

ODD SEMESTER LECTURE PLAN (AY 2025-2026)							
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: 2025 - 2026			Semester: III		Total Lectures: 30 (PRACTICAL)		
Course Objectives: 1. Develop an understanding of the physiological processes occurring in plants and their responses. 4GT 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	Lectures From: To:		No. of lectures allotted	Topic, Subtopic to be covered	Exercise/Assignments	ICT Tools	Reference books
July 2025	23/06/		02	Practical 1: Problems on monohybrid and dihybrid cross.		Power Point Presentation, Chalk And Board, You Tube Study Videos	Bajracharya, D (1999).

June/ July 2025	30/06/	05/07	03	Practical 2: Problems on dihybrid cross.		Power Point Presentation, Chalk And Board, You Tube Study Videos	Experiments in Plant Physiology - A
July 2025	07/07/	12/07	03	Practical 3: Preparation of chromosome map using three-point test cross data.		Power Point Presentation, Chalk And Board, You Tube Study Videos	Laboratory Manual. Narosa Publishing
July 2025	14/07/	19/07	03	Practical 4: Preparation of chromosome map using three-point test cross data.		Power Point Presentation, Chalk And Board, You Tube Study Videos	House, New Delhi. 2. Evert, RF (2012).
July 2025	21/07/	26/08	03	Practical 5: Study of stages in mitosis using <i>Allium cepa</i> root tips.		Power Point Presentation, Chalk And Board, You Tube Study Videos	Raven Biology of Plants. International
July/August 2025	28/07/	02/08	03	Practical 6 : Study of stages in meiosis using <i>Allium cepa</i> <i>/Tradescantia</i> sp. flower buds		Power Point Presentation, Chalk And Board, You Tube Study Videos	Edition. 8th edition. Palgrave Macmillan,
August 2025	04/08/	09/08	03	Practical 7: Preparation of karyotype from dividing <i>Allium cepa</i> root tip cells		Power Point Presentation, Chalk And Board, You Tube Study Videos	U.K. 3. Hopkins, WG and Huner, NP (2009).
August 2025	04/08/	09/08	03	Practical 8: Preparation of karyotype from dividing <i>Allium cepa</i> root tip cells		Power Point Presentation, Chalk And Board, You Tube Study Videos	Introduction to Plant Physiology. 4 th

August 2025	11/08/	16/08	03	Lecture 25: Respiration: Glycolysis, TCA cycle, oxidative phosphorylation, Pentose Phosphate Pathway; anaerobic respiration.	Outline the stages of cellular respiration with at least one product of each.	Power Point Presentation, Chalk And Board, You Tube Study Videos	edition. John Wiley & Sons, U.S.A. 4. Jain, VK (2022). Fundamentals of Plant
				Practical 9: Emasculation and bagging of flowers of Brassicaceae and Malvaceae, pollinating them manually, estimating fruit and seed set.			
August 2025	18/08/	23/08	03	Practical 10: Emasculation and bagging of flowers of Brassicaceae and Malvaceae, pollinating them manually, estimating fruit and seed set.			Physiology. S. Chand and Company, Delhi.
August 2025	25/08/	26/08	02	Practical 11: Estimation of pollen fertility in any two locally grown crop plants (chilly, brinjal or any suitable plants).		Power Point Presentation, Chalk And Board, You Tube Study Videos	5. Kochar, SL and Gujral, SK (2020). Plant Physiology: Theory and Applications.
GANESH CHATURTHI BREAK							Cambridge University Press India Private Limited, New Delhi. 6.
September 2025	01/09/	06/09	03	Practical 12: Estimation of pollen-ovule ratio and its bearing on pollination system.		Power Point Presentation, Chalk And Board, You Tube Study Videos	
September 2025	08/09/	13/09	03	Lecture 36: physiological roles of auxins,	Identify one physiological role of auxins.	Power Point Presentation, Chalk	

						And Board, You Tube Study Videos	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. 8. Taiz, L, Zeiger, E, Moller, IM and Murphy, A (2015). Plant Physiology
September 2025	15/09/	20/09	03	Practical 13: Demonstration of colchicine induced polyploidy.		Power Point Presentation, Chalk And Board, You Tube Study Videos	
September , 2025	22/09/	27/09/	03	Practical 14: Demonstration of colchicine induced mutation (root/shoot/germination/chromosomes).		Power Point Presentation, Chalk And Board, You Tube Study Videos	
September/O ctober, 2025	29/09/	4/10	03	Practical 15: Demonstration of colchicine induced mutation (root/shoot/germination/chromosomes).		Power Point Presentation, Chalk And Board, You Tube Study Videos	
						Power Point Presentation, Chalk And Board, You Tube Study Videos	

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

* Assessment Rubrics

Component	Max Marks
ISA 1	7.5
ISA 2	7.5
ISA 3 (Best 2 of 3)	7.5

Practical	NA
Project	NA
Semester End Exam	80