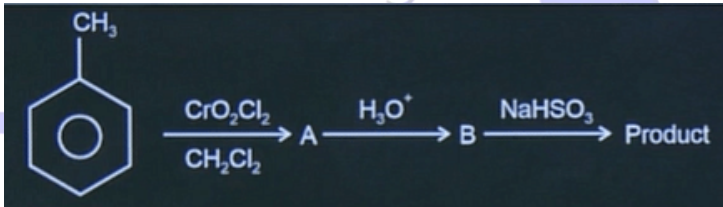
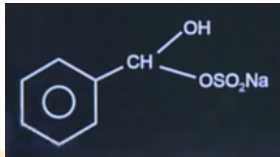
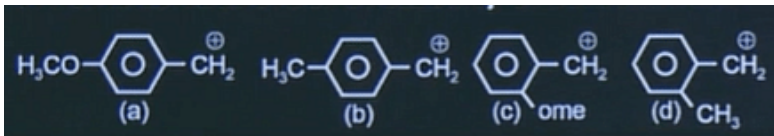
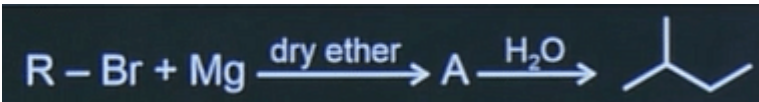
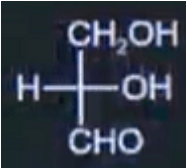
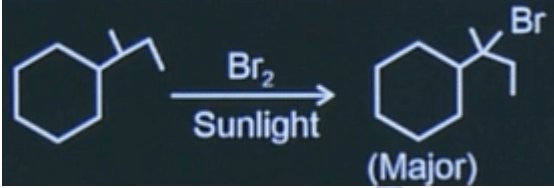
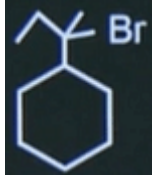


JEE MAIN 22 JANUARY 2025 SHIFT 2

CHEMISTRY QUESTION PAPER WITH ANSWER KEY

Q. No.	Questions	Answers
1	Density of 3 M NaOH is 1.25 g/ml. Molality of solutions is	2.65
2	Arrange according to CFSE. (i) $[\text{CO}(\text{NH}_3)_4]^{2+}$ (ii) $[\text{CO}(\text{NH}_3)_6]^{3+}$ (iii) $[\text{CO}(\text{NH}_3)_6]^{2+}$ (iv) $[\text{CO}(\text{en})_3]^{3+}$	(iv)>(ii)>(iii)>(i)
3	 <p>The Product is</p>	
4	What is correct order of stability of carbocation? 	a>c>d>b
5	Which of the following anions will not undergoes disproportionation?	ClO_4^-
6	Compare the dipole moment of (I) NF_3 (II) CHCl_3 (III) H_2S (IV) HBr	II>III>IV>I

7	Calculate the radius of first excited state of He ⁺ ion (in ????)	1.058
8	<p>Given below are two statements-</p> <p>S-I: Lassaigne test is used for detection of Nitrogen, phosphorous, sulphur and Halogens.</p> <p>S-II: Lassaigne extract is made with magnesium metal.</p>	Statement 1 is correct but Statement 2 is incorrect
9	<p>Which one has two secondary Hydrogen atoms?</p> <p>(I) 2, 2, 4, 4-tetramethylheptane</p> <p>(II) 2, 2, 3, 4-tetramethylheptane</p> <p>(III) 2, 2, 3, 3-tetramethyloctane</p> <p>(IV) 3-ethyl-2, 2-dimethylpentane</p>	2, 2, 3, 4-tetramethylheptane
10	200 mL of 0.2 M solution of NaOH is mixed with 400 mL of 0.5 M NaOH solution. Molarity of mixture is	0.4
11	In Ru and Nb, if in Ru, 4d electrons are x and in Nb, 4d electrons are y then find the sum of x and y.	11
12	<p>$\text{Ni}^{2+} + 2\text{DMG} \rightarrow \text{Complex}$</p> <p>How many hydrogen bonds are present in molecule of the complex?</p>	2
13	<p>  </p> <p>How many R - Br can form isopentane?</p>	4
14	Correct structure of L-Glyceraldehyde is	

15	Identify the extensive and intensive property? (I) Mass, volume, conductivity - Intensive property (II) Mass, temperature, heat, volume - Extensive property (III) Mass, volume, internal energy - Extensive property (IV) Density, temperature, moles, internal energy - Intensive property	Mass, volume, internal energy - Extensive property
16	Among Group-15 elements, what is the maximum covalency of an element having weakest E-E bond (E=element)	5
17	Secondary butyl cyclohexanol when reacts with Br ₂ in presence of sunlight produces 	
18	What is the relation between K _{sp} and S of Zr ₃ (PO ₄) ₄	$S = [K_{sp}/6912]^{1/7}$
19	Consider the following statements Statement-1 and Statement-2 and choose the correct option. Statement-1: During corrosion pure metal acts as anode and impure metal acts as cathode. Statement-2: Rate of corrosion is more in alkaline medium than in acidic medium.	Both Statement 1 and Statement 2 are incorrect