

SYLLABUS :-

Demonstration of various bioreactor configurations, parts and integrated process control systems; In-situ sterilization of medium; Sterilization cycle; Arrhenius plot; Air sterilization; Efficiency of air filters; Microbial death kinetics; Determination of Nabla Factor and L90 Value; Demonstration of inoculation and sampling in a CSTR; Determination of mixing time and Power number; Demonstration of batch, fed-batch and continuous processes in CSTR, Microbial cell growth kinetics; Determination of volumetric mass-transfer coefficient (KLa). Preparation and characterization of immobilized enzymes, Determination of kinetic constants in free and immobilized enzyme systems, Evaluation of Effectiveness factor and Thiele modulus; Studies on biotransformations in continuous flow reactors (Packed-bed and Plug-flow).