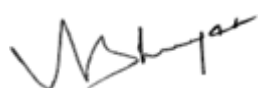


Teaching Plan
Department of Zoology
Jagannath Barooah University, Jorhat
Academic Session: 2025-26

Name of the Teacher: Nilave Bhuyan

Semester: ODD

Semester	Allotted Course Details	Method of Teaching	Teaching Material	Unit	Topics	Class Hours	Suggested Resources
Sem I (VAC)	Code: EVEVA-011 Name: Environmental Education	Lecture, Discussion, Class Notes	Textbook, Videos available on the Swayam portal	I: Concept of Environmental Education	Meaning, objective and importance, Evolution and development of environmental education. Need for public awareness. Stockholm Conference, Earth summit.	5	Erach Barucha. <i>Text book of Environmental Studies for Undergraduate courses</i> (Prepared for UGC). (ISBN-13: 9789389211788) https://nptel.ac.in/courses/109105203
				II: Environment and Natural Resources	Multidisciplinary nature of environmental science; scope and importance. Concept of ecosystem; Natural resources – types and their importance. Biodiversity: Definition; levels, importance and threats to Biodiversity.	7	
Sem III (Minor)	No. MI- 03 Code: ZOOMI-031 Name: Animal Physiology	Lecture using PPT, Discussion, Class Notes	Textbook, Videos available on the Swayam portal	II: Nervous System	RMP, Origin of AP, Propagation across the myelinated and unmyelinated nerve fibers, Types of synapses, Synaptic transmission and Neuromuscular junction, Reflex action & its types, Reflex arc, Physiology of hearing and vision.	6	Tortora, G.J. & Grabowski, S. <i>Principles of Anatomy & Physiology</i> . Guyton, A.C. & Hall, J.E. <i>Textbook of Medical Physiology</i> . https://nptel.ac.in/courses/102104099
				III: Muscle	Ultra-structure of skeletal muscle; Molecular and chemical basis of skeletal muscle contraction; Characteristics of muscle twitch; Motor unit, Summation and tetanus.	6	



Semester	Allotted Course Details	Method of Teaching	Teaching Material	Unit	Topics	Class Hours	Suggested Resources
Sem III (Major)	No. MJ-04 Code: ZOOMJ-032 Name: Physiology, Histology & Histochemistry	Lecture using PPT, Discussion, Class Notes	Textbook, Reference Book, Videos available on the Swayam portal	II- Nervous System	RMP, Origin of AP, Propagation across the myelinated & unmyelinated nerve fibers, Neurotransmitters, Types of synapses, Synaptic transmission, Neuromuscular junction, Reflex action and its types, Reflex arc, Physiology of hearing, vision and Olfaction.	6	Tortora, G.J. & Grabowski, S. <i>Principles of Anatomy & Physiology</i> . (ISBN-13: 9789357461641) Guyton, A.C. & Hall, J.E. <i>Textbook of Medical Physiology</i> . (ISBN-13: 9780323672801)
				III- Muscles	Ultra structure of skeletal muscle, Molecular & chemical basis of skeletal muscle contraction, Characteristics of muscle twitch, Motor unit, summation, tetanus, Effects of exercise on skeletal muscle fibers.	6	
	No. MJ-05 Code: ZOOMJ-033 Name: Comparative Anatomy of Vertebrates	Lecture using PPT, Discussion, Class Notes	Textbook	V: Circulatory System	General plan of circulation, evolution of heart and aortic arches.	5	Kardong, K. V. <i>Vertebrates' Comparative Anatomy, Function and Evolution</i> . (ISBN-13: 9781260092042)
				VII: Nervous System	Comparative account of brain. Autonomic nervous system, Spinal cord, Cranial nerves in mammals	5	
				VIII: Sense Organs	Classification of receptors. Brief account of visual and auditory receptors in man.	4	

Semester	Allotted Course Details	Method of Teaching	Teaching Material	Unit	Topics	Class Hours	Suggested Resources
Sem V (Major)	No. MJ-12 Code: ZOOMJ-052 Name: Principles of Genetics	Lecture using PPT, Discussion, Class Notes	Textbook, OpenCourseWare from MIT	III: Mutations	Types of gene mutations (Classification), Types of chromosomal aberrations (Classification, figures and with one suitable example of each), Molecular basis of mutations in relation to UV light and chemical mutagens; Detection of mutations: CLB method, attached X method.	8	Snustad, D.P., Simmons, M.J. <i>Principles of Genetics.</i> (ISBN-13: 9781119657552) Klug, W.S., Cummings, M.R., Spencer, C.A. <i>Concepts of Genetics.</i> (ISBN-13: 9789353940409) https://ocw.mit.edu/courses/7-03-genetics-fall-2004/pages/lecture-notes/
				VI: Polygenic Inheritance	Inheritance patterns of Polygenic traits with suitable examples; Simple numericals based on it.	3	
				VII: Recombination in Bacteria and Viruses	Genetic transfer: Plasmids, Conjugation, Transformation, Transduction; Genetic Recombination: General recombination and site-specific recombination; Complementation test in Bacteriophage.	5	
				VIII: Transposable Genetic Elements	Concept of Transposable elements in maize with example in human.	4	