

**SRI A.S.N.M. GOVERNMENT COLLEGE (A), PALAKOLLU**  
**(Accredited with NAAC “B” Grade with 2.61 CGPA points)**

**DEPARTMENT OF BOTANY**

**I B. Sc - BOTANY SYLLABUS THEORY**

**PAPER –II; SEMESTER –II**

(W.e.f. 2018-19 Admitted Batch)

**(Paper-II: Diversity of Archaeogniates & Plant Anatomy)**

**Total hours of teaching 60 hrs @ 4 hrs per week**

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**UNIT – I: BRYOPHYTES** (12hrs)

1. General characters, Classification (up to classes)
2. Structure, reproduction and Life history of Marchantia, and Funaria.
3. Evolution of Sporophyte in Bryophytes.

**UNIT - II: PTERIDOPHYTES** (12hrs)

1. General characters, classification (up to Classes)
2. Structure, reproduction and life history of Lycopodium, and Marsilea.
3. Heterospory and seed habit.
4. Stelar evaluation in Pteridophytes.

**UNIT – III: GYMNOSPERMS** (12hrs)

1. General characters, classification (up to classes)
2. Morphology, anatomy, reproduction and life history of Pinus and Gnetum.
3. Economic importance.

**UNIT –I V: TISSUES AND TISSUE SYSTEMS** (12hrs)

1. Meristems - Root and Shoot apical meristems and their histological organization.
2. Tissues – Meristematic and permanent tissues (simple, complex, secretory)
3. Tissue systems–Epidermal, ground and vascular.

**UNIT – V. SECONDARY GROWTH** (12hrs)

1. Anomalous secondary growth in Achyranthes, Boerhaavia and Dracaena.
2. Study of local timbers of economic importance-Teak, Rosewood.

**Additional Inputs:** Alternation of Generations

**Books for Reference:**

1. Smith, G.M. (1971): Cryptogamic Botany Vol. II. - Tata Mc Graw Hill
2. Pandey & Trivedi, A Text Book of Botany Vol. II - Vikas Publishing House Pvt. Ltd.
3. Parihar, N.S. (1970): Bryophyta , Central Book Depot, Allahabad.
4. Vasistha P C , A K Sinha and Adarsh Kumar 2008- Botany for Degree students: Bryophyta S Chand & Co, New Delhi.
5. Parichar N 1972 - Pteridophyta, Central Book Depot, Allahabad.
6. Sporne, K.R. (1965) : Morphology & Gymnosperms, Hutchinson University Library, London & Esau, K. (1971) : Anatomy of Seed Plants. John Wiley and Son, USA.
7. Eames, A.J., & Mc Daniels, L.H.(1979) : An Introduction to Plant anatomy Tata-McGraw-Hill Publishing Co., (P) Ltd. Bombay, New Delhi.

# **I B.Sc SEMESTER –II**

## **BOTANY PRACTICAL SYLLABUS**

(W.e.f. 2018-19 Admitted Batch)

### **Paper-II: Diversity of Archaeogniates & Plant Anatomy**

**Total hours of laboratory Exercises 30 hrs @ 2 per week**

1. Morphology (vegetative and reproductive structures), anatomy of the following :  
Marchantia,  
Funaria,  
Lycopodium and  
Pinus.
2. Anatomy:
  - a) Demonstration of double staining technique.
  - b) Tissue organization in root and shoot apices using permanent slides
  - c) Preparation of double staining slides
  - d) Anomalous secondary structure of Achyranthes, Boerhavia and Dracaena.
  - e) Anatomical study of wood in T.S., T.L.S. and R.L.S.
3. Field visits to local timber depots.