**SEMESTER V BIOCHEMSITRY**

**SEMESTER-V(A) PAPER -V**Theory: BCT-501-Physiology, Clinical Biochemistry and Immunology 60 hrs  
(5periods/12 hours week)  
Unit- I : Physiology  
Digestion and absorption of carbohydrates, lipids and proteins. Composition of blood and coagulation of  
blood. Transport of gases in blood (oxygen and CO2). Muscle: Structure of myofibril and mechanism of  
muscle contraction.  
Unit II: Endocrinology 12 hours  
Endocrinology- organization of endocrine system. Classification of hormones. Outlines of chemistry,  
physiological role and disorders of hormones of hypothalamus, pituitary, thyroid, parathyroid, adrenal  
gland, pancreatic hormones and gonads. . Introduction of hormones of gastrointestinal tract and placenta.  
Unit- III : Nutritional Biochemistry 12 hours  
Classification of Nutrients, calorific values of foods and their determination by bomb calorimeter. BMR  
and factors affecting it. Significance of BMR. Specific dynamic action of foods

**PAPER V(B)**

**Elective Theory BCT-503: Molecular Basis of Infectious Diseases**

**Unit-I : Classification of infectious agents No. of Hours : 12**

Bacteria, Viruses, protozoa and fungi. Past and present emerging and re-emerging infectious diseases and pathogens. Source, reservoir and transmission of pathogens, Antigenic shift and antigenic drift. Host parasite relationship, types of infections associated with parasitic organisms. Overview of viral and bacterial pathogenesis. Infection and evasion.

**Unit-II: Overview of diseases caused by bacteria No. of Hours : 12**

Detailed study of tuberculosis: History, causative agent, molecular basis of host specificity, infection and pathogenicity, Diagnostics, Therapeutics, inhibitors and vaccines. Drug resistance and implications on public health.