
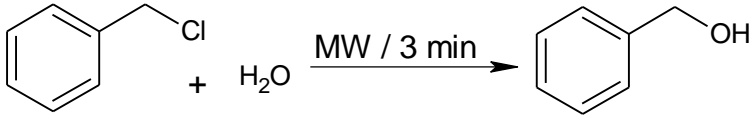


Name:			
Enrolment No:			
UPES End Semester Examination, May 2023			
Course: Green and Sustainable chemistry Program: M.Sc (Chemistry) Course Code: CHEM7030		Semester: II Time : 03 hrs. Max. Marks: 100	
Instructions:			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
Q 1	What are the four pillars of sustainability? Explain any two in brief.	4	CO3
Q 2	Write short note on “Chipko movement”.	4	CO1
Q 3	What are the merits of the below reaction conditions? 	4	CO2
Q 4	Briefly explain photocatalysis including merits and demerits over conventional catalysis.	4	CO2
Q 5	Write short note on ionic liquids as green solvent.	4	CO2
SECTION B (4Qx10M= 40 Marks)			
Q 6	Illustrate the significance of wealth to waste through a case study.	10	CO3
Q 7	Describe history of emergence of green chemistry through some industrial disasters.	10	CO1
Q 8	Write causes, harmful effects and prevention of air pollution.	10	CO2
Q 9	What do you understand by environmental impact assessment? What are different impact indicators and assessment methodologies? OR What are different SDG goals? Explain them briefly.	10	CO3
SECTION-C (2Qx20M=40 Marks)			
Q 10	What are twelve principles of green chemistry? Explain them with suitable examples.	20	CO2
Q 11	i) Write sources, merits and difficulties in widespread application of solar energy as a renewable source of energy.	10+10	CO3

	<p>ii) What are microwave radiation? How they interact with molecules? Explain application of microwave radiation in organic synthesis.</p> <p style="text-align: center;">OR</p> <p>i) Write sources, merits and difficulties in widespread application of hydropower as a renewable source of energy.</p> <p>ii) What are different types of alternative green feedstock? Explain.</p>		
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