

**Practical Plan**

<b>Name of the college:</b> Government College of Arts, Science and Commerce, Sanquelim-Goa				
<b>Name of Faculty:</b> Dr Jyosna Gawas		<b>Subject:</b> Botany		
<b>Paper code:</b> BOT 100		<b>Program:</b> F.Y.B.Sc		<b>Batch:</b> I
<b>Academic year:</b> 2024 - 2025		<b>Semester:</b> II		<b>Total Practicals/Labs:</b> 30
<b>Credits:</b> 02				
<b>Course Objectives:</b> This course aims to increase the understanding about the different types of gardens, their features and routine operations in nursery management and gardening. The practical component of this course aims to impart skill in designing a plant nursery, different types gardens, cultivation practices to be followed in operating a plant nursery and garden.				
<b>Expected Course Outcome:</b> After completion of this course student will be able to design and maintain a plant nursery.				
<b>Student Learning Outcome:</b>				
1. Develop skills in designing a plant nursery and different types of gardens, routine operations in gardening and nursery management, cultivation practices for entrepreneurial opportunities.				
Month	Practicals/Labs Scheduled Date	No. of Practicals/Labs planned	List of Experiments	Reference books
December 2024	21/12/2024	01	Study of different types (Impression, Compression, Petrification and coal balls) of fossils.	Taxonomy of Vascular Plants by G. H. M Lawrence
January 2025	04/01/2025	01	To study different types of roots.	
	11/01/2025	01	To study different types of stems.  To study different characters of leaves with respect to phyllotaxy – Alternate, spiral, opposite, whorled;	

	18/01/2025	01	To study different characters of leaves with respect to: shapes of leaves, leaf types - compound, simple. b. leaf margins, leaf apex, leaf venation - parallel and reticulate, vernation. To study various parts of the flower, types of inflorescences and fruits.	Plant systematics: Theory and Practice by G Singh
February 2025	02/02/2025	01	To study type of seeds and germination in seeds of <i>Riccinus</i> and <i>Cucurbita</i> .	
	08/02/2025	01	To study types of tissues (Parenchyma, Collenchyma, Sclerenchyma, Xylem, Phloem) with the help of permanent slides.	Experiments in Plant Physiology
	15/02/2025	01	Demonstration of tropic responses in plants - phototropism, geotropism, chemotropism, hydrotropism and thigmotropism.	
	22/02/2025	01	To demonstrate leaf movements (nyctinasty and seismonasty).	Botany for Degree Students (Plant Physiology & Metabolism) By B P Pandey
March 2025	01/02/2025	01	a. To demonstrate that oxygen is evolved during photosynthesis using inverted funnel method b. Demonstration of respiration in germinating seeds by phenol red method	
	08/03/2025	01	Demonstration of process of Osmosis and Imbibition in plants.	
	22/03/2025	01	Demonstration of process of Diffusion and Transpiration in plants.	
	29/03/2025	01	Study of basic instruments used in botanical studies: (Dissection microscope, light microscope, distillation unit, spectrophotometer, Autoclave, Laminar air flow unit, centrifuge, orbital shaker, micrometres (stage and ocular), pH meter	
April 2025	05/04/2025	01	Practical Exam	
		01	Field trip	

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#### Assessment Rubrics

Component	Max Marks
ISA 1	NA
ISA 2	NA
ISA 3	NA
Practical	25
Project	NA
Semester End Exam	NA