## LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



## **B.Sc.**DEGREE EXAMINATION – **CHEMISTRY**

## SECOND SEMESTER - APRIL 2019

CH 2506- C	CHEMISTRY OF I	HYDROCARBONS
Date: 02-04-2019 Dept Time: 01:00-04:00	. No.	Max. : 100 Marks
	PART-A	
Answer ALL the questions.		$(10 \times 2 = 20)$
1. Define hybridization.		
2. What is heterolytic bond fission?		
3. What is cracking? Give one example.		
4. How is cycloalkane prepared by Wurtz	z reaction?	
5. State Saytzeff's rule.		
6. What is Ziegler-Natta catalyst?		
7. How will you prepare propanaldehyde	from propyne?	
8. What are the products obtained on oxid	dation of 2-pentyne w	ith alkaline KMnO <sub>4</sub> ?
9. Why is benzene more readily nitrated the	than nitrobenzene?	
10. Write any two synthetic applications of	of naphthalene.	
	PART-B	
Answer any EIGHT questions.		$(8 \times 5 = 40)$
11. Explain steric effect with suitable exa	umples.	
12.Explain the relative stability of primary	y,secondary and tertia	ary carbanions.
13.Write a note on free radical halogenati	ion of alkanes.	
14.Discuss Corey –House synthesis and it	ts mechanism.	
15.Describe any three ring opening reaction	ions of cycloalkanes.	
16.Write a note on stability of conjugated	l dienes.	

17. Give any two methods of preparation of alkenes.

18.Explain the mechanism of Diels-Alder reaction with any two examples.				
19.Explain why acetylene forms a silver acetylide but ethylene does not.				
20.Discuss any two methods of preparation of alkyne.				
21.Predict the product and explain the reason for the following compounds treated with	th Br <sub>2</sub> and FeBr <sub>3</sub> .			
(i)p-nitro toluene (ii)p-methyl acetanilide.				
22. What happens when anthracene is treated with				
(i)chlorine / CCl <sub>4</sub> (ii)sodium dichromate and sulphuric acid.				
PART-C				
Answer any FOUR questions.	(4 x 10 =40)			
23.a.ExplainHuckel's rule of aromaticity with suitable examples.	(5)			
b. What is inductive effect? Give one example of a system where this effect is operative	ve.(5)			
24.a.Explainketo-enoltautomerism.	(5)			
b. What are the products formed when propane is nitrated? Give its mechanism.	(5)			
25.a.Write a note on Baeyer's stain theory.	(5)			
b.How is cyclopentane prepared from diethyl adipate?	(5)			
26.a.Write the mechanism of ozonolysis of 3-hexene.	(5)			
b.Give the mechanism of addition of HBr to propene in the presence of a peroxide.	(5)			
27.a.Write the mechanism of dehydrohalogenation of vicinal dihalides.	(5)			
b.Predict the product and write the equation of propyne reaction with				
(i)Br <sub>2</sub> (ii)HBr.	(5)			
28.a.Explain the mechanism of Friedel Crafts acylation.	(5)			
b.How is naphthalene prepared by Haworth synthesis?	(5)			
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