



Biology

Curriculum for Grade XI

Class 11 Biology Curriculum Overview

The Class 11 Biology curriculum is structured to give students a deep understanding of the living world, ranging from the diversity of life forms to the intricate physiological processes of plants and animals. Divided into five comprehensive units, the syllabus covers key concepts in biology, preparing students for higher studies in life sciences and related fields.

UNIT I: Diversity in the Living World

Chapter 1: The Living World

Introduction to biology as a science and understanding the characteristics of living organisms. This chapter covers taxonomy, classification, and the basic concepts of biodiversity.

Chapter 2: Biological Classification

Focuses on the classification systems in biology, including the five-kingdom classification and the distinguishing characteristics of each kingdom, such as Monera, Protista, Fungi, Plantae, and Animalia.

Chapter 3: Plant Kingdom

Explores the classification and characteristics of the plant kingdom, including algae, bryophytes, pteridophytes, gymnosperms, and angiosperms. This chapter lays the foundation for plant taxonomy.

Chapter 4: Animal Kingdom

Covers the classification of the animal kingdom, highlighting the basic features of various phyla and understanding the diversity within the animal world.

UNIT II: Structural Organisation in Plants and Animals

Chapter 5: Morphology of Flowering Plants

Discusses the external features of angiosperms, focusing on the structure of roots, stems, leaves, flowers, and fruits, providing a detailed understanding of plant morphology.

Chapter 6: Anatomy of Flowering Plants

This chapter deals with the internal structure of plants, including tissues, tissue systems, and the anatomy of roots, stems, and leaves, enabling students to understand plant physiology.

Chapter 7: Structural Organisation in Animals

Focuses on the structural organisation of animals, explaining tissues, organs, and organ systems, with a particular emphasis on human body systems and their functions.

UNIT III: Cell - Structure and Functions

Chapter 8: Cell: The Unit of Life

Introduces the cell as the fundamental unit of life, covering cell theory, types of cells (prokaryotic and eukaryotic), and the structure and functions of cell organelles.

Chapter 9: Biomolecules

This chapter explores the various biomolecules that make up cells, including carbohydrates, proteins, lipids, and nucleic acids, explaining their structures and roles in biological processes.

Chapter 10: Cell Cycle and Cell Division

Explains the processes of the cell cycle, mitosis, and meiosis, focusing on the importance of cell division in growth, development, and reproduction.

UNIT IV: Plant Physiology

Chapter 11: Photosynthesis in Higher Plants

Covers the process of photosynthesis, including the light and dark reactions, the structure of chloroplasts, and the role of pigments in photosynthesis.

Chapter 12: Respiration in Plants

Discusses how plants respire, focusing on glycolysis, the Krebs cycle, electron transport chain, and ATP synthesis.

Chapter 13: Plant Growth and Development

Explores plant hormones, growth regulators, photoperiodism, and seed dormancy, providing a comprehensive understanding of how plants grow and develop.

UNIT V: Human Physiology

Chapter 14: Breathing and Exchange of Gases

Explains the process of respiration in humans, focusing on the structure of the respiratory system, the mechanism of breathing, and gas exchange in the lungs.

Chapter 15: Body Fluids and Circulation

Covers the circulatory system, including blood, blood vessels, the heart, and the mechanism of circulation in the human body.

Chapter 16: Excretory Products and their Elimination

Discusses the excretory system, the structure of the kidneys, and the formation and elimination of urine.

Chapter 17: Locomotion and Movement

Focuses on the skeletal and muscular systems, explaining the mechanism of movement, types of muscles, and the importance of locomotion.

Chapter 18: Neural Control and Coordination

This chapter covers the nervous system, including the structure of neurons, the brain, and the spinal cord, as well as how the body coordinates various functions.

Chapter 19: Chemical Coordination and Integration

Explores the endocrine system and the role of hormones in regulating physiological processes in the human body.



The Class 11 Biology curriculum is designed to build a strong foundation in biological sciences. It integrates knowledge of living organisms, plant and animal physiology, cellular biology, and human anatomy, setting the stage for advanced study in biology and life sciences.