

# Pramukh Swami Science & H. D. Patel Arts College, Kadi

## Biotechnology Department

### SYLLABUS

#### Certificate course in Hands on practices in Plant Tissue Culture

##### Unit-I

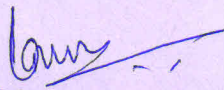
Introduction - History, Scope and Concepts of basic techniques in plant tissue culture. Laboratory requirements and organization. Sterilization - filter, heat, wet and chemical. Media preparation - inorganic nutrients, organic supplements, carbon source, vitamins, gelling agents, phytohormones and growth regulators; composition of commonly used culture media (MS and Gamborg's)

##### Unit-II


Cell, tissue and organ culture - Isolation of single cells, selection and types of cells. Tissue explants and organs for culture - Cell suspension cultures - batch, continuous. Synchronization of suspension culture, cellular totipotency, Cytological, cytochemical and vascular differentiations

##### Unit-III

Elite and ornamental Plants for propagation in vitro, Selection of superior biotypes of orchids, roses, jasmine, Hibiscus and crotons; Clonal propagation of elite germplasms, clonal propagation strategies for commercial exploitations.

  
**CERTIFICATE COURSE**  
Department of Biotechnology  
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Principal  
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