



**Subject: PG Elective course for Environmental Science/biological science/chemistry/Agriculture**

**Course: Biomass characterization**

**Development Team**

Content Coordinator: Dr.K. Arunkumar,Ph.D

Associate Professor& Head, Department of Plant Science, Central University of Kerala, Kasaragod-671320, Kerala, India

Course Writer: Dr.Chithra Manisseri,Ph.D

Assistant Professor,  
Department of Plant Science,  
Central University of Kerala,  
Kasaragod-671320, Kerala, India

Content Reviewer: Dr.K. Arunkumar,Ph.D

Associate Professor& Head, Department of Plant Science, Central University of Kerala, Kasaragod-671320, Kerala, India

## **Module 23. Pretreatment methods of Processing the biomass**

**Id : PT/PTMP/23**

**Objectives:** The objective of this module is to understand what are different pretreatment methods generally used in the deconstruction of lignocellulosic biomass.

**Key words:** Pretreatment, lignocellulose, physicochemical, ionic liquid,

**Outcome:** The selection of a pretreatment method is very important in the commercial production of biofuel and this module will make students to understand different methods for the disruption of lignocellulose and their advantages and disadvantages.

### **23.1.Introduction**

In the previous modules on biomass recalcitrance and lignin chemistry we have seen