2403080204050002
EXAMINATION APRIL 2025
MASTER OF SCIENCE (CHEMISTRY) (FOURTH SEMESTER)
CHEMISTRY PAPER-V SKILL ENHANCEMENT: GREEN CHEMISTRY

[Time: As Per Schedule] **[Max. Marks: 35]**

Instructions:
1. **Fill up strictly the following details on your answer book**
   a. Name of the Examination : **MASTER OF SCIENCE (CHEMISTRY) (FOURTH SEMESTER)**
   b. Name of the Subject : **CHEMISTRY PAPER-V SKILL ENHANCEMENT: GREEN CHEMISTRY**
   c. Subject Code No : **2403080204050002**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

Student's Signature

Q.1 Answer any three of the following **18**

a) What is atom economy? Justify atom economy of addition, substitution and elimination reactions.

b) Write a note on polymer based oxidising and reducing reagents and their applications.

c) Explain green approaches over conventional reactions with their merits for,
(i) Benzoin condensation, & (ii) Heck reaction.

d) Discuss role of solvent selection for greener approach. Justify with merits, how volatile organic solvents used in conventional Michael reaction is replaced by using water as a solvent?

Q.2 Answer any three of the following **17**

(a) Discuss the role of PNBS and Bu_4NBr_3 for green bromination reaction.

(b) Write a note on green acid catalysts with their merits.

(c) Discuss merits of water based green reactions over conventional solvent based reactions. Justify your answer by giving examples of any two green name reactions.

(d) Explain with one application of following green catalysts,

(i) Polymeric super acid catalysts, and

(ii) Pyridinium Fluorochromate (PFC)

*****