

R.K. PHARMACY COLLEGE

COURSE HANDOUT

Human Anatomy And Physiology (Theory)

COURSE CODE: ER20-14T

VISION

Train the minds to think logically and become a success

MISSION

To Develop inventive, pioneering research & high-quality technical education

PROGRAMME EDUCATIONAL OBJECTIVES

- PEO 1:** To produce graduates with sound theoretical knowledge and technical skills required for career opportunities in various domains.
- PEO 2:** To incite the students towards research and to address the challenges with their innovative Contributions for the benefit of mankind.
- PEO 3:** To bring forth a quality professional equipped with technological advances to adapt easily to changes in the ever-evolving pharma and allied industry, hospital and clinical pharmacy setup, pharma retailing and distribution, and governmental and health agencies.
- PEO 4:** To engage graduates in professional ethical practices in a multidisciplinary environment, while contributing to organization through leadership and building team spirit.
- PEO 5:** Pharmacists can become lifelong learners, absorb new technologies, and then offer leadership roles in society.

Programme Name	Diploma in Pharmacy (D. Pharm)
Course Name	Human Anatomy And Physiology (Theory)
Course Code	ER20-14T
Session	2025-26
Year	I
Labs (Per Week)	3
Course Credit	2
Course Coordinator Name	

1. Scope of the Course:

This course is designed to impart basic knowledge on the structure and functions of the human body. It helps in understanding both homeostasis mechanisms and homeostatic imbalances of various systems of the human body.

2. Course Outcomes (COs):

- CO.1 Describe the various organ systems of the human body
- CO. 2. Discuss the anatomical features of the important human organs and tissues
- CO. 3. Explain the homeostatic mechanisms regulating the normal physiology in the human system
- CO. 4. Discuss the significance of various vital physiological parameters of the human body

3. Reference Books:

1. Human Physiology by C. C. Chatterjee
2. Human Anatomy and Physiology by S. Chaudhary and A. Chaudhary
3. Derasari and Gandhi's elements of Human Anatomy, Physiology and Health Education
4. S.R. Kale and R.R. Kale, Textbook of Practical Anatomy and Physiology
5. Ross and Wilson Anatomy and Physiology in Health and illness
6. Human Anatomy and Physiology by Tortora Gerard J
7. Fundamentals of Medical Physiology by K. Sambulingam and P Sambulingam

4. Other Readings & Relevant Websites:

Sr.No.	Link of Journals, Magazines, Websites and Research Papers
1	https:// www.ijpsm.com /
2	https:// www.ijisrt.com /
3	http://doi.org/10.2147/DHPS.S282420
4	http://dx.doi.org/10.22270/ajprd.v9i3.955
5	https://www.researchgate.net/publication/5533900
6	https://www.dixonvalve.com/

5. Lab Plan:

Sr. No	TOPICS	No. of Lectures
01	Scope of Anatomy and Physiology Definition of various terminologies	2
02	Structure of Cell: Components and its functions	4
03	Tissues of the human body: Epithelial, Connective, Muscular and Nervous tissues – their sub-types and characteristics.	4
04	Osseous system: structure and functions of bones of axial and appendicular skeleton Classification, types and movements of joints, disorders of joints	3 3
05	Haemopoietic system <ul style="list-style-type: none"> ● Composition and functions of blood ● Process of Hemopoiesis ● Characteristics and functions of RBCs, WBCs, and platelets ● Mechanism of Blood Clotting ● Importance of Blood groups 	8
06	Lymphatic system <ul style="list-style-type: none"> ● Lymph and lymphatic system, composition, function and its formation. ● Structure and functions of spleen and lymph node. 	3
07	Cardiovascular system <ul style="list-style-type: none"> ● Anatomy and Physiology of heart ● Blood vessels and circulation (Pulmonary, coronary and systemic circulation) ● Cardiac cycle and Heart sounds, Basics of ECG ● Blood pressure and its regulation 	8
08	Respiratory system <ul style="list-style-type: none"> ● Anatomy of respiratory organs and their functions. ● Regulation, and Mechanism of respiration. ● Respiratory volumes and capacities – definitions 	4
09	Digestive system <ul style="list-style-type: none"> ● Anatomy and Physiology of the GIT ● Anatomy and functions of accessory glands ● Physiology of digestion and absorption 	8
10	Skeletal muscles <ul style="list-style-type: none"> ● Histology ● Physiology of muscle contraction ● Disorder of skeletal muscles 	2
11	Nervous system <ul style="list-style-type: none"> ● Classification of nervous system ● Anatomy and physiology of cerebrum, cerebellum, mid brain 	8

	<ul style="list-style-type: none"> ● Function of hypothalamus, medulla oblongata and basal ganglia ● Spinal cord-structure and reflexes ● Names and functions of cranial nerves. ● Anatomy and physiology of sympathetic and parasympathetic nervous system (ANS) 	
12	Sense organs - Anatomy and physiology of <ul style="list-style-type: none"> ● Eye ● Ear ● Skin ● Tongue ● Nose 	6
13	Urinary system <ul style="list-style-type: none"> ● Anatomy and physiology of urinary system ● Physiology of urine formation ● Renin - angiotensin system ● Clearance tests and micturition 	4

6. Content Beyond Syllabus (CBS):

Sr.No.	Topics	PO (Annexure 1)
1)	To demonstrate the working of UV spectrophotometry instrumentation.	PO1, PO3, PO4

7. Evaluation Scheme:

The marks allocated for the continuous mode of internal assessment shall be awarded for attendance, practical records, regular viva voce, etc. Two practical sessional exams shall be conducted during mid of the semester. The average marks of the two practical sessional exams shall be computed for internal assessment. A practical sessional exam shall be conducted for 40 marks and shall be computed for 10 marks. Weightage for various evaluation components is as below:

Sr.No.	Evaluation Component	Weightage
1	Internal Assessment	
	1. Continuous Mode	15
	2. Practical Sessional Exams	15
2	End Semester Practical Exam	10
	Total	40

As per PCI and University guidelines, minimum 75% attendance is required to become eligible for appearing in the End Semester Practical Examination.

This document is approved by:

Designation	Name	Signature
Course Coordinator		
HOD		
Principal		

ANNEXURE I: PROGRAM OUTCOMES

1. **Pharmacy knowledge:** Possess knowledge and comprehension of the core and basic knowledge associated with the profession of pharmacy, including biomedical sciences; pharmaceutical sciences; behavioral, social, and administrative pharmacy sciences; and manufacturing practices.
 2. **Planning abilities:** Demonstrate effective planning abilities including time management, resource management, delegation skills and organizational skills. Develop and implement plans and organize work to meet deadlines.
 3. **Problem analysis:** Utilize the principles of scientific enquiry, thinking analytically, clearly and critically, while solving problems and making decisions during daily practice. Find, analyze, evaluate and apply information systematically and shall make defensible decisions.
 4. **Modern tool usage:** Learn, select, and apply appropriate methods and procedures, resources, and modern pharmacy-related computing tools with an understanding of the limitations.
 5. **Leadership skills:** Understand and consider the human reaction to change, motivation issues, leadership and team-building when planning changes required for fulfillment of practice, professional and societal responsibilities. Assume participatory roles as responsible citizens or leadership roles when appropriate to facilitate improvement in health and wellbeing.
 6. **Professional identity:** Understand, analyze and communicate the value of their professional roles in society (e.g., health care professionals, promoters of health, educators, managers, employers, employees).
 7. **Pharmaceutical ethics:** Honour personal values and apply ethical principles in professional and social contexts. Demonstrate behavior that recognizes cultural and personal variability in values, communication and lifestyles. Use ethical frameworks; apply ethical principles while making decisions and take responsibility for the outcomes associated with the decisions.
 8. **Communication:** Communicate effectively with the pharmacy community and with society at large, such as, being able to comprehend and write effective reports, make effective presentations and documentation, and give and receive clear instructions.
 9. **The pharmacist and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety and legal issues and the consequent responsibilities relevant to the professional pharmacy practice.
 10. **Environment and sustainability:** Understand the impact of the professional pharmacy solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. Self-assess and use feedback effectively from others to identify learning needs and to satisfy these needs on an ongoing basis.
- 11.

