

BOTANY DEPARTMENT

Syllabus Distribution, B.Sc. Semester – I

Paper No.	Unit No.	Name of Faculty
BOTANY 101 Theory	Unit No.1 Study of lower Plants : Algae: <i>Spirogyra, Nostoc</i> Fungi: <i>Mucor, Agaricus</i> Bryophytes: <i>Riccia</i> Pteridophytes: <i>Nephrolepis</i>	Dr. Ashok M. Patel ampatel@sracsahmedabad.onmicrosoft.com
	Unit No.2 Cytology, Genetics and Molecular biology : 1.Ultra structure of Plant Cell. 2 Structure & Function of Mitochondria and Chloroplast. 3. DNA Structure ,Watson and Crick's Model & Forms of DNA. 4. Structure and Types of RNA. 5. DNA Replication. 6. Genetic Code & its Properties , Protein Synthesis. 7.Regulation of gene expression in prokaryotes – LAC Operon concept	Ashok M. Patel ampatel@sracsahmedabad.onmicrosoft.com
	Unit No.3 Environmental Biology and Climate change : 1. Introduction, Scope and Branches of Ecology. 2. Ecosystems : • Kinds of Ecosystems: Natural, Artificial • Structure and Functions of Ecosystems • Ecological Pyramids, Productivity of an Ecosystem, Energy flow in an Ecosystem 3.Biogeochemical Cycles- Nitrogen, Sulphur. 4.Components of Freshwater Ecosystem (Pond). • Components of Terrestrial Ecosystem (Grassland) 3. Biotic Factors : Symbiosis: Mutualism, Proto-cooperation, Commensalism Antagonism: Predation, Parasitism, Antibiosis, Competition, Saprophytism 4. Climate change & Sustainable Biodiversity Concept of Carbon foot print & Carbon	Dr. M. N. Desai mndesai@sracsahmedabad.onmicrosoft.com

	trading IUCN Categories of threat and list of endangered plant species of Gujarat, Importance of Biodiversity. Sources , Effect & Control of Air and Water Pollution	
	Unit No.4 Plant Biotechnology : 1. Introduction, Brief History, Scope and Types of Plant Biotechnology. 2. Plant Tissue Culture – Tools & Technique & Laboratory organization. 3. Organ & Pollen Culture. 4. Introduction to Synthetic Seeds & Edible Vaccines. 5. Protoplast Culture and Somatic Hybridization. 6. Applications of Plant Tissue Culture.	M. N. Desai mndesai@sracsahmedabad.on microsoft.com