

HUMAN PHYSIOLOGY

Unit 1

Digestive system: Anatomy of the digestive system, Salivary, Gastric and Biliary Secretions- composition and functions. Intestinal hormones, movements in Gastro intestinal tract, Secretion, digestion and absorption in the small intestine. Absorption in the large intestine; Digestion and absorption of carbohydrates, lipids and proteins.

Unit 2

Body fluids: Extracellular fluid-plasma, interstitial fluid and transcellular fluid. Intracellular fluid: Lymph & Blood-composition, functions, osmolarity of the body fluids, ionic composition, electrolytes, body buffers. Blood cells, haemoglobin, haemopoiesis, blood coagulation and blood groups.

Unit 3

Circulation: Structure of Heart and blood vessels, cardiac cycles, cardiac factors controlling blood pressure, electrocardiogram. Functions of heart. Respiration: Anatomy, and physiology of respiration, pulmonary surfactant, exchange of gases between lung and blood and between blood and tissues. Role of lung in acid-base balance.

Unit 4

Excretory system: Structure and functions of kidney. Urine- composition and formation. Renal regulation of acid-base balance. Muscle: Kinds of muscle, structure. Mechanism and theories of muscle contraction.

Unit 5

Central nervous system- General organisation. Functional units. Resting and action potential- conduction of nerve impulse. Synaptic transmission. Brain-chemical composition, metabolism, metabolic adaptation, neurotransmitters and cAMP. Biochemical aspects of learning and memory. Enkephalins and endorphins.

References

1. Human Physiology: Vol I & II C.C. Chatterjee.
2. Functions of the Human body – Guyton A.C.
3. The living body-Best C.H, Taylor N.B.
4. Human Physiology-Systemic & applied-Sahalya.
5. Human Nutrition and Dietetics – Swaminathan, Bangalore printing and Pulv. Co. Ltd.
6. Review of Medical Physiology – Ganong, Appleton and Lange.