorrect and S2 is correct  
 (d) S1 is incorrect and S2 is incorrect

Answer: (b)

S1 is correct and S2 is incorrect

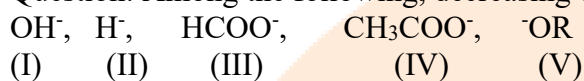
Question: If emf of hydrogen electrode at 25°C is zero in pure water, then pressure of H<sub>2</sub> in bar

Options:

- (a) 10<sup>-14</sup>  
 (b) 10<sup>-7</sup>  
 (c) 1  
 (d) 0.5

Answer: (a)

Question: Among the following, decreasing order of basic strength will be :

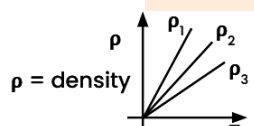


Options:

- (a) II > V > III > I > IV  
 (b) II > V > I > IV > III  
 (c) III > IV > I > V > II  
 (d) V > I > IV > II > III

Answer: (b)

Question: We are given with the following graph between P and T



Choose the correct option

Options:

- (a)  $\rho_1 > \rho_2 > \rho_3$   
 (b)  $\rho_1 < \rho_2 < \rho_3$   
 (c)  $\rho_1 = \rho_2 = \rho_3$   
 (d)  $\rho_2 > \rho_1 > \rho_3$

Answer: (a)

Question: Which of the following is the correct order of first ionization enthalpy ?

Options:

- (a) Be < B < O < F < N  
 (b) B < Be < O < N < F  
 (c) B < Be < N < F < O  
 (d) Be < B < N < F < O

Answer: (b)

Question: The number of different chain isomers C<sub>7</sub>H<sub>16</sub>

Options:

- (a) 7  
 (b) 8  
 (c) 5

(d) 9

Answer: (D)

Question: What is the wavelength of hydrogen atom in term of  $a_0$  for  $n = 4$  ?

Question: Which of the following nitrogen containing Compounds to not give Lassaigne's test

Options:

- (a) Hydrazine
- (b) Phenyl Hydrazine
- (c) Glycine
- (d) Urea

Answer: (A)

Question: In the precipitation of the iron group III in qualitative analysis ammonium chloride added before adding ammonium hydroxide to !

Options:

- (a) Prevent interference by phosphate ions
- (b) Increase conc. of  $\text{Cl}^-$  ions
- (c) Decrease conc. of  $\text{OH}^-$  ions
- (d) Increase conc. of  $\text{NH}_4^+$  ions

Answer: (c)

Question: Calculate the molarity of NaCl if mass is 5.85 g and the volume of solution is 500 mL.

Options:

- (a) 0.02 m
- (b) 0.2 m
- (c) 0.01 m
- (d) 0.002 m

Answer: (b)

Question: Which of the following species has only one unpaired electrons ?  $\text{O}_2$ ,  $\text{O}_2^-$ ,  $\text{O}_2^{2-}$ ,  $\text{CN}^-$ , NO

Options:

- (a)  $\text{O}_2$  and  $\text{O}_2^-$
- (b)  $\text{O}_2^{2-}$  and  $\text{O}_2^-$
- (c)  $\text{CN}^-$  and NO
- (d)  $\text{O}_2$  and NO

Answer: (d)

Question: Decreasing order of the field strength of the following ligands will be :

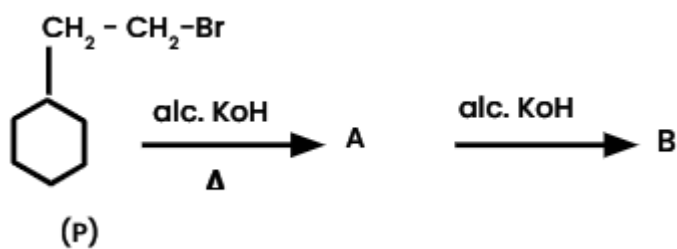
CO,  $\text{CN}^-$ ,  $\text{Cl}^-$ ,  $\text{H}_2\text{O}$

Options:

- (a)  $\text{CO} > \text{CN}^- > \text{H}_2\text{O} > \text{Cl}^-$
- (b)  $\text{CO} > \text{CN}^- > \text{Cl}^- > \text{H}_2\text{O}$
- (c)  $\text{CN}^- > \text{CO} > \text{H}_2\text{O} > \text{Cl}^-$
- (d)  $\text{CN}^- > \text{CO} > \text{Cl}^- > \text{H}_2\text{O}$

Answer: (a)

Question: For the given reaction,



Relation between molecule P and B is :

Options:

- (a) Enantiomer
- (b) Diastereomers
- (c) Positional isomers
- (d) None of the above

Answer: (c)

Question: From the given data, find the enthalpy of hydrogenation of ethene in kJ/mol.

- (1) B. E. of C - C = 350 kJ/mol
- (2) B. E. of C = C = 600 kJ/mol
- (3) B. E. of H - H = 400 kJ/mol
- (4) B. E. of C - H = 410 kJ/mol

Options:

- (a) -170
- (b) -580
- (c) +170
- (d) +580

Answer: (a)