

Anatomy Physiology and Health Education-II
(3 hours/week, 3 credits, 45 hours)

1. **Cardiovascular System:** **09**
Anatomy of the heart, Circulatory system including Arterial and Venous system with special reference to the names and positions of main arteries and veins, Properties of Cardiac muscle, Electrocardiogram (ECG), Blood pressure and its regulation, Coronary circulation, Basic understanding of Cardiac cycle and Heart sounds, Renin Angiotensin system and its significance, Cardiac output, Brief introduction to cardiovascular disorders.
2. **Respiratory System:** **04**
Anatomy of Respiratory organs, Physiology (mechanism and regulation) of respiration, Physiology of Internal Respiration, Brief overview of measuring lung functions i.e. respiratory volumes, Vital capacity, Respiratory disorders.
3. **Nervous System:** **13**
Neurons and Nerve Fibers, Physiology of Nerve excitation and conduction, Overview of Neurotransmitters, Divisions of Nervous System, Central Nervous System (Brain & Spinal Cord), Function of different parts of brain and spinal cord, Reflex action, Electroencephalogram (EEG), Specialized functions of the brain including Limbic system and Reticular activation and Inhibiting System, Peripheral Nervous System (PNS) (Cranial nerves & spinal nerves): Description of spinal and cranial nerves, Physiology and functions of the Autonomic Nervous System, brief introduction to CNS disorders.
4. **Special Senses:** **05**
Basic anatomy of the Eye and the Ear, Physiology of Vision, Hearing and Equilibrium Balance. Organs of Taste (tongue), Olfaction, Touch, Pressure, etc., Structure and Functions of Skin. Regulation of Body Temperature, Disorders.
5. **Urinary System:** **04**
Various parts of urinary system and their functions, Structure and functions of Nephron, Physiology of Urine formation, Brief outline of renal diseases, Acid-base balance.
6. **Endocrine System:** **05**
Role of Endocrine Glands in Regulation and Integration of various functions of the Body, Anatomy and Physiology of pituitary gland, thyroid, parathyroid, adrenals, Pancreas, testes and ovary, their hormones and functions with brief outlines of their disorders.
7. **Reproductive System:** **04**
Gross Anatomy and Histology of Male and female reproductive Organs and their Functions, Physiology of Menstruation, Coitus and Fertilization, Sex differentiation, Oogenesis and spermatogenesis, implantation of embryo, pregnancy and its maintenance, parturition.
8. **Physiology of Ageing** **01**

Anatomy Physiology and Health Education-II
PRACTICALS
(2 hours/week, 2 credits, 30 hours)

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| 1. Biochemical Analysis of Urine
Physical Characteristics, Normal Constituents, Abnormal Constituents | 02 |
| 3. Study with the help of charts and models of the Anatomy of
following systems:
Heart, Arterial System, Venous System, Respiratory System, Urinary System,
Male and Female Reproductive System, Eye and Ear, Nervous System | 07 |
| 3. Histology of Various organs of above mentioned Systems | 02 |
| 4. Determination of body temperature, pulse rate, blood pressure, listening to
heart sounds, demonstration of ECG | 01 |
| 5. Determination of Lung Volumes and Vital Capacity | 01 |
| 6. Study of Reflexes, Vision and Hearing capacity | 02 |

Books Recommended (Latest Editions) :

- 1 William J. Larsen: Anatomy – Development, function, Clinical Correlations –Saunders (Elsevier Science)
- 2 Guyton A.C. and Hall J.E. : Textbook of Medical Physiology – 10th Edition– W.B.Saunders
- 3 Seeley R.R., Stephens T.D. and Tate P.: Anatomy and Physiology 2000 – McGraw Hill Co.
- 4 Waugh A. and Grant A.: Ross and Wilson’s Anatomy and Physiology in Health & illness — Churchill Livingstone
- 5 Sobotta : Atlas of Human Anatomy (2 Volumes) –Edited by Putz and R. Pabst, Lippincott, Williams and Wilkins
- 6 Anne M.R.Agur & Ming J. Lee: Grant’s Atlas of Anatomy –Lippincott, Williams and Wilkins
- 7 Gosling T.A., Harris P.F., Whitmore I., William, Human Anatomy: Color Atlas and Text — Mosby
- 8 Bullock B.L. & Henze R.L., Focus on Pathophysiology –Lippincott
- 9 Martini, F. Fundamentals of Anatomy and Physiology (Prentice Hall)
- 10 West, J.B. Best and Taylor’s physiological Basis of Medical Practice (Williams and Wilkins, Baltimore)
- 11 Tortora G.J. and Anagnodokos, N.P. Principles of Anatomy and Physiology (Harper and Colling Publishers, New York)
- 12 Chatterjee, C.C.Human Physiology (Medical Allied Agency, Calcutta)
- 13 Lesson, C.R. et al.: Text Book of Histology (W.B.Saunders Company)