

**M.SC Semester III**

**Core Course XII**

**Environmental Chemistry**

**TOPIC:-Unit IV, APPLICATIONS OF  
GREEN CHEMISTRY**

**Department of Chemistry**

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# OUTLINE

- ⦿ Introduction
- ⦿ Green Chemistry Principles
- ⦿ Applications of Green Chemistry
  - Industrial integration
  - Environmentally friendly catalysis
  - Biomass
- ⦿ Conclusion

# WHY THIS TOPIC ?

- ⦿ Sustainability is a problem for the industry
- ⦿ Increasing awareness of people
- ⦿ Related with my field studies

# WHAT IS GREEN CHEMISTRY?

## ⦿ Major aims:

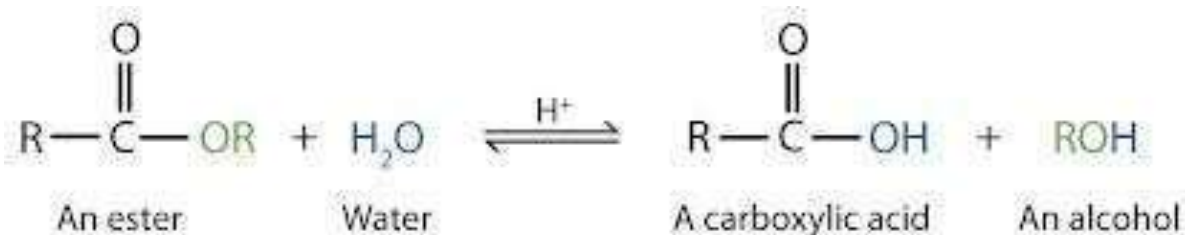
- Prevention of wastes
- Increase energy efficiency
- Cheaper processes
- Reduced risks

# WHY GREEN CHEMISTRY ?

- ⦿ Classical methods pollute environment
- ⦿ 'Old school' chemistry is not efficient enough
- ⦿ Maximized sustainability

# WHAT IS A CATALYST ?

- ⦿ They speed up chemical reactions
- ⦿ Used a lot in chemical industry
- ⦿ Increases productivity
- ⦿ Lowers capital use



# WHAT IS WASTE ?

- ⦿ Wastes are materials that we can't make use of them
- ⦿ They are produced undesirably while we are trying to get our product
- ⦿ They pollute our environment