
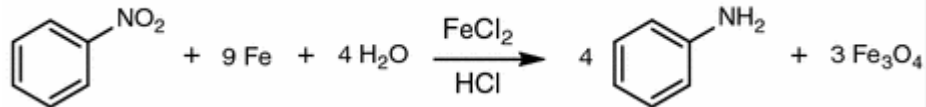
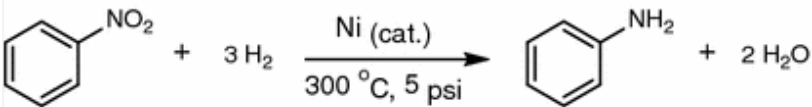
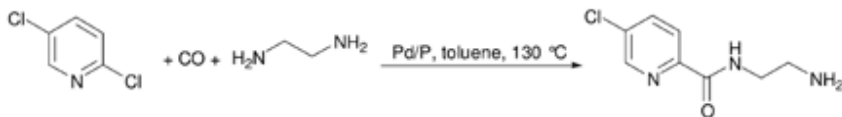



Name:			
Enrolment No:			
UPES End Semester Examination, May 2024			
Course: Green Chemistry & Sustainability Program: B.Sc(H)-Mathematics Course Code: CHEM4021		Semester: VIII Time : 03 hrs. Max. Marks: 100	
Instructions: All questions are compulsory.			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
Q 1	What is sustainability? Why is green chemistry called the sustainable chemistry?	4	CO1
Q 2	Mention two advantages and two disadvantages of super critical fluid as green solvent	4	CO3
Q 3	Define photocatalyst with suitable example.	4	CO3
Q 4	Classify the material based on the response to microwave irradiation. What kind of materials are important for microwave reactions?	2+2	CO3
Q 5	Differentiate between green chemistry and environmental chemistry.	4	CO1
SECTION B (4Qx10M= 40 Marks)			
Q 6	<p>Explain biopolymers? Illustrate the synthesis of polylactic acid from corn.</p> <p style="text-align: center;">OR</p> <p>Justify, which one of the two processes is better in the light of green chemistry with suitable reason.</p> <p>Route1</p>  <p>Route 2</p> 	10	CO2
Q 7	Discuss the principle of green chemistry with respect to design for degradation with suitable examples	10	CO2

Q 8	<p>Calculate the Atom economy, Reaction Mass efficiency and carbon efficiency in the following reaction.</p> <p>a. </p> <p>b. </p>	5+5	CO2
Q 9	<p>Give two examples of each of the following.</p> <ol style="list-style-type: none"> Ionic liquid Enzymes Super critical fluid Phase transfer catalyst Renewable energy sources 	10	CO3
SECTION-C (2Qx20M=40 Marks)			
Q 10	<p>Discuss the traditional commercial synthesis of paracetamol and write its drawbacks. Also, explain the green route for the synthesis of paracetamol along with its advantages.</p> <p style="text-align: center;">OR</p> <p>Give the traditional commercial synthesis of ibuprofen and explain various drawbacks of the synthesis in the context of green chemistry. Also give the green route of ibuprofen synthesis and discuss green aspects.</p>	20	CO2
Q 11	<p>Write the shorts notes on the following.</p> <ol style="list-style-type: none"> Renewable feedstock Limitations and Challenges of green chemistry Green solvents Combinatorial green chemistry 	20	CO1