

GDC Rajampeta, Annamayya Dt.
Department of Zoology
Activities 2025-26

1. Name of the Activity	Extension Lecture
2. Name of the lecturer	Dr. N. Chandra Mohan
3. Date	12-11-2025
4. Number of students participated	08
5. Number of faculty involved	01

6. Aim & Objectives – to the students

- Provide more information about Genetics & Chordates.
- Provide knowledge about the preparation notes on subject topics.
- Provide knowledge on writing answers at the time of examinations.
- Change the class room environment.
- To communicate the students with others.

7. Brief Report :

Dr. N. Chandra Mohan, Lecturer in Zoology has given a **Extension lecture** on Genetics and Chordates to the second year zoology students at Govt. Degree College, Koduru RS, Annamayya Dt. On **12-11-2025**.

- Genetics is the study of heredity, which is the passing of traits and information from parents to children through genes. Genes are sections of DNA that carry instructions for making proteins, which are crucial for how the body looks, functions, and develops. While most people share the same genes, small differences called variants or alleles are responsible for individual uniqueness and can influence characteristics like eye color or a person's risk for certain diseases.

Key concepts in genetics

Genes: Segments of DNA that contain the instructions for building and maintaining an organism.

DNA: The molecule that carries genetic instructions.

Chromosomes: Structures within the cell that are made of DNA and genes. Humans have 23 pairs of chromosomes, inheriting one set from each parent.

Heredity: The process of passing genetic information from one generation to the next.

Alleles: Different versions of the same gene that result in variations in traits.

Mutations: Changes in a gene's DNA sequence that can cause a protein to not work properly, potentially leading to a genetic disorder.

Genetic variation: The differences in the DNA sequence among individuals, which can be due to mutations or other variations.

- Chordates are a diverse group of animals in the phylum Chordata that share four key features at some point in their life: a notochord, a hollow dorsal nerve cord, pharyngeal slits, and a post-anal tail. This phylum includes all vertebrates (like fish, amphibians, reptiles, birds, and mammals) and two groups of invertebrates: tunicates (sea squirts) and lancelets. Chordates are deuterostomes, and while many are vertebrates with a backbone, all share the defining chordate characteristics during embryonic development.

Key characteristics of chordates

Notochord: A flexible rod that provides structural support. In vertebrates, this is replaced by the backbone during development.

Dorsal hollow nerve cord: A hollow tube that runs along the back of the animal, which develops into the brain and spinal cord in vertebrates.

Pharyngeal slits: Openings in the pharynx (the part of the throat behind the mouth) that can be used for filter feeding in some species or develop into gills, parts of the ear, and tonsils in others.

Post-anal tail: A tail that extends beyond the anus. It can provide propulsion in aquatic species or be used for balance, but it is vestigial in humans.

Bilateral symmetry: The body can be divided into two mirror-image halves.

Segmented body: The body is divided into distinct segments, allowing for specialization of different body parts.

Closed circulatory system: Blood circulates within vessels.

Complete digestive system: A digestive tract with a mouth and an anus.

Classification of Chordata-

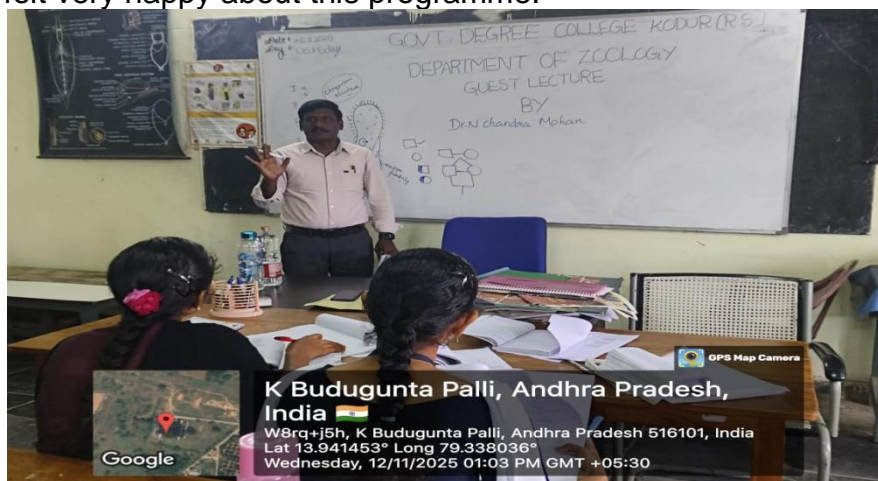
Sub phylum-Vertebrata: Includes all animals with a backbone, such as mammals, birds, reptiles, amphibians, and fish.

Sub phylum -Tunicata: Also called urochordates, these are marine animals like sea squirts.

Sub phylum - Cephalochordata: Also known as lancelets, these are small, marine animals that resemble a primitive fish.

Programme outputs :

- Students gain more knowledge about Genetics and Chordates.
- Students felt very happy about this programme.



Extension lecture by Dr. N. Chandra Mohan



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Felicitation by the Principal



Signature of the lecturer: Dr. N. Chandra Mohan