RKUNIVERSITY

SYLLABUS

Course Title	**HUMAN ANATOMY PHYSIOLOGY AND HEALTH EDUCATION - II**
Course Code	PH216
Course Credit	Lecture : 3
	Practical : 2
	Tutorial : 0
	Total : 5

Course Objectives

On the completion of the course, students will be able to:

- Learn anatomy as the science of body structures and relationships among the structures.
- Know various feedback mechanisms work to maintain physiological processes within a narrow range that is compatible with life.
- Understand pathology of disease and pathological changes.
- Understand effects of drug on body.

Detailed Syllabus

Sr. No.	Name of Chapter & Details	Hours Allotted
	Section I	
1	**Special Senses:** Eye: Basic anatomy and Physiology of Vision.	**05**

	Ear: Basic anatomy and Physiology of Hearing and Equilibrium Balance. Organs of taste (tongue), Olfaction, Touch, Pressure. Skin: Structure and Functions, Regulation of Body Temperature. Study of Disorders.	
2	**Nervous System** Neurons and Nerve Fibers, Physiology of Nerve excitation and conduction, Overview of Neurotransmitters. Central Nervous System (CNS): 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): Description of spinal and cranial nerves, Physiology and functions of the Autonomic Nervous System. Brief introduction to CNS disorders.	**14**
3	**Endocrine System:** Role of Endocrine Glands in Regulation and Integration of various functions of the Body, Anatomy and Physiology of pituitary gland, thyroid, parathyroid, adrenals glands, Pancreas, testes and ovary, their hormones and functions with brief outlines of their disorders.	**04**
	Section II	
4	**Urinary System** 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.	**03**

5	**Respiratory System:** Anatomy of Respiratory organs, Physiology (mechanism and regulation) of respiration, Physiology of Internal Respiration, Chloride shift, Brief overview of measuring lung functions i.e. respiratory volumes, Vital capacity, Respiratory disorders.	**03**
6	**Reproductive System:** Gross Anatomy and Histology of Male reproductive Organs and their Functions. Spermatogenesis. Gross Anatomy and Histology of female reproductive Organs and their Functions, Oogenesis, Physiology of Menstruation. Coitus and Fertilization, Sex differentiation, Implantation of embryo, pregnancy and its maintenance, parturition.	**03**
7	**Osseous system:** Structure and function of skeleton, Histology of bone Classification of joints and their function, Joint disorders.	**03**
8	**Demography and family planning:** Demographic cycle, Basic understanding, importance and methods of family planning.	**03**
9	**Physiology of Ageing**	**01**
10	**First aid treatment:** First aid treatment in shock, snakebite, burns, poisoning and resuscitation methods.	**02**
11	**Causative agent, mode of spread and prevention/treatment of**	**04**

	following diseases: Tuberculosis, poliomyelitis, malaria, filariasis, rabies, tetanus, leprosy, syphilis, gonorrhoea and AIDS.	

Human Anatomy Physiology and Health Education - II (Practical)

1. Biochemical Analysis of Urine: Physical Characteristics, Normal Constituents.
2. Biochemical Analysis of Urine: Abnormal Constituents.
3. Study of Gross Anatomy & Physiology of Various Organ Systems by Charts / Specimens
4. Spirometry**:** Determination of Lung Volumes and Vital Capacity
5. Study of Reflexes, Vision and Hearing capacity
6. Determination of body temperature.
7. Other practicals covering syllabus aspects.

Instructional Method and Pedagogy:

- Lectures will be conducted with the aid of multi-media projector, black board, OHP etc.
- Specific discussion questions will be assigned each week. It is important that everyone participate in the discussion.
- Unit Review Quizzes will measure the student's understanding of the material.

Students Learning Outcomes:

- Study of anatomy and physiology as a gateway to careers in health related fields, athletics training etc., as a foundation to advanced scientific studies, for understanding pathology of disease and pathological changes, provide base for proper understanding effects of drug on body and factors affecting various physiological processes and its effects.
- Overall effective maintenance of individual and community health.
- Acquisition of intellectual and motor skills.

Text Books:

1. Principles of Anatomy and Physiology: Tortora and Anagnodokos; Harper and Colling Publishers, New York.
2. Derasari and Gandhi's Elements of Human Anatomy, Physiology & Health Education: Ed R. K. Goyal; B. S. Shah Prakashan, Ahmedabad.

Reference Books:

1. Textbook of Medical Physiology: Guyton A.C. and Hall J.E.; W. B. Saunders
2. Anatomy and Physiology: Seeley R.R., Stephens T. D. and Tate P.; McGraw Hill Co.
3. Atlas of Human Anatomy: Livingstone Sobotta, Ed. Putz and Pabst; Lippincott, Williams and Wilkins.
4. Grant's Atlas of Anatomy: Anne M. R. & Ming J. Lee; Lippincott, Williams and Wilkins
5. Human Anatomy Color Atlas and Text; Gosling T. A., Harris P. F., Whitmore I.; Mosby
6. Focus on Pathophysiology: Bullock B. L. & Henze R.L.; Lippincott
7. Fundamentals of Anatomy and Physiology: Martini F.; Prentice Hall

Additional Resources

- Preparatory Manual for Undergraduates Physiology Joshi: Vijaya D.; Churchill Livingstone
- Human Physiology: Chatterjee, C.C.; Medical Allied Agency, Calcutta
- Practical Anatomy Physiology and Biochemistry: Goyal, R.K.; B.S. Shah Prakashan, Ahmedabad.
- A Text Book of Histology: Garg K.; CBS Publishers, New Delhi
- A Text Book of Practical Physiology: Ghai C.L.; Jaypee Bros. Medical Publisher (P) Ltd.
- Textbook of Medical laboratory Technology: Praful B. Godkar, Darshan P.Godkar; Bhalani Publishing house.