

**SARDAR PATEL UNIVERSITY**  
**Programme: MSC (Genetics)**  
**Semester: IV**  
**Syllabus with effect from: June 2010**

<b>Paper Code:</b> PS04EGEN02	<b>Total Credits: 4</b>
<b>Title Of Paper:</b> Human Physiology and Clinical Correlations	

Unit	Description in detail	Weightage (%)
1	Blood-composition and functions of plasma, erythrocytes including Hb, leucocytes and thrombocytes and plasma proteins. Hemoglobinopathies, thalassemias and anemias. Blood clotting – extrinsic and intrinsic pathways of blood clotting, laboratory test to measure coagulation and thrombolysis.	25 %
2	Digestive system – Composition, functions and regulation of saliva, gastric, pancreatic intestinal and bile secretions – digestion and absorption of carbohydrates, lipids, proteins nucleic acids, minerals and vitamins.	25 %
3	Excretory system – structure of nephron formulation of urine, glomerular filtration, GFR, tubular reabsorption of glucose. The Muscular System – Types of muscles and their functions	25 %
4	Nervous System- Structure of neuron, function and organization of nervous system, Nerve impulse transmission. Endocrine glands – secretion and function Reproduction, pregnancy and lactation. Hormonal disturbances	25 %

**Basic Text & Reference Books:**

- Molecular Biology of the cells: Alberts et. al., Garland Publications Inc. NY
- Cell and Molecular Biology by E D P de Robertis and E M F de Robertis.
- Text book of Medical Physiology by A. C. Guyton and J. E. Harcourt.
- Text book of Medical Physiology by Garong.
- Text book of Biochemistry and Human Biology by Talwar.
- Principles of anatomy and physiology by Tortora Grabowski, 10th edition

