

DAV PUBLIC SCHOOL SRESHTHA VIHAR, DELHI
ANNUAL PEDAGOGICAL PLAN (23-24)
BIOTECHNOLOGY
CLASS XI

Learning objectives.

- 1) To enhance the applications of Science and Technology for human welfare.
- 2) To Exploring Modern Biotechnology processes encompass a wide range of new products such as antibiotics, vaccines, monoclonal antibodies and many more.
- 3) To Understanding, developments in recombinant DNA technology have yielded numerous new useful products in the fields of healthcare and agriculture.
- 4) To Familiarizing the learners with the fundamental concepts, basic techniques and their applications of culturing.
- 5) To Developing skills and make the learners competent enough of experimental work from the knowledge gained through the study of the prescribed practicals.

The prescribed syllabus is expected to:

- help the learners know and understand basic facts and concepts of the subject at elementary stage.
- expose the students to different basic processes and basic techniques used in Biotechnology.
- familiarize the learners to understand the relationship of the subject to health, nutrition, environment, agriculture and industry, etc.
- develop conceptual competence in the learners so as to cope up with professional courses in future career.
- acquaint students with different applications of Biotechnology in everyday life.
- develop an interest in students to study Biotechnology as a discipline.

CURRICULUM DIVISION:

UNIT TEST -1

Unit-I Biotechnology: An overview

Chapter 1: Biotechnology: An Overview

Historical Perspectives, Technology and Applications of Biotechnology, Global market and Biotech Products.

TERM-1

Chapter 1- Biotechnology: An Overview

Historical Perspectives, Technology and Applications of Biotechnology, Global market and Biotech Products.

Unit-II Molecules of Life

Chapter 1: Biomolecules: Building Blocks

Building Blocks of Carbohydrates - Sugars and their Derivatives, Building Blocks of Proteins - Amino Acids, Building Blocks of Lipids - Simple Fatty Acids, Glycerol and Cholesterol, Building Blocks of Nucleic Acids – Nucleotides

Chapter 2: Macromolecules: Structure & Function

Carbohydrates - The Energy Givers, Proteins - The Performers, Enzymes - The Catalysts, Lipids and Biomembranes - The Barriers, Nucleic Acids - The Managers

Unit-III Genetics and Molecular Biology

Chapter 1: Concepts of Genetics

Historical Perspective, Multiple Alleles, Linkage and Crossing Over, Genetic Mapping.

UNIT TEST -2

Unit-III Genetics and Molecular Biology

Chapter 2: Genes and Genomes:

Chapter 2: Genes and Genomes:

Discovery of DNA as Genetic Material, DNA Replication, Fine Structure of the Genes, From Gene to Protein, Transcription – The Basic Process, Genetic Code, Translation, Mutations, Human Genetic Disorders.

TERM -2

Unit IV: Cells and Organisms 25 Marks

Chapter 1: The Basic Unit of Life Cell

Structure and Components, Organization of Life

Chapter 2: Cell Growth and Development

Cell Division, Cell Cycle, Cell Communication, Nutrition, Reproduction, Immune Response in animals

FINAL TERM

All chapters mentioned above.