

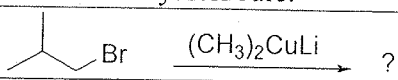
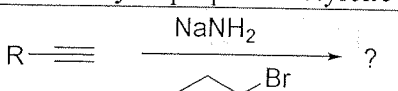
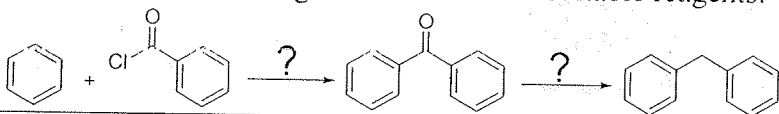
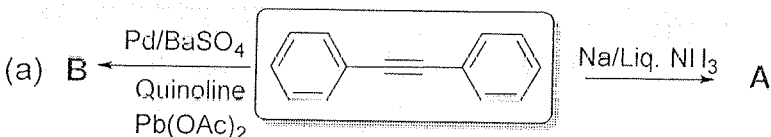
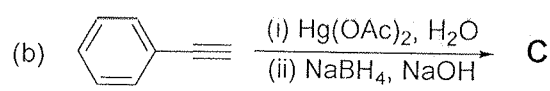
Roll No.....

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School of Chemical & Life Sciences
BSc. Hons. Chemistry (FYUP), Chemistry/Semester-III
Paper Title: HYDROCARBONS
Paper Code: BCH-DSC302TH

Time: 2 ½ hours

Maximum Marks: 60

Abbreviations Used: CLO- Course Outcome, PLO- Program Outcome, BTL- Bloom Taxonomy Level: BT level 1-Remember; BT level 2-Understand; BT level 3-Apply; BT level 4-Analyse; BT level 5-Evaluate, BT level 6-Create.

Q. No.		BTL	CLO	PLO
SECTION A				
Very Short Type Questions (Attempt all):		(1.5x10=15 marks)		
A1	State the Saytzeff rule.	2	2	1-2
A2		2	2	1-2
A3	How do you prepare acetylene from CaC ₂ ?	1	2	2
A4		2	2	3
A5	What is non-classical carbocation? Give an example.	1	1-2	1-2
A6	What is homo-aromaticity? Give an example.	2	3	3
A7	Complete the following conversions with suitable reagents: 	1	2	2
A8	Mention any confirmatory test for unsaturation.	1	2	3
A9	What is hydroboration? Give an example.	1	1-2	1-2
A10	State the Kolbe's electrolysis method for alkanes.	2	2-3	2-3
SECTION B				
Long Type Questions (Attempt any two out of four):		(10x2=20 marks)		
B1	(a) Explain the Baeyer strain theory and its limitations. (b) Discuss the most stable confirmation of the 1,2-dimethyl cyclohexane.	3	1-3	1-3
B2	Identify the products (A, B & C) formed in the following reactions with suitable mechanism: (a)  (b) 	4-6	2-6	4-6

B3	Enumerate the structural elucidation of naphthalene.	3-6	4-6	3-6
B4	Write a detailed note on Aromatic Nucleophilic Substitution reactions.	1-3	1-3	2-5

SECTION C

Short Type Questions (Attempt all Questions):

(5x5=25 marks)

C1	(a) Write a short note on Markovnikov's and anti-Markovnikov's addition OR (b) Explain the products formed in the following reactions with suitable mechanism:	3-5	4-5	4-5
C2	(a) Discuss the Hückel's theory of Aromatic, anti-aromatic systems with suitable examples. OR (b) Explain the influence of directing group in aromatic electrophilic substitution reactions	3	4	3-4
C3	(a) Sketch the Haworth synthesis of anthracene. OR (b) How do you confirm the linkage of benzene rings in Phenanthrene?	4-6	4	4-5
C4	(a) Identify the products (A-E) formed in the following reactions: OR (b) Briefly discuss the energy profile diagram of various conformers of cyclohexane	3-4	2-3	3-5
C5	(a) What is anchimeric assistance? Explain with suitable examples OR (b) How do you prepare n-hexane using Wurtz coupling and Grignard reactions?	5-6	3-6	4-6