

SARDAR PATEL UNIVERSITY
Programme: BSC (BOTANY)
Semester: IV
Syllabus with effect from: November 2012

Paper Code: US04EBOT01	Total Credit: 2
Title Of Paper: Plant Histology, Taxonomy, Physiology and Genetics	

Unit	Description in detail	Weighting (%)
1	Plant Histology Meristem: Introduction, apical and lateral meristem and cytological characters Parenchyma: Shape and arrangement, structure and contents Collenchyma: Position in plant body, structure and arrangement Sclerenchyma: Structure and types Xylem: cell types and their cytology Phloem: cell types and their cytology	
2	Plant Taxonomy Biological concepts of species Characters, examples and economic importance of: Leguminosae - Fabaceae, Mimosaceae, Caesalpinaceae, Rubiaceae, Lamiaceae, Brassicaceae, Myrtaceae.	
3	Plant Physiology Transpiration and Guttation Photosynthesis: Photosynthetic pigments, Photophosphorylation, Calvin cycle , Factors affecting photosynthesis Mineral nutrition: Mineral uptake, Essential macro (Potassium, Nitrogen) and micro (Iron, Zinc) nutrients and their role, Deficiency symptoms. Seed dormancy and germination Photoperiodism	
4	Genetics Mendel's laws of inheritance Incomplete dominance Back cross and test cross Gene interactions - Dominant epistasis (12:3:1), Recessive epistasis (9:3:4) Supplementary genes (9:3:4), Complimentary genes (9:7) Linkage and Crossing over in brief	

Basic Text & Reference Books:

- Taxonomy of Angiosperms by B.P.Pandey
- College Botany Vol 1 : Gangulee, Das and Dutta
- Plant physiology by V. verma
- Genetics: Verma and Agrawal

