

4. (a) What are ionic liquids, and why are they regarded as environmentally friendly? Can you provide two examples of commonly used ionic liquids? (4)
- (b) How can the development of environmentally advanced wood preservatives address the removal of chromium and arsenic from pressure-treated wood? (4)
5. (a) Why are trans fatty acids harmful to our health, and describe a green synthetic pathway for the enzymatic interesterification of unsaturated triglycerides? (4)
- (b) How can biomimicry principles be integrated into green chemistry to inspire innovative and sustainable solutions for chemical processes and product design? (4)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 2823

H

Unique Paper Code : 32173908

Name of the Paper : SEC Green Method in Chemistry

Name of the Course : B.Sc. (Hons) Chemistry / B.Sc. (Prog.)

Semester : IV / VI

Duration : 2 Hours

Maximum Marks : 38

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Please attempt any **four** questions.
3. Question number 1 is compulsory.

1. (i) _____ is a kind of chemistry in which chemists try to find processes and products that can help to increase life quality using natural resources. (1)

2823

2

- (ii) Second principle of green chemistry involves _____ . (1)
- (iii) Complete the following equations : (1)
- Risk = (function [Hazard $\times$ _____])
- (iv) _____ is new foam invented to prevent pollution due to the old chemical fire-fighting foams. (1)
- (v) _____ is a solvent that is used in drycleaning of clothes. (1)
- (vi) Who was not involved in the development of micelle technology? (1)
- (a) James Me
- (b) Richard Laine
- (c) Joseph De Simons
- (d) Timothy Remark
- (vii) What is the full form of EPA? (1)
- (viii) Give an example of Bio-based solvent. (1)

2823

3

- (ix) E-factor is defined as the ratio of _____ per mass of product. (1)
- (x) Give green synthesis of the following : (2.5 $\times$ 2=5)
- (a) Adipic acid
- (b) Phthalocyanine Copper Complex
2. (i) Write the short notes on any **two** of the following : (2.5 $\times$ 2=5)
- (a) P2 (Pollution Prevention Act, 1990)
- (b) Obstacles in pursuit of Green Chemistry
- (c) Green chemistry in pharmaceutical industry
- (ii) What is bio-Deisel? Give a method for its synthesis. (3)
3. (a) What is the concept of Green Chemistry, and what advantages does it offer? Why is Green Chemistry essential for addressing environmental and sustainability challenges? (4)
- (b) What are greener approaches to prevent incidents like the Bhopal gas tragedy, and how can carbaryl be synthesized using safer methods? (4)

P.T.O.