


Name: Enrolment No:	
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UPES
End Semester Examination, May 2024

Course: Organic Chemistry III
Program: B.Sc (H) Chemistry
Course Code: CHEM2024

Semester: IV
Time : 03 hrs.
Max. Marks: 100

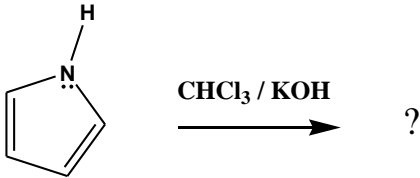
Instructions: Read all the below mentioned instructions carefully and follow them strictly:

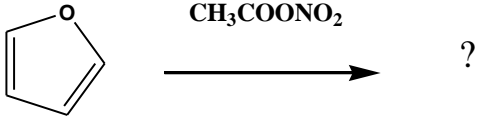
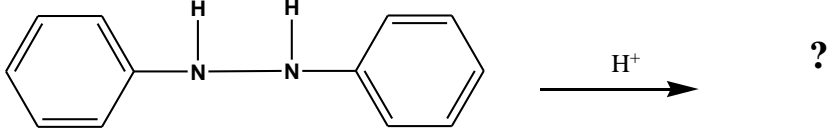
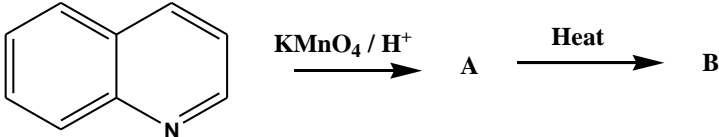
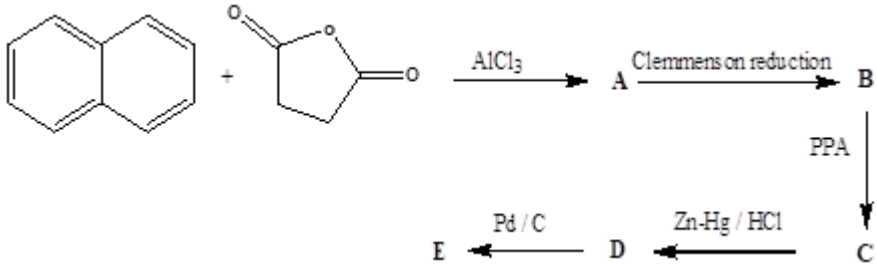
- 1) **Write your enrolment number on the top left of the question paper.**
- 2) **Do not write anything on the question paper except your enrolment number.**
- 3) **Attempt all part of a question at one place only.**
- 4) **Internal choice is given for question number 9 and 11 only.**

SECTION A
 (Attempt all **FIVE** Questions)

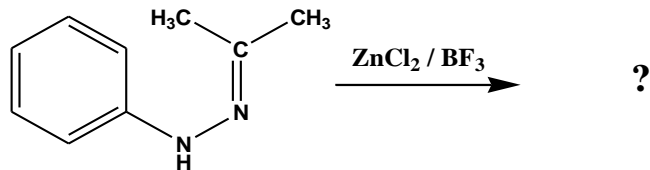
S. No.		Marks	CO
Q 1	Mention the reasons for the following: (i) Thiophene is more aromatic than furan. (ii) Electrophilic substitution in pyrrole takes place at 2- position, whereas in pyridine at 3-position.	4	CO1
Q 2	Explain Emde degradation with example.	4	CO1
Q 3	Discuss the reaction which confirms that Nicotine is a pyridine derivative containing a side chain at 3-position.	4	CO3
Q 4	Discuss the Knorr synthesis of Pyrrole with reaction.	4	CO1
Q 5	Arrange the following in decreasing order of basicity: Aniline, p-nitroaniline, m-nitroaniline, o-methylaniline	4	CO2

SECTION B

Q 6	Establish the structure of citral and illustrate its synthesis.	10	CO1
Q 7	Mention the products in the following reactions: <div style="text-align: center; margin: 10px 0;">  </div> (i)	10	CO1

	<p>(ii) </p>		
Q 8	<p>Complete the following reactions and discuss the mechanism:</p> <p></p>	10	CO2
Q 9	<p>Complete the reaction with mechanism:</p> <p></p> <p style="text-align: center;">OR</p> <p>Complete the reaction with mechanism:</p> <p>$(\text{CH}_3)_3\text{C}-\text{OH} \xrightarrow{\text{H}^+, \text{CH}_3\text{CN}} ?$</p>	10	CO1
SECTION-C			
Q 10	<p>(i) Mention A, B, C, D and E in the given reaction:</p> <p></p> <p>(ii) Complete the reaction with mechanism:</p> <p>$(\text{CH}_3)_2\text{N}-\text{CH}(\text{CH}_3)_2 \xrightarrow[\text{H}_2\text{O}_2]{[\text{O}]} \text{A} \xrightarrow{\text{Heat}} \text{B}$</p>	10+10	CO2
Q 11	<p>(i) Elaborate the Skraup method for Quinoline synthesis with the help of reaction.</p>		CO1

(ii) Complete the reaction and discuss the mechanism:



10 +10

OR

- (i) Explain the Bischler-Napieralski method for Isoquinoline synthesis with the help of reaction.
(ii) Complete the reaction and discuss the mechanism:

