

SYLLABUS :-

Basic concepts of Metabolic Engineering. Overview of cellular metabolism. Different models for cellular reactions. Metabolic regulation network at enzyme level and whole cell level. Examples of metabolic pathway manipulations. Metabolic pathway synthesis algorithms. Metabolic flux analysis and its applications. Methods for experimental determination of metabolic fluxes by isotope labeling. Analysis of metabolic control and the structure metabolic networks. Thermodynamics of cellular processes. New concepts for quantitative bioprocess research and development.