



PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY, PANIPAT  
DEPARTMENT OF PHARMACY



Course: B. Pharmacy

**LESSON PLAN**

**Faculty Name:** Ms. Garima Mittal

**Subject:** Remedial Biology

**Class:** B. Pharmacy- I<sup>st</sup> Semester

**Subject Code:** BP106RBT

**Scope of the Subject:** This is an introductory course in Pharmacy to the students of PCM/ non-medical background. Remedial Biology provides the basic facts and details of all living systems including their basic structural unit of life; cell. Students gain the knowledge of tissues, various organ systems, anatomy and physiology of humans, morphology and other functions of plants in order to make them aware about all the components of living world.

**Course outcome:** Upon completion of this course the student should be able to:

- Understand the basics of Remedial Biology.
- Know the classification and salient features of five kingdoms of Life, Hierarchy and binomial nomenclature of various kingdoms
- Understand the basic components of anatomy and physiology of plant and animals (with special reference to human).
- Appreciate the importance of Remedial Biology as it gives immense knowledge of all the biological systems/ living world.

**Number of Lectures:** 30

**Each lect. time:** 01 hour

Lecture No.	Particular	Remark/Date
<b>Module 1- Living world and Morphology of Flowering plants</b>		
1.	Definition and characters of living organisms Diversity in the living world	
2.	Binomial nomenclature Five kingdoms of life and basis of classification	
3.	Salient features of Monera, Protista, Fungi, Animalia and Plantae, Virus	
4.	Morphology of different parts of flowering plants – Root, Stem, Inflorescence, Flower	
5.	Morphology of different parts of flowering plants – Leaf, Fruit, Seed	
6.	General Anatomy of Root, stem, leaf of Monocotyledons	
7.	General Anatomy of Root, stem, leaf of Dicotyledones	
<b>Module 2- Circulation, Digestion and Respiration</b>		
8.	Composition and functions of the body fluids like: blood and lymph	

9.	Blood groups Coagulation of the blood	
10.	Human circulatory system, Structure of human heart and blood vessels, Cardiac cycle, cardiac output and ECG	
11.	Human alimentary canal and digestive glands Role of digestive enzymes	
12.	Digestion, absorption and assimilation of digested food	
13.	Human respiratory system Mechanism of breathing and its regulation	
14.	Exchange of gases, transport of gases and regulation of respiration Respiratory volumes	
<b>Module 3- Excretion, Control and Coordination, and Human Reproduction</b>		
15.	Modes of excretion Human excretory system- structure and function	
16.	Urine formation Rennin angiotensin system	
17.	Definition and classification of nervous system Structure of a neuron	
18.	Generation and conduction of nerve impulse Structure of spinal cord	
19.	Structure of brain Functions of cerebrum, cerebellum, hypothalamus and medulla oblongata	
20.	Endocrine glands and their secretions Functions of hormones secreted by endocrine glands	
21.	Parts of female reproductive system Menstrual cycle	
22.	Parts of male reproductive system Spermatogenesis and Oogenesis	
<b>Module 4- Plant nutrition and photosynthesis</b>		
23.	Essential mineral, macro and micronutrients Nitrogen metabolism, Nitrogen cycle, biological nitrogen fixation	
24.	Autotrophic nutrition, photosynthesis Photosynthetic pigments, Factors affecting photosynthesis.	
<b>Module 5- Cell, Tissues, growth &amp; development and respiration of plants</b>		
25.	Structure and functions of cell and cell organelles.	
26.	Phases and rate of plant growth, Condition of growth	
27.	Plant growth regulators	
28.	Plant Respiration, Glycolysis, Fermentation (anaerobic).	

29.	Tissues Definition, Type of Tissues Location and functions	
30.	Cell division-Mitosis and Meiosis	
<b>Revision</b>		
31.	Revision and test	
32.	Revision and test	
33.	Revision and test	
34.	Revision and test	
35.	Revision and test	

**Teacher in-charge**

**HOD**

**Principal**