SUBJECT NO-BT60004, SUBJECT NAME- BIOTECHNOLOGY OF PLANT METABOLITES

LTP- 3-0-0,CRD- 3

SYLLABUS :-

Introduction to aspects of plant tissue/cell culture e.g. nutrition and media, callus culture. Cell suspension culture. Introduction to primary and secondary metabolism, Important pathway leading to the biosynthesis of secondary metabolites (e.g. serpentine, shikonin, diosgenin and cardenolids) in plants, Secondary. Metabolic products produced by in vitro culturing of plant cells, selection of plant cells/tissues for the production of a specific product, Molecular Pharming. Culture system in secondary plant product biosynthesis- batch / continuous culture and immobilized plant cells. Biotransformation of precursors by cell culturing. Extraction and analytical methods for the above four metabolites. Industries involved in the production of plant secondary metabolites, Potential and future prospect of the secondary metabolities production by plant cells culture techniques.