

BSM-190

Roll No.

20

B. Tech.
Year: I Sem: II
MINOR TEST 2025-26
Environmental Science and Green Chemistry

Max Marks: 20

Time: 2 Hr.

Note: Attempt ALL questions. ALL questions carry equal marks.

		Mark s	CO	BL	PO	PI Code
Q1. Attempt any Two parts of the following (Unit 1 & Unit 2)						
a)	Draw the molecular orbital (MO) diagrams for NO and O ₂ molecules. Also write their electronic configurations and calculate the bond order.	4	1	2	7, 1	
b)	Explain the reaction mechanism of (I) Cannizzaro Reaction (II) Hofmann Rearrangement	4	1	3	7, 1	
c)	Write a short note on acid rain and its effect on environment.	4	2	2	7, 1	
Q2. Attempt any Two parts of the following. (Unit 1)						
a)	Define Normality and Molarity of the solution. Calculate the molarity of a solution containing 5 gm of NaCl in 250 mL of the solution.	3	1	3	7, 1	
b)	What is nucleophilic substitution reaction? Explain the mechanism for SN ¹ and SN ² reaction with examples. Also differentiate between SN ¹ and SN ² reaction.	3	1	3	7, 1	
c)	Write a note on Inductive effect. Compare the stability of 1°, 2°, and 3° carbocation on the basis of inductive effect. Explain the reason.	3	1	2	7, 1	
Q3. Attempt any Two parts of the following. (Unit 2)						
a)	Differentiate between soft and hard water. Explain the zeolite process for softening of water.	3	2	2	7, 1	
b)	Explain lime soda process for water softening. Write its advantages and disadvantages.	3	2	2	7, 1	
c)	What is ozone layer depletion? Explain the effect and causes of ozone layer depletion.	3	4	2	7, 1	