

B.Sc Biotechnology: Semester-I BST 106 Remedial Biology I	
Teaching Scheme Lectures: 3 hrs/Week Tutorials: 1 hr/Week Credits: 4	Examination Scheme Class Test -12Marks Teachers Assessment - 6Marks Attendance – 12 Marks End Semester Exam – 70 marks

Prerequisite: - General knowledge of Biology of intermediate standard

Course Objectives:

1. To give an overview of biomolecules and their significance
2. To give basic knowledge of Structure, biosynthesis and function of Macromolecules (Carbohydrates, Proteins and Lipids).
3. To have an overview of Microorganism: Origin of microbiology, Types of microbes, Classification of microbes.
4. To explain about the Introduction Genes & Genome
5. To explain Plant Physiology, Movement of water, food, nutrients and gases, Respiration, Photosynthesis.
6. To explain the Human Health & Hygiene: Population and birth control, sexually transmitted diseases.

Course Outcomes:

After completing the course, students will be able to:

- CO1: Identify the Diversity of living organisms, their structure and function
- CO2: Systematic and binomial System of nomenclature
- CO3: Cell: Structure and Function Cell: Cell theory; Prokaryotic and eukaryotic cell
- CO4: Plant Physiology and different activities performed by the plants
- CO5: Adolescence and drug / alcohol abuse, Basic concepts of immunology.

Detailed Syllabus

UNIT-1 Diversity in Living World

Diversity in Living World: Diversity of living organisms Classification of the living organisms (five kingdom classification, major groups and principles of classification within each kingdom), Systematic and binomial System of nomenclature, Salient features of animal and plant classification, viruses, viroid's, lichens, Botanical gardens, herbaria, zoological parks and museums.

UNIT-2 Cell: Structure and Function Cell

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Cell: Structure and Function Cell; Cell theory; Prokaryotic and eukaryotic cell, cell wall, cell membrane, Nucleus and nuclear organization, Tissue, organ and organ system (elementary idea) Cell Division: Cell Cycle (elementary idea), Somatic Cell division - Mitosis, Germ Cell division - meiosis, Biomolecules of Cell: Basic chemical constituents of living bodies - Carbohydrate, Lipid, Protein, etc

UNIT-3 Plant Physiology

Plant Physiology, Movement of water, food, nutrients and gases, Respiration, Photosynthesis, Plant growth and development, Human Health & Hygiene: Population and birth control, sexually transmitted diseases, infertility, Cancer and AIDS, Adolescence and drug / alcohol abuse, Basic concepts of immunology, vaccines, Reproduction Reproductive system in male and female, menstrual cycle, production of gametes, fertilization, embryo development.

Text and Reference Books

1. Biology - Textbook for Class XI, NCERT Publication

Reference book:

1. Peter H Raven, George B Johnson, Kenneth A. Mason, Jonathan Losos, Susan Singer, Biology, (Macgraw Hill)
2. Sharma, P.D. (2005) 2nd Edition, Microbiology, Rastogi Publications.
3. Pelezar M. J., E. C. S. Chan and N. R. Krieg (2003) Microbiology, 5th Edition; Tata McGraw Hill Publishing Company, New Delhi




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