

Semester Lecture Plan

Name of College: Government College of Arts, Science & Commerce, Sanquelim Goa							
Name of Faculty: Dr Suman Tari			Subject: Zoology				
Paper code: ZOC 109: Environmental Biology and Toxicology			Program/Course: TY B.Sc.			Division: A	
Academic year: 2024 - 2025			Semester: VI			Total Lectures: 60	
Course Objectives: To understand the concepts and application of Environmental Biology and Toxicology							
Course Learning Outcome: On completion of the course the student will have reasonable understanding of the natural resources, population dynamics and conservation Biology. They will also have basic and applied knowledge of Toxicology and fate of Toxicants in the environment.							
Month	Lectures From: To:		No. of lectures allotted	Topic, Subtopic to be covered	Learning outcome	ICT Tools	Reference books
December	09/12/2024	14/12/2024	04	1. Definition and scope of Ecology and Environmental Biology.		Power point presentation	Environmental Biology: Principles of

				2. Levels of Organization.			Ecology-Verma, Agarwal
	16/12/24	21/12/2024	04	1. Introduction, Resource Cycle. 2. Mineral Resources- Distribution and Classification			
January	02/01/25	8/01/25	04	1. Marine living Resources, Energy Resources 2. Nuclear Energy 3. Forest Resources, Water: A vital resource, Human impact on Natural Resources.			
	09/01/25	15/01/2025	04	1. Natality, Mortality, Fecundity, Life tables. 2. Age distribution of population, Age pyramids, Sex ratio. 3. Biotic potential and Environmental resistance			
	16/01/2025	22/01/2025	04	1. Population dispersion 2. Restoration Ecology: Scope and application.			
	23/01/2025	29/01/2025	04	1. History, scope and global conservation efforts, India's Biodiversity.			

				2.Mega diversity status and Biodiversity Hotspots Concerns and conservation challenges			
February	30/01/2025	05/02/2025	04	1.Global conservation priorities and IUCN Conservation categories. Drivers of Extinction, Extinct Indian species. 2.Strategic Species Concept			
	06/02/2025	12/02/2025	04	1.Introduction, Definition , History and Importance of Toxicology. 2.Disciplines of Toxicology.			Fundamentals of Toxicology - Pandey, Trivedy
	13/02/2025	19/02/2025	04	1. Introduction and classification of Toxicants, Toxicity. 2. Poisons and their classification.			
	20/02/2025	26/02/2025	04	1.Environmental Carcinogens. 2.Environmental pollutants.			
	27/02/2025	05/03/2025	04	1. Toxicants in Atmosphere			

				2. Toxicants in Atmosphere 3. Hydrocarbons and ozone			
March	06/03/2025	12/03/2025	04	1. Photochemical products 2. Lead, PM, mist, smoke, fumes and dust. 3. Toxicants in Hydrosphere 13.Environmental levels and Toxicity of heavy metals- Mercury, Lead. Arsenic and Cadmium.			
	13/03/2025	19/03/2025	04	1.Food toxicants, additives 2.Pesticides			
	20/03/2025	26/03/2025	04	1. Introduction, definition, unit and classification of radiation and radioactive substances, 2. Ionizing and Non ionizing radiations 3.Atom bomb explosion at Hiroshima and Nagasaki			
	27/03/2025	02/04/2025	04	1.Beneficial aspects of Radiation			

				<p>2.Translocation, Absorption, Distribution , Storage , Biotransformation and excretion .</p> <p>1.Acute and Chronic toxicity tests, LC50, LD50 and EC50 value.</p>			
	03/04/2025	9/04/2025	04	<p>1.Risk assessment</p> <p>2.Safety evaluation of toxicants.</p>			
	10/04/2025	11/04/2025	02	<p>1.Environment impact assessment (Definition, objectives and Key steps in EIA process).</p>			

Dr Suman V Tari

Teacher-in-charge

