VIDHYADEEP UNIVERSITY

VIDHYADEEP INSTITUTE OF PHARMACY, ANITA, SURAT

B. PHARMACY SEMESTER: I

Subject Name: Remedial Biology* (NUE)

Subject Code: BP106TP

Scope:
To learn and understand the components of living world, structure and functional system of plant and animal kingdom

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

CO	STATEMENTS
C106.1	To understand & know the classification and salient features of five kingdoms of life
C106.2	Understand the basic components of anatomy & physiology of plant
C106.3	To understand & know the classification of nervous system and structure function of brain and spinal cord
C106.4	To Understand Cardiac cycle, cardiac output and ECG
C106.5	To discuss of Essential mineral, macro and micronutrients
C106.6	Know understand the basic components of anatomy & physiology animal with special reference to human

Teaching Scheme and Examination Scheme:

Teaching Scheme (hr./ Week)				Evaluation Scheme			
Theory	Tutorial	Practical	Total	Internal	External	Internal	External
				Theory Exam		Practical Exam	
2	0	2	4	15	35	15	35

Sr No	Course content	(hr)
1	**Living world:** Definition and characters of living organisms Diversity in the living world, Binomial nomenclature Five kingdoms of life and basis of classification. Salient features of Monera, Potista, Fungi, Animalia and Plantae, Virus **Morphology of Flowering plants** Morphology of different parts of flowering plants – Root, stem, inflorescence, Flower, leaf, fruit, seed. General Anatomy of Root, stem, leaf of monocotyledons & Dicotylidones	7
2	**Body fluids and circulation Composition of blood**, blood groups, coagulation of blood, Composition and functions of lymph Human circulatory system, Structure of human heart and blood vessels Cardiac cycle, cardiac output and ECG **Digestion and Absorption** Human alimentary canal and digestive glands Role of digestive enzymes Digestion, absorption and assimilation of digested food **Breathing and respiration**	7

	Human respiratory system, Mechanism of breathing and its regulation, Exchange of gases, transport of gases and regulation of respiration, Respiratory volumes	
3	**Excretory products and their elimination:** Modes of excretion, Human excretory system- structure and function Urine formation, **Rennin angiotensin system** **Neural control and coordination** Definition and classification of nervous system: Structure of a neuron, Generation and conduction of nerve impulse, Structure of brain and spinal cord, Functions of cerebrum, cerebellum, hypothalamus and medulla oblongata, **Chemical coordination and regulation:** Endocrine glands and their secretions Functions of hormones secreted by endocrine glands Human reproduction Parts of female reproductive system	**7**
4	**Plants and mineral nutrition:** Essential mineral, macro and micronutrients Nitrogen metabolism, Nitrogen cycle, biological nitrogen fixation **Photosynthesis:** Autotrophic nutrition, photosynthesis, Photosynthetic pigments, Factors affecting photosynthesis	**5**
5	**Plant respiration**: Respiration, glycolysis, fermentation (anaerobic)., Plant growth and development Phases and rate of plant growth, Condition of growth, Introduction to plant growth regulators Cell - The unit of life Structure and functions of cell and cell organelles. Cell division **Tissues** Definition, types of tissues, location and functions	**4**

Practical: Remedial Biology* (NUE)

Subject Code: BP105TP (Practical)

1. Introduction to experiments in biology a) Study of Microscope b) Section cutting techniques c) Mounting and staining d) Permanent slide preparation
2. Study of cell and its inclusions
3. Study of Stem, Root, Leaf, seed, fruit, flower and their modifications
4. Detailed study of frog by using computer models
5. Microscopic study and identification of tissues pertinent to Stem, Root Leaf, seed, fruit and flower
6. Identification of bones
7. Determination of blood group
8. Determination of blood pressure
9. Determination of tidal volume

Text Books

a. Text book of Biology by S. B. Gokhale

b. A Text book of Biology by Dr. Thulajappa and Dr. Seetaram.

Reference Books

a. A Text book of Biology by B.V. Sreenivasa Naidu

b. A Text book of Biology by Naidu and Murthy

c. Botany for Degree students By A.C.Dutta.

d. Outlines of Zoology by M. Ekambaranatha ayyer and T. N. Ananthakrishnan.

e. A manual for pharmaceutical biology practical by S.B. Gokhale and C. K. Kokate
1) Practical human anatomy and physiology. by S.R.Kale and R.R.Kale.
2. A Manual of pharmaceutical biology practical by S.B.Gokhale, C.K.Kokate and S.P.Shriwastava.