B.Tech Biotechnology: Semester-I BBT-102 – Remedial Biology –I	
Teaching Scheme	**Examination Scheme**
Lectures: 3 hrs/Week	Class Test -12 Marks
Tutorials: 1 hr/Week	Teachers Assessment – 6 Marks
Credits: 4	Attendance – 12 Marks
	End Semester Exam – 70 marks

Course Objective:

To give an overview of biomolecules and their significance.To give basic knowledge of Structure, biosynthesis and function of Macromolecules (Carbohydrates, Proteins and Lipids).To have an overview of Microorganism: Origin of microbiology, Types of microbes, Classification of microbes.To explain about the Introduction Genes & Genome.To explain the Bioinformatics, Biological databases (nucleotide and Protein Databases, Structure databases).To explain the Human Health & Hygiene: Population and birth control, sexually transmitted diseases.

Course Learning Outcomes:

After completing the course, the student shall be able to:

CO1: To define the basic Science and biotechnology,
CO2: To summarize the different types of Origin of microbiology,
CO3: To determine basic principles of Biomolecules and their brief introduction - Carbohydrates, Proteins and Lipids.
CO4: compare Introduction to Genes & Genome, Human Genome Project.
CO5: To judge the significance of various Media: defined and undefined, Study of Microbes (culture techniques and staining method)
CO6: Introduction to Recombinant DNA technology: Restriction enzymes,vectors, how to isolate and clone a desired gene, Applications of RDT

UNIT- I 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). Systematics and binomial System of nomenclature. Salient features of animal and plant classification, viruses, viroids, lichens, Botanical gardens, herbaria, zoological parks and museums.
UNIT- II Cell: Structure and Function

Head
Department of Biotechnology
Invertis University, Bareilly (U.P.)

Dean
Faculty of Science
Invertis University, Bareilly (U.P.

Registrar
Invertis University
Bareilly

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- III Plant Physiology
Plant Physiology Movement of water, food, nutrients and gases, Respiration, Photosynthesis, Plant growth and development.

Suggested Readings

- Biology - Textbook for Class XI, NCERT Publication
- Peter H Raven, George B Johnson, Kenneth A. Mason, Jonathan Losos, Susan Singer, Biology,(Macgraw Hill)

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