



Code	Subject Title	Cr. Hrs	Semester
BOT-306	Evolutionary Trends in Trachaeophytes Lab	1	V
Year	Discipline		
3	Botany		

Syllabus Outline: Morphological studies of Representative Members, Section Cutting and Double Staining Procedure, Field Excursion and Plants Collection, Presentation of Preserved Specimens for Herbarium.

Course Outline:

1. Study of morphological and anatomical features of representative members of plants mentioned in the text through prepared slides and preserved/actual specimens.
2. Free Hand Sectioning and Staining (Single and Double) of the Representative Specimens Mentioned in the text.
3. Field Excursion Tours and Report Writing. Students shall be required to undertake a field study tour to the higher/lesser Himalayas to achieve the following objectives.
4. Study of Trachaeophytes in their Natural Habitat and prepare Field Notes. They will collect at least Fifty (50) plants including Lower and Higher Trachaeophytes. Plants should be properly Identified and Mounted on Herbarium Sheets including all Technical Informations/Data.
5. Each student shall be required to present a Comprehensive Field Report during the Practical Examination covering all aspects of the Field-Work duly supported by well-documented photographs.

Module Aims: The course is designed to provide an adequate knowledge of the Trachaeophytes and their evolutionary importance with special emphasis on vegetative and reproductive structure of Lower Vascular Land Plants.

Learning Strategies:

1. Lectures
2. Group Discussion
3. Laboratory work
4. Seminar/ Workshop

Learning Outcome: Through this course students will get the better opportunity to understand the plants taught in theory, their morphological and anatomical features through preserved specimens and slides. Students would get the opportunity to collect the specimens and learn to present these in the form of preserved and pressed specimens.

Assessment Strategies:

1. Lecture Based Examination (Objective and Subjective)
2. Assignments
3. Class discussion
4. Quiz
5. Tests



Books Recommended:

1. **Kramer, K.U. Green, P.S. and Götz, E. (2010).** *Pteridophytes and Gymnosperms (The Families and Genera of Vascular Plants)*. (1st Ed.). Springer Link. 410pp. **ISBN-13: 978-3642080807.**
 2. **Taylor, T.N., Taylor, E.N. and Krings, M. (2008).** *Paleobotany: The Biology and Evolution of Fossil Plants*. (2nd Ed.), Academic Press.1252 pp. **ISBN-13: 978-0123739728.**
 3. **Sambamurty, A.V.S.S. (2005).** *A Textbook of Bryophytes, Pteridophytes, Gymnosperms and Paleobotany*. I.K. International Pvt. Ltd. 584 pp. **ISBN-13: 978-8188237456.**
 4. **Kenrick, P. and Davies, P. (2004).** *Fossil Plants (Smithsonian's Living Past)*. Smithsonian Books. 232pp. **ISBN-13: 978-1588341563.**
 5. **Willis, K.J. and McElwain, J.C. (2002).** *The Evolution of Plants*. Oxford University Press. 392 pp. **ISBN-13: 978-0198500650.**
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