

ODD SEMESTER PRACITCAL PLAN							
Name of the college: Government College of Arts, Science and Commerce, Sanquelim Goa							
Name of Faculty: Dr. Nisha Kevat				Subject: Plant Physiology (PRACTICAL)			
Paper code: BOT 201				Program/Course: S.Y B.Sc.		Division: - --	
Academic year: 2026 - 2027				Semester: III		Total Lectures: 30 HOURS (Practicals)	
Course Objectives: 1. Develop an understanding of the physiological processes occurring in plants and their responses. 2. Enable the analysis of plant responses to various factors and understand their effects on physiological processes. 3. Impart practical skills essential for planning and executing research in plant physiology and allied fields							
Course Learning Outcome: 1. Enlist the role of mineral nutrients, plant pigments and phytohormones in plant growth. 2. Understand and describe various physiological processes such as absorption, transpiration, photosynthesis, photorespiration, translocation and nitrogen metabolism involved in plant growth. 3. Apply the knowledge of mineral nutrients and phytohormones in regulating plant growth. 4. Analyze plant responses to various growth and environmental factors and plan the experimental layout for research work.							
Month	Practicals/Labs Scheduled Date	No. of Practicals / Labs planned	List of Experiment			Reference books	
June 2026	23/06/	01	Practical 1: Determination of osmotic potential of plant cell sap by plasmolytic method.			1. Bajracharya, D (1999). Experiments in Plant Physiology - A Laboratory	
June 2026	29/06/	01	Practical 2: Study of the effect of environmental.				

July 2026	07/07/	01	Practical 3: Calculation of stomatal index and stomatal frequency of a mesophyte. Calculate and compare stomatal index and frequency in different mesophyte plants.	Manual. Narosa Publishing House, New Delhi. 2. Evert, RF (2012). Raven Biology of Plants. International Edition. 8th edition. Palgrave Macmillan, U.K. 3. Hopkins, WG and Huner, NP (2009). Introduction to Plant Physiology. 4 th edition. John Wiley & Sons, U.S.A. 4. Jain, VK (2022). Fundamentals of Plant Physiology. S. Chand and Company, Delhi. 5. Kochar, SL and Gujral, SK (2020). Plant Physiology: Theory and Applications. Cambridge University Press India Private Limited, New Delhi. 6. Pandey, SN and Sinha, BK (2006). Plant Physiology. Vikas Publication House, New Delhi. 7. Sinha, R (2015). Modern Plant Physiology. Narosa Publishing House, New Delhi. Taiz, L, Zeiger, E, Moller, IM and Murphy, A (2015). Plant Physiology
July 2026	14/07/	01	Practical 4: Calculation of stomatal index and stomatal frequency of a xerophyte.	
July 2026	21/07/	01	Practical 5: Qualitative tests to detect mineral nutrients in plants (any four)	
July, 2026	28/08/	01	Practical 6: Separation of chlorophyll pigments by paper chromatography.	
August 2026	04/08/	01	Practical 7: Demonstration of Hill's reaction.	
August 2026	11/08/	01	Practical 8: Comparison of anatomical features of C3 and C4 plants.	
August 2026	18/08/	01	Practical 9: Determination of chlorophyll a, chlorophyll b and total chlorophyll content in shade and sun plants.	
September , 2026	25/09/	01	Practical 10: Determination of oxygen evolution during photosynthesis in aquatic plants by titrimetric method	
September , 2026	01/09/	01	Practical 11: Study of photo-oxidation of photosynthetic pigments.	
September , 2026	08/09/	01	Practical 12: Comparative study of rate of respiration in any two parts of a plant.	
September 2026	22/09/	01	Practical 13: Determination of Q10 of germinating seeds.	
September 2026	29/09	01	Practical 14: Study of bacteria from root nodule suspension by Gram staining technique.	
October, 2026	06/10	01	Practical 15: Study of the effect of auxins on rooting.	

*Note: Data filled in the above form is sample data.

*** Assessment Rubrics**

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