SARDAR PATEL UNIVERSITY
Programme: BSC (BOTANY)
Semester: V
Syllabus with effect from: June 2013

Paper Code: US05CBOT01	**Total Credit: 3**
Title Of Paper: Algae, Bryophytes, Pteridophytes and Gymnosperms	

Unit	Description in detail	Weighting (%)
1	**ALGAE** Fritsch system of classification, General account of habitat, Range of thallus, Cell structure, Reproduction, Types of life cycles, Sexuality in algae, Origin of sex in algae, Economic importance of algae- as food and fodder, role in industry, role in agriculture, as medicine, as biofertilisers, as a source of renewable source of energy, as minerals and algae in association with fungi (LICHENS- potential organisms for sustainable agriculture)	
2	**Bryophytes** Introduction to bryophytes, Contribution of Indian scientists in bryology, Classification, fossil bryophytes, evolution and affinities, bryophyte ecology. Distribution of bryophytes, economic importance of bryophytes, propagation, pollution and bryophytes (air, water and bio indicator)	
3	**Pteridophytes** Origin of Pteridophytes - algal theory, telome concept &bryophyte origin. Evolution of sporophyte, origin of leaf, heterospory and seed habit, apomixes, evolutionary tendencies. Distribution, external and internal morphology and life cycles of: Ophioglossum, Dryopteris & Azolla.	
4	**Gymnosperms** Morphology of vegetative structures, &reproductive structures. Pollination, fertilization, embryogeny & formation of seeds. Gymnosperms in India and their economic importance, resemblance of gymnosperms with Pteridophytes and angiosperms. Morphology of vegetative and reproductive parts and life cycles of: Biota, Ephedra and Welwitscia.	

Basic Text & Reference Books:

- College Botany, Vol.2: Gangulee and Kar
- Botany for degree students - Bryophytes: B.R.Vashishta
- Botany for degree students - Algae: B.R.Vashistha
- Botany for degree students - Pteridophytes; P.C..Vashistha
- Botany for degree students - Gymnosperms; P.C.Vashishtha
- Morphology of Bryophytes, Pteridiphytes and Gymnosperms-K.R.Sporne