**BPH 125 Physiology-I 3 credits**

1. **Cell:** Structure and functions, cell inclusion, division of cell.

 **Tissue:** Definition, classification, characteristics, distribution and function of tissue.

2. **Blood system:**

Blood: Composition and function.

 Plasma: Electrolytes, proteins and other organic constituents.

 Blood cells: Their formation and destruction, cell count, functions of different blood cells.

 Haemoglobin: Structure, properties and functions.

 Coagulation factor: Definition, functions.

 Anaemia: Causes and classification.

 Blood coagulation: Blood groups, blood transfusion.

 Lymph: Composition, formation, circulation and function, lymph nodes and lymphatic.

3. **Circulatory system:**

 Heart: Structure, heart muscles, conducting system of heart, origin and transmission of cardiac impulse; ECG, control and requirements for the normal heart beat, cardiac cycle, cardiac output, nervous regulation of heart, cardiac reflexes.

Blood vessels: Types of blood vessels and their functions.

 Blood pressure: Measurements and regulation of blood pressure, nervous control and chemical control.

 Arterial pulse: Definition and clinical study, recording of arterial pulse.

 Capillary circulation: Importance and functions.

 Regional blood circulation: Pulmonary circulation, hepatic circulation, renal circulation and cerebral circulation.

4. **Respiratory system:** Mechanism of respiration, pulmonary ventilation, ventilation volumes, gaseous interchange through lungs: carriage of O2 and CO2.

 Regulation of respiration: Nervous and chemical regulation.

 Hypoxia**:** Causes and classification, abnormal breathing, Cheyne stokes breathing, Kussmal breathing, breathing at high altitude.

5. **Alimentary system:** Structure of different parts of the alimentary system, movements of the different parts of the alimentary tract and their control, swallowing, gastric contractions, intestinal contraction, secretion of digestive juices, saliva, gastric juice, pancreatic juice, intestinal juice and bile, mechanism and control of the various secretions and their functions, digestion of food stuff, absorption of the different digested materials.

6. **Structure and functions of liver:** Formation of bile and its concentration in the gal bladder, circulation of bile salts and bile pigments, functions of liver.