Name of the Programme: M. Sc (Botany)
Course Code: BOT-503
Title of the Course: Lab in Systematics of Angiosperms
Number of Credits: 1 (30 hours)
Effective from AY: 2022-23

Prerequisites for the course:	Should have studied or have the practical knowledge of Plant morphological terms.	
Objective(s):	To learn plant taxonomy through dissection of flowers, use of Floras and field study and develop skills to handle plant identification and floristic work independently and at the same time able to handle molecular data for interpreting phylogeny.	
Content:	1. Writing of technical descriptions and demonstration of preparation of herbarium. 2. Construction of keys. 3. Identification of local species using Floras, keys and campus field trips. 4. Identification of 28 families using diagnostic characters; diagnostic characters to be illustrated. 5. Construction of phylogenetic tree based on gene sequences available at NCBI database (each student may be given different gene sequences/taxa). 6. A mini field project to study flora from Goa University campus based on Practical 3 and submission of report. ***Only 30 hours for any of the above practicals will be conducted depending on availability of plant material, equipments, etc.***	**4 hours** **2 hours** **8 hours** **14 hours** **4 hours**
Pedagogy:	Through actual dissection of floral parts/ Field trip /Practice	
References/ Readings:	**Barry G. Hall.** (2007). Phylogenetic Trees Made Easy: A How-To Manual, Third Edition. Sinauer Associates, Inc., Publishers, Sunderland, USA. **Jain, S.K. and R.R. Rao.** (1977). A handbook of Field and Herbarium methods. Today and Tomorrow Printers and Publishers, New Delhi. **Judd, W. S., Campbell, C. S., Kellogg, E. A., Stevens, P. F., & Donoghue, M. J.** (2007). Plant systematics: A phylogenetic approach. Third Edition. Sinauer Associates, Inc., Publishers, Sunderland, USA. **Lawrence, G.H.M.** (1951). Taxonomy of Vascular. Plants. Oxford & IBH Publishing Co. **Singh, G.** (2009). Plant systematics: an integrated approach. Science Pub Inc. **Utteridge, T. and G. Bramley.** (2014). Tropical Plant Families	

	Identification Handbook. Kew Publishing.	
Learning Outcomes:	1. Able to write technical description of plants and construct and use keys for identification. 2. Able to identify common plant families based on the morphological features. 3. Able to recognize common plants. 4. Able to construct phylogenetic tree based on molecular sequences.	

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