Semester Lecture Plan (Theory)

Name of the college: Government College of Arts, Science & Commerce, Sanquelim

Name of Faculty: Dr Jyosna Gawas | **Subject:** Botany

Paper code: BOT-211 | **Program/Course: S**.Y.B.Sc. | **Division:** A

Academic year: 2024-2025 | **Semester:** III | **Total Lectures:** 45

Course Objectives: This course aims to:

1. Enable students to explore the diversity and understand the mechanism of interactions between plants and animals.
2. Assess the outcome of the interactions at population, community and ecosystem level.

Course Learning Outcome: On completion of this course, students will be able to:

1. Understand the relationships between plants and animals.
2. Summarize types of plant-animal interactions.
3. Evaluate the effect of climate change, habitat loss, fragmentation, hunting and introduction of invasive species and GM crops on these interactions.
4. Appraise the significance of plant-animal interactions for conservation and survival of human species.

Month	Lectures		No. of lectures allotted	Topic, subtopic to be covered	Exercise/ Assignment	ICT tools	Reference books
	From	To					
June	28th	29th	1	General introduction	Watch videos on plant animal interaction and find out what kind of	Powerpoint presentation	Plant-animal Interactions by W. G. Abrahamson Plant Ecology by M. J. Crawley
July	1st	6th	3	Interdependence of plants and animals: Plants as producers, animals as consumers, interdependence of plants and animals for survival;			
	8th	13th	3	overview of plant-animal interactions; evolutionary perspective of plant-animal interactions; evolution and coevolution of plants and animals, species interactions and the evolution of biodiversity.			
	15th	20th	3	Diversity of plant-animal interactions: Parasitism, mutualism, antagonism,			

				commensalism	interaction is it?		
	22nd	27th	3	Competition; multi-trophic level interaction; the sensory biology of the interaction between plants and animals- vision			
July/August	27th	3rd	3	Chemoreception, olfaction and multimodal signaling; energetics of plant-animal interactions; ISA-1			
August	5th	10th	3	Plant reproductive biology; pollination types, cross-pollination and its significance; pollinator groups	Observe the pollinators in the campus		
	12th	17th	3	Pollination syndromes; floral adaptation to different pollinators (insects, birds, mammals);			
	19th	24th	3	Floral attractants, types and significance; types of pollinator rewards.			
	26th	31st	3	Adaptations in plants for dispersal (fruit chemistry, palatability, fruit size, seed coat structure, secondary metabolites in fruits and seeds); ISA-2	-		
September	2nd	7th	2	Fruit and seed dispersers; adaptations in dispersers (external and internal).	-		
	9th	14th	1	Plant crypsis, aposematism and mimicry	-		
	16th	21st	2	Plant herbivore interaction; animal response to plant defense mechanism;	-		
	23rd	28th	3	Sensory aspects of carnivorous plants, trap mechanisms; benefits of carnivory; ISA-3	Observe the traps in *U. striatula*		
Sept/Oct	30th	5th	3	Plants as ant food; pollination by ants; leaf-cutting and seed-harvesting ants; effect of harvesters on vegetation; ants as primary and secondary seed dispersers	List down the impact of bt cotton		
October	7th	12th	3	Impact of invasive plants and GM crops on native plant-animal interactions			
	14th	19th	3	Climate change, habitat loss, fragmentation, pesticide use, hunting and breakdown of plant-animal interactions; impact on community, diversity, productivity and livelihood.			
	21st	22nd	2	Revision			

* Assessment Rubrics

Component	Max Marks

ISA 1	7.5
ISA 2	7.5
ISA 3	7.5
Practical	NA
Project	NA
Semester End Exam	60