LECTURE PLAN

Name of the college: GOVERNMENT COLLEGE OF ARTS, SCIENCE AND COMMERCE, SANQUELIM- GOA

Name of Faculty: MS. SHUBHA SHIVDAS KAUTHANKAR	**Subject:** BOTANY

Paper code: BOT 201- PLANT PHYSIOLOGY	**Program: S.Y.B.Sc.**	**Division: -**
Academic year: 2024- 2025	**Semester: III**	**Total Lectures: 15**

Course Objectives: 1) To study the concepts and overview of physical, chemical and biological functioning of plants.

2) To acquire broad exposure of the various aspects of plants processes, biochemistry and functions.

Expected Course Outcome: 1) Acquire knowledge about the plant water relations.
2) Understand the mechanism of various metabolic processes in plants.
3) Understand the knowledge about growth and development in plants.
4) Understand the basic skills and techniques related to plant physiology.

Student Learning Outcome:

1. Impart an insight into plant water relations.
2. Describe the mechanism of various metabolic processes in plants.
3. Acquire knowledge about growth and development in plants.
4. Familiarize students with basic skills and techniques related to plant physiology thereby developing confidence to design their own experiments.

Month	Lecture From	Lecture To	No. of lectures allotted	Topic, Subtopic to be covered	Exercise/ Assignments	ICT Tools	Reference books
July 2024	08/07/2024	13/07/2024	1	Module 2: Plant metabolism- Photosynthesis: concept and theory	To study the basic concept in plant physiology	Powerpoint presentation	Fundamentals of Plant Physiology- Dr. V.K. Jain A textbook of Plant Physiology, Biochemistry and Biotechnology- Dr. S.K. Verma and Mohit Verma
July 2024	15/07/2024	20/07/2024	1	Structure of photosynthetic apparatus	To draw a neat labelled diagram of chloroplast	Powerpoint presentation	
July 2024	22/07/2024	27/07/2024	1	Photosynthetic pigments (Chlorophyll a, b, carotenoids, pheophytins and phycobillins)	To describe the types of pigments in plants.	-	
July- August 2024	29/07/2024	03/08/2024	1	Light reaction: Photosystems and harvesting of light, red drop effect	-	Powerpoint presentation	
August 2024	05/08/2024	10/08/2024	1	Electron transport pathway (cyclic and non- cyclic)	To compare and contrast the cyclic and non- cyclic ETC	Powerpoint presentation	
August 2024	12/08/2024	17/08/2024	1	Electron transport pathway (cyclic and non- cyclic)	-		
August 2024	19/08/2024	24/08/2024	1	Mechanism of ATP synthesis (Photophosphorylation)	To illustrate ATP synthase	Powerpoint presentation	
August 2024	26/08/2024	31/08/2024	1	Dark reaction- C3 cycle C4 cycle	To differentiate between C3 and C4 cycle	Powerpoint presentation	
September 2024	02/09/2024	07/09/2024	1	CAM cycle of carbon fixation	-		

September 2024	09/09/2024	14/09/2024	1	Mechanism of photorespiration		Powerpoint presentation	A textbook of Plant Physiology- S.K. Sinha Textbook of Plant Physiology- V. Verma
September 2024	16/09/2024	21/09/2024	1	Respiration: glycolysis	To study the glycolysis.		
September 2024	23/09/2024	28/09/2024	1	TCA cycle			
September-October 2024	30/09/2024	05/10/2024	1	Oxidative phosphorylation			
October 2024	07/10/2024	12/10/2024	1	Pentose phosphate pathway			
October 2024	14/10/2024	19/10/2024	1	Anaerobic respiration, Revision			

*** Assessment Rubrics**

Component	Max Marks
ISA 1	7.5
ISA 2	7.5
ISA 3	7.5
Practical	25
Project	-
Semester End Exam	60