

Biological Sciences-I: Introduction to Biology

1. **Faculty:** FLSB
2. **Course Code:** LSB101
3. **Course Title:** Introduction to Biology
4. **Number of Credits:** 3 (2+0+1)
5. **Course objectives:** Students admitted to this course from different backgrounds would learn the basics of the biological components, organization, and functioning.
6. **Minimum prerequisites for taking this course, if any:** Higher secondary education, qualified from any government-approved education board
7. **Course structure with units, if applicable:**
 - i. The Living World, Biological Classification, Plant Kingdom, Animal Kingdom
 - ii. Structural Organisation in Animals
 - iii. Cell -The Unit of Life, Biomolecules, Cell Cycle, and Cell Division
 - iv. Plant Physiology: Photosynthesis in Higher Plants, Respiration in Plants, Plant Growth and Development
 - v. Human Physiology: Breathing and Exchange of Gases, Body Fluids, and Circulation, Excretory Products and their Elimination, Locomotion, and Movement, Neural Control and Coordination, Chemical Coordination and Integration
 - vi. Microbial world and Immunity: Introduction to Microbes, communicable and non-communicable diseases, infection and immunity,
 - vii. Development, Genetics, and Evolution: Principles of Inheritance and Variation, Molecular Basis of Inheritance, Evolution

Lab Tech:

- To study prokaryotic cells (bacteria), and eukaryotic cells with the help of light microscope.
- To study the structure of plant cell through temporary mounts.
- To study the structure of animal cells by temporary mounts-squamous epithelial cell.
- To prepare temporary stained preparation of mitochondria from striated muscle cells /cheek epithelial cells using vital stain Janus green.
- Study of mitosis and meiosis (temporary mounts and permanent slides).
- Study of special chromosomes (polytene & lampbrush) either by slides or photographs.
- Study DNA packaging by micrographs.
- Preparation of the karyotype and ideogram from given photograph of somatic metaphase chromosome.

8. Reading suggestions:

1. NCERT Biology-Text books for Classes XI and XII
2. Campbell Biology 12th Edition by Urry Lisa A., Cain Michael L., Wasserman Steven A., Minorsky Peter V, and Orr Rebecca, Publisher: Pearson Education

9. Evaluation:

Theory:	Mid-semester Written Examination	: 40% Marks
	End-semester Written Examination	: 40% Marks
	Quiz / Assignment/Presentation (oral / poster)/other	: 20% Marks