



**PARVATHANENI BRAHMAYYA**  
**SIDDHARTHA COLLEGE OF ARTS & SCIENCE**  
*Autonomous*  
Siddhartha Nagar, Vijayawada-520010  
*Re-accredited at 'A+' by the NAAC*

**23BOMAP121: Non-Vascular Plants (Algae, Fungi, Lichens and Bryophytes)**

**Offered to:** BSc. Honours (Botany)

**Course Type:** Major 3 (P)

**Year of Introduction:** 2023-24

**Semester:** II

**Credits:** 3

**30Hrs**

**Max.Marks:** 50(15+35)

**Course Prerequisites:** Knowledge of Non-Vascular Plants (Algae, Fungi, Lichens, and Bryophytes) studied in intermediate.

**Course Description:** This course will provide one with a basic and comprehensive understanding of Non-vascular Plants. Enable the student with depth of topics and helps them to gain an appreciation in the identification of Algae, Fungi, Lichen, Bryophyta. On the other hand, importance of understanding Cultivation of *Chlorella* provides an extensive knowledge to the student.

**Course Objectives:**

1. Knowledge of identification of Algae, Fungi, Lichens, Bryophyta.
2. The study of identification of some algal products which are locally available.
3. The study of identification of some fungal products which are locally available.
4. Knowledge to demonstrate the culture.
5. Knowledge of cultivation of *Chlorella*.

**Course Outcomes:** On successful completion of this practical course, student shall be able to:

CO1: Identify some algal and fungal species based on the structure of thalli and reproductive organs.

CO2: Decipher the lichens and Bryophytes based on morphological, anatomical and reproductive features.

CO-PO MATRIX							
CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1						M	
CO2						H	
CO3					M		
CO4					M		
CO5				L			

**Syllabus**

**Course Details**

**Laboratory/field exercises:**

Study/ microscopic observation of vegetative, sectional/anatomical and reproductive structures of the following using temporary or permanent slides/ specimens/ mounts:

1. **Algae:** *Spirogyra*, *Ectocarpus*, *Vaucheria* and *Polysiphonia*; a centric and a pennatediatom.
2. Demonstration of culture and cultivation of *Chlorella*
3. Identification of some algal products available in local market.

4. **Fungi:** *Phytophthora*, *Rhizopus*, *Penicillium* and *Puccinia*
5. Identification of some fungal products available in the local market.
6. **Lichens:** Crustose, foliose and fruticose
7. **Bryophyta:** *Marchantia*, *Anthoceros* and *Funaria*.

### **Semester End Examination Model Paper**

1. Identify giving reasons of the two ingredients in the given Algal mixture “A” 2x4=8M.
2. Take the T.S of given material “B” make a temporary mount and write comments about identification. 8M
3. Take the T.S of given material “C” make a temporary mount and write comments about identification. 8M
4. Identify the following with specific reasons 2x3=6M
  - D. Algae
  - E. Lichen
  - F. Bryophyte
5. Record+Viva-voce 5M