

SARDAR PATEL UNIVERSITY
Programme: BSC (BIOTECHNOLOGY)
Semester: V
Syllabus with effect from: June 2012

Paper Code: US05CBIT03	Total Credit: 3
Title Of Paper: Plant Biotechnology	

Unit	Description in detail	Weighting (%)
1	Transgenic plants, Gene transfer methods in plants-physical, chemical & vector mediated, screening of transgenics, selectable & scorable markers.	
2	Agricultural biotechnology- Introduction and scope. Development of disease resistant, insect resistant and herbicide resistant, plants, improvement of nutritional value in plants (golden rice, flavor savor tomato). Edible vaccine.	
3	Micropropagation and its commercial applications. Plant hormones- Types and their roles in tissue culture, cryopreservation, germplasm conservation. Artificial seeds- preparation and applications.	
4	Production of bioactive compounds (secondary metabolites), hairy root culture. Somaclonal variations- molecular basis, screening and selection types, significance and its applications.	

Basic Text & Reference Books:

- Plant Biotechnology - P K Gupta
- Plant tissue culture - Kalyan and Dey
- Gene manipulation - G.B. Old & Primrose
- Gene Cloning by T.A. Brown.
- Biotechnology and genomics - P K Gupta

