

M.SC Semester III

Core Course XII

Environmental Chemistry



TOPIC:-Unit IV, Green Chemistry

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INTRODUCTION



- Green chemistry is also known as environmentally benign chemistry or sustainable chemistry
- Paul Anastas and John Warner, who defined green chemistry as the design of chemical products and processes that reduce or eliminate the use and generation of hazardous substances.
- Chemical developments also bring new environmental problems and harmful unexpected side effects, which result in the need for ‘greener’ chemical products.

INTRODUCTION



- Green chemistry looks at pollution prevention on the molecular scale and is an extremely important area of Chemistry due to the importance of Chemistry in our world today and the implications it can show on our environment.
- The Green Chemistry program supports the invention of more environmentally friendly chemical processes which reduce or even eliminate the generation of hazardous substances.

INTRODUCTION



- Anastas and Warner formulated the twelve principles of green chemistry in 1998. These serve as guidelines for chemists seeking to lower the ecological footprint of the chemicals they produce and the processes by which such chemicals are made.
- The invention, design and application of chemical products and processes to reduce or to eliminate the use and generation of hazardous substances.

GREEN CHEMISTRY IS ABOUT



- – Waste Minimisation at Source
- – Use of Catalysts in place of Reagents
- – Using Non-Toxic Reagents
- – Use of Renewable Resources
- – Improved Atom Efficiency
- – Use of Solvent Free or Recyclable Environmentally Benign Solvent systems