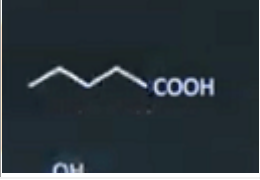
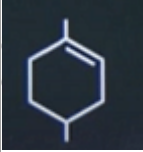
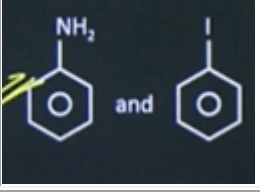
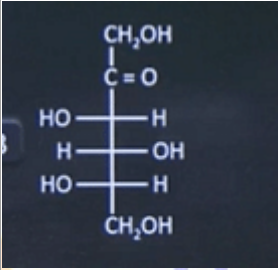
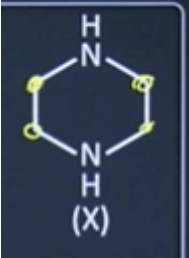


3 April Shift 1 Chemistry JEE Main Question Paper 2025

Q.No	Question	Answers																				
1	Which of the following ion shows spin only magnetic moment of 4.9 B.M.	Cr^{2+}																				
2	Which of the following has the highest atomic number?	Po																				
3	<p>Match the following List-I with List-II and choose the correct option</p> <table border="1"> <thead> <tr> <th></th> <th>List-I (Compounds)</th> <th></th> <th>List-II (Shape and Hybridisation)</th> </tr> </thead> <tbody> <tr> <td>(A)</td> <td>PF_5</td> <td>(I)</td> <td>Tetrahedral and sp^3</td> </tr> <tr> <td>(B)</td> <td>SF_6</td> <td>(II)</td> <td>Square planar and dsp^2</td> </tr> <tr> <td>(C)</td> <td>$\text{Ni}(\text{CO})_4$</td> <td>(III)</td> <td>Octahedral and sp^3d^2</td> </tr> <tr> <td>(D)</td> <td>$[\text{PtCl}_4]^{2-}$</td> <td>(IV)</td> <td>Trigonal bipyramidal and sp^3d</td> </tr> </tbody> </table>		List-I (Compounds)		List-II (Shape and Hybridisation)	(A)	PF_5	(I)	Tetrahedral and sp^3	(B)	SF_6	(II)	Square planar and dsp^2	(C)	$\text{Ni}(\text{CO})_4$	(III)	Octahedral and sp^3d^2	(D)	$[\text{PtCl}_4]^{2-}$	(IV)	Trigonal bipyramidal and sp^3d	A-IV B-III C-I D-II
	List-I (Compounds)		List-II (Shape and Hybridisation)																			
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4	2 moles each of ethylene glycol and glucose are mixed with 500 g of water. Find the boiling point of solution. Given: $K = 0.52 \text{ K kg mol}^{-1}$	377.17K																				
5	0.5 g of an organic compound gives 1.46 g CO_2 and 0.9 g H_2O . What is the % of carbon in reanic sample.	80																				
6	Which of the following is more acidic than others?																					
7	Which of the following will give 3-methyl-6-oxoheptanal as the product of reductive ozonolysis?																					
8	Observe the following reaction sequence (A) + $(\text{NaNO}_2 + \text{HCl } 0-5^\circ\text{C})$ Which of the following options has the correct structure (A) and (B) respectively.																					
9	Q. The given reaction is at equilibrium starting with only PCl_5 $\text{PCl}_5(\text{g}) \rightleftharpoons \text{PCl}_3(\text{g}) + \text{Cl}_2(\text{g})$, when addition of Xe gas takes place at constant pressure, then which following is correct?	PCl_3 and Cl_2 will have same concentration at new equilibrium.																				
10	Consider the following statements Statement I: N-N has less bond strength than P-P Statement II: All group-15 elements in +3 oxidation state undergo disproportionation In the light of above statements, choose the correct option.	Statement I is correct and Statement II is incorrect																				
11	Which of the following property shows irregular trend in group 16?	Electron affinity																				

12	Which of the following statement(s) is/are incorrect I. NO ₂ dimerises easily II. NF ₅ does not exist but PF ₅ exists III. The oxides N ₂ O ₅ and P ₂ O ₅ are purely acidic but As ₂ O ₅ and Sn ₂ O ₅ are basic IV. Nitrogen cannot form dπ-ρπ bond as the heavier elements can	Only III
13	Consider the following complex ions (a) [Co(NH ₃) ₆] ³⁺ (b) [Co(NH ₃)Cl] ²⁺ (c) [Co(NH ₃) ₅ (H ₂ O)] ³⁺ (d) [Co(CN) ₆] ³⁻ Choose the correct order of wavelength absorbed by complex ions	b>c>a>d
14	Q. Arrange the following metal ions in the decreasing order of their molar conductivity in aqueous solution. Ca ²⁺ , Mg ²⁺ , Na ⁺ , K ⁺	Ca ²⁺ > Mg ²⁺ > K ⁺ > Na ⁺
15	Which of the following represents L-form of fructose?	
16	Which of the following is/are correct? (a) CH ₃ CH ₂ CH ₂ -COCH ₃ and CH ₃ -CH ₂ -COCH ₂ CH ₃ metamers (b) CH ₃ CH ₂ CH ₂ CH ₂ OH and CH ₃ CH ₂ CH ₂ -CH(OH)-CH ₃ position isomers (c) CH ₃ CH ₂ CH ₂ CH ₂ NH ₂ and CH ₃ -CH ₂ NH-CH ₂ CH ₃ homologues (d) CH ₃ CH ₂ CH ₂ CH ₂ CN and CH ₃ CH ₂ CH ₂ CH ₂ NC functional isomers	(a) and (d)
17	Correct set of four Quantum numbers for last electron of Cr ³⁺ ion is	n = 3, l = 2, m = 0, s = +1/2
18	Given below are two statements about X-ray spectra of elements: Statement (I): A plot of √ν (ν = frequency of X-rays emitted) vs atomic mass is a straight line Statement (II): A plot of ν (ν = frequency of X-rays emitted) vs atomic number is a straight line. In the light of above statements, choose the correct answer from the options given	Both Statements I and II are incorrect
19	In two first order reactions initial concentration of [A] = 8[B]. Find the time after which concentration of A and B become equal. Given that (t _{1/2}) = 20 min and (t _{1/2}) _B = 80 min.	80
20	How many of the following statements are correct?	(b) (c) and (d)

	<p>(a) First ionisation energy of Boron is more than Beryllium. (b) Lithium is strong reducing agent (c) Electronegativity of carbon is 2.5 (approx.) in CCl_4 (d) Removal of electron from isolated gaseous atom is endothermic and addition of electron to isolated gaseous atom is generally exothermic</p>	
21	<p>0.42 g of the following compound (X) is subjected to analysis for estimation of volume of N_2 gas by Duma's method What is the volume of N_2 gas evolved in mL at STP (1 atm pressure and 273 K temperature) to the nearest integer.</p> 	86