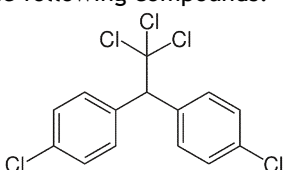
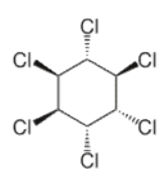
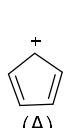
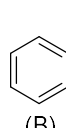
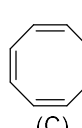
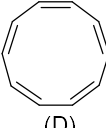
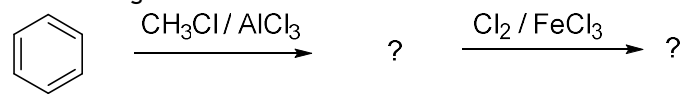
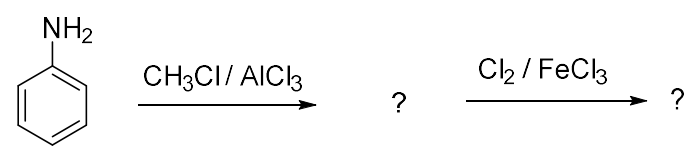
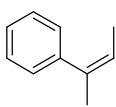
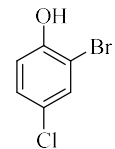


**DEPARTMENT OF PHARMACEUTICAL SCIENCES & TECHNOLOGY
BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(Internal Assessment I)**

CLASS: BPHARM		SEMESTER: III/ADD	
BRANCH: PHARMACY		SESSION: MO 2025	
SUBJECT: BP301T PHARMACEUTICAL ORGANIC CHEMISTRY II			
TIME: 2.00 Hours		FULL MARK: 30	

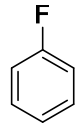
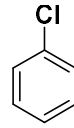
PART I

A. Objective-type questions (Answer all questions)	(5 x 02 = 10 marks)		
1. Define aromatic compounds. Give an example.			
2. Write the names and uses of the following compounds.			
 <p style="text-align: center;">(1)</p>	 <p style="text-align: center;">(2)</p>		
3. Which of the following compounds are aromatic in nature based on Huckel's Rule?			
 <p style="text-align: center;">(A)</p>	 <p style="text-align: center;">(B)</p>	 <p style="text-align: center;">(C)</p>	 <p style="text-align: center;">(D)</p>
4. Draw the products of the following reactions.			
			
			
5. Write the IUPAC nomenclature of the following compounds.			
 <p style="text-align: center;">(1)</p>	 <p style="text-align: center;">(2)</p>		

PART II

B. Long Answers (Answer any one out of two)	(01x10=10 marks)
1. Explain the stability of benzene with reactions. Write the factors supporting the resonance structure of benzene.	
2. Explain the effect of substituents on the reactivity and orientation of aromatic electrophilic substitution reactions in monosubstituted benzene. Your answer should include the canonical structures of benzene.	

PART III

C. Short Answers (Answer any two out of three)	(02x05=10 marks)
1. Explain and draw the mechanism of chlorination of benzene.	
2. Write the LIMITATIONS of Friedel-Crafts alkylation of benzene. Give examples.	
3. Compare the reactivity and orientation of the following compounds towards the electrophilic substitution reaction.	
 <p style="text-align: center;">(1)</p>	 <p style="text-align: center;">(2)</p>