# SARDAR PATEL UNIVERSITY
## Programme: B.Sc (Chemistry)
## Semester: III
## Syllabus with effect from: JUNE 2012

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| **Paper Code: US03ECHE03** | **Total Credit: 2** |
| **Title Of Paper: Green Chemistry** | |

| Unit | Description in detail | Weighting (%) |
|---|---|---|
| I | **New Trends In Green Chemistry**<br>Introduction, Designing a Green Synthesis, Choice of starting materials, Choice of reagents, Choice of catalyst, Choice of Solvents. Basic Principles of Green Chemistry: Prevention of waste/By products, Maximum incorporation of reactants into the final product., Prevention or minimization of hazardous products, Designing safer chemicals, Energy required for synthesis, Selection of appropriate solvents, selection of starting materials, Use of protecting groups, Use of catalyst, Products design should be bio-degradable, Designing of manufacturing plants, Strengthening of analytical techniques. Green Chemistry in day-to-day life: Dry cleaning of cloths, Versatile bleaching agents. | |
| II | **Green Reagents And Catalysts**<br>Environmental Pollution, Green Reagent, Dimethyl Carbonate, Polymers supported reagents, Green Catalysts, Acid Catalysts. , Oxidation Catalyst., Basic Catalyst., Polymer Supported Catalyst. | |
| III | **Bio Catalyst In Organic Synthesis**<br>Introduction, Biochemical (Microbial) Oxidations, Biochemical (Microbial) Reductions, Enzymes, Catalysed Hydrolytic Processes. | |
| IV | **Organic Synthesis In Solid State**<br>Introduction, Solid phase organic synthesis without using any solvent, Solid supported organic synthesis. | |

**Basic Text & Reference Books :-**


- New Trends in Green Chemistry by V. K. Ahluwalia, M. Kidwai.