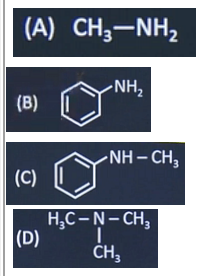
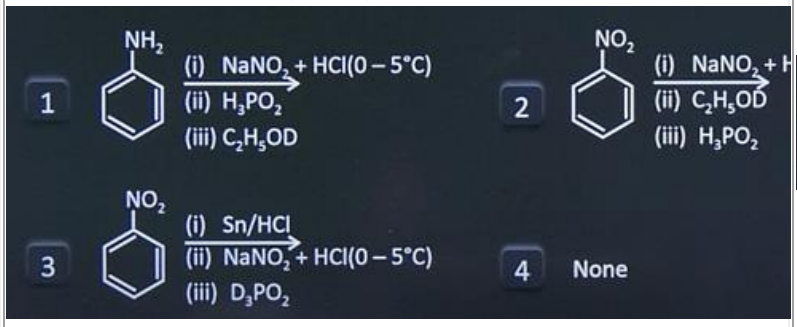
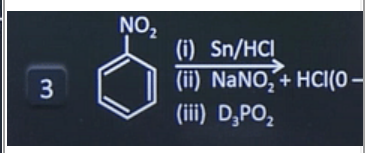
JEE MAIN 7 APRIL 2025 SHIFT 1

CHEMISTRY QUESTION PAPER WITH ANSWER KEY

Q. No.	Question	Answers
1	A compound having the molecular formula MX_3 has van't hoff factor of 2. What is the degree of association?	3. 0.3
2	Which of the following compounds give positive carbylamine test? 	1. A and B only
3	500 mg of organic compound gives 220 mg of CO_2. Find mass % of carbon atoms present in organic compound.	12%
4	Transition metal belonging to 3rd series having lowest enthalpy of atomisation in its most stable oxidation state forms oxide MO. Nature of oxide is	2. Amphoteric
5	Given below are two statements: **Statement 1**: Sodium on reaction with alcohol liberates H_2 gas. **Statement 2**: Alcohols are acidic in nature.	1. Both A and R are correct and R explains A
6	Consider the following statements: **Statement 1**: D-(+)-Glucose and D-(+)- fructose are formed on hydrolysis of sucrose. **Statement 2**: Sucrose is an invert sugar	2. Statement I is incorrect and Statement II is incorrect
7	Which one of the following reactions will result in the formation of deuterated benzene (C_6H_5D)? 	

8	1 mol of water at 10°C is converted into ice at -10°C. The change in enthalpy for complete conversion is [Given: Cp of water = x JK^{-1} mol^{-1}] Cp of ice = y JK^{-1} mol^{-1} ΔH_{fusion} = zJ]	1. (-10x - 10y - z) J
9	Consider the following sequence of reaction: NH4Cl + NaOH -----> X(gas) X(gas) + Y ----> Brown ppt. Find out X(gas) and compound Y, respectively	2. NH_3 and K_2HgI_4
10	Given below are two statements: **Statement 1**: Reductive ozonolysis of but-2-ene gives ethanal **Statement 2**: Reductive ozonolysis of 3, 6-dimethyl oct-4-ene doesn't give compound with chiral carbon.	1. Statement I is correct, Statement II is incorrect
11	Consider the following first order reactions A(g) ---> 2B(g) + C(g) The total pressure at t = 10 min is 160mmHg & t = is ∞ 240 mm of Hg.	3. t = 10 min P_A = 40 mmHg
12	How many of the following complex ions are paramagnetic and have d^2sp^3 hybridisation of the central meal ion? $[FeF_6]^{3-}$, $[Fe(CN)_6]^{3-}$, $[CaF_6]^{3-}$, $[Co(CN)_6]^{3-}$, $[Mn(CN)_6]^{3-}$, $[Co(OX)_3]^{3-}$	1. 2