



**Syllabi for
Four Years' Undergraduate Program (FYGP)
in Zoology
under
Gauhati University**

**As per instructions of the NEP Implementation Committee,
Gauhati University, the syllabicover02 (Two) CORE and 04(Four)
COMPULSORY Major papers and 15 (Fifteen) DISCIPLINE SPECIFIC
(DSE) major papers to be offered by the Department**

**Prepared by-
Department of Zoology
Gauhati University**

Structure of Four Years Undergraduate Programme (FYGP) in Zoology under Gauhati University Subject: Zoology Stream: Science In all courses: Theory credit: 3/Practical credit: 1 No. of contact hours in each theory paper: 45 No. of contact hours in each practical paper: 30 Existing base syllabi: CBCS Syllabi, 2016, GU.

Semester	Course Name	Paper Code*	Credit
I	Core A1: Diversity of Non-chordates	CORE	3
	Practical	ZOO-1011	1
II	Core A2: Diversity of Chordates	CORE	3
	Practical	ZOO-1021	1
III	Compulsory: Principles of Genetics	MAJOR	3
	Practical	ZOO-2011	1
IV (Any three DSE papers)	Compulsory: Animal Taxonomy, Systematics & Biostatistics	MAJOR	3
	Practical	ZOO-2021	1
	DSE 1- Animal Physiology & Endocrinology	MAJOR	3
	Practical	ZOO-2022	1
	DSE 2- Principles of Ecology & Evolution	MAJOR	3
	Practical	ZOO-2023	1
	DSE 3- Comparative Anatomy of Vertebrates	MAJOR	3
	Practical	ZOO-2024	1
	DSE 4- Animal Behaviour and Chronobiology	MAJOR	3
	Practical	ZOO-2025	1
V (Any Three DSE papers)	Compulsory: Fundamentals of Biochemistry	MAJOR	3
	Practical	ZOO-3011	1
	DSE 6- Biochemistry of metabolic processes & regulation	MAJOR	3
	Practical	ZOO-3012	1
	DSE 7- Entomology & Fisheries	MAJOR	3
	Practical	ZOO-3013	1
	DSE 8- Immunology	MAJOR	3
	Practical	ZOO-3014	1
	DSE 9- Reproductive Biology	MAJOR	3
	Practical	ZOO-3015	1
VI (Any Three DSE papers)	Compulsory: Cell Biology	MAJOR	3
	Practical	ZOO-3021	1
	DSE 11- Developmental Biology	MAJOR	3
	Practical	ZOO-3022	1
	DSE 12- Wildlife Conservation & Management	MAJOR	3
	Practical	ZOO-3023	1
	DSE 13- Computational Biology	MAJOR	3
	Practical	ZOO-3024	1
	DSE 14- Advanced Entomology	MAJOR	3
	Practical	ZOO-3025	1
DSE 15- Animal Cell Culture & Genetic Engineering	MAJOR	3	
Practical	ZOO-3026	1	

*The paper code should be read as follows-ZOO-Zoology; 10-Year I; 20-Year II; 30-Year III; 1-Odd semester;2-Even semester; Last Digit-Serial Number; ZOO-1011 stands for Zoology first year, odd semester, first paper

CORE A1
DIVERSITY OF NON-CHORDATES
Code: ZOO-1011
Credit: 3 (T) + 1 (P)

Course Objectives:

1. The course would provide an insight to the learner about the existence of different life forms on the Earth, and appreciate the diversity of animal life.
2. It will help the student to understand the features of Kingdom Animalia and systematic organization of the animals based on their evolutionary relationships, structural and functional affinities.
3. The course will also make the students aware about the characteristic morphological and anatomical features of diverse animals; economic, ecological and medical significance of various animals in human life; and will create interest among them to explore the animal diversity in nature.

Learning Outcomes: Upon completion of the course, students should be able to:

1. Learn about the importance of systematics, taxonomy and structural organization of animals.
2. Understand evolutionary history and relationships of different non-chordates through functional and structural affinities.
3. Critically analyze the organization, complexity and characteristic features of non-chordates making them familiarize with the morphology and anatomy of representatives of various animal phyla.
4. Comprehend the economic importance of non-chordates, their interaction with the environment and role in the ecosystem.
5. Enhance collaborative learning and communication skills through practical sessions, teamwork, group discussions, assignments and projects.

CORE A1
DIVERSITY OF NON-CHORDATES
Code: ZOO-1011
Credit: 3 (T) + 1 (P)

THEORY	Hours
Unit1:	7
General characteristics and Classification up to classes of Protista, Porifera, Cnidaria, Ctenophora, Platyhelminthes, Nematelminthes.	
Unit2:	8
Evolution of coelom and metamerism General characteristics and Classification up to classes of Annelida, Arthropoda, Mollusca and Echinodermata.	
Unit 3:	30
<ul style="list-style-type: none">• Locomotion and Reproduction in Protista.• Evolution of symmetry and segmentation of Metazoa.• Canals system and spicules in sponges.• Polymorphism in Cnidaria; Corals and coral reef formation.• Parasitic adaptations in helminths- <i>Fasciola hepatica</i> and <i>Wuchereria bancrofti</i>.• Excretion in Annelida.• Vision and respiration in Arthropoda.• Evolutionary significance of Onychophora.• Torsion and detorsion in Gastropoda.• Water vascular system of Echinodermata	