



AUGS/ AGSR Division

Date: 16/01/2021

Second- SEMESTER 2020-2021

Course Handout (Part II)

Course No. : PHA F 214

Course Title : Anatomy, Physiology and Hygiene

Instructor-in-charge : Prof. Rajeev Taliyan

Team of Instructors : Sarath Lal KC, Salunkhe Shubham A, Shreya Das, Mahipal Reddy D, Violina Kakoty

1. Course Description:

Anatomical study of the important organs of human body; physiology of various functional systems of human body; general principles of personal and community hygiene and prevention of communicable diseases.

2. Scope and Objectives:

This course imparts knowledge of anatomy (the study of internal structures of the human body and their inter-relationships) and physiology (study of functions of various structures and organ systems of the human body) in healthy and diseased states. It also deals with general principles of personal and community hygiene for the prevention of various communicable diseases.

3. Text book: Marieb, Elaine N, Essentials of Human Anatomy & Physiology, Pearson

Edu., 9th ed., 2009

4. Reference Books:

R-1: Taylor DJ, Green NPO and Strout (eds.) Biological Science, 3rd Edition, Cambridge

University Press, London, 2000.

R-2: Guyton & Hall, Textbook of Medical Physiology, 9th edition, WB Saunders

Company, (Indian edition), 1998.

R-3: Gerard J. Tortora, Bryan H. Derrickson Principles of Anatomy and Physiology, 12th Edition: 2011

R-4: Park K, Textbook of Preventive and Social Medicine, 16th Edition, M/s Banarasidas





Course Plan:

A: Theory Component

Module No	Lecture Session	Ref	Learning Outcome
1: Introduction, Cell and Tissue	L 1: 1-2: Definition, Scope and common terms used in Anatomy and Physiology: Cell: Parts and their functions L1: 3-5: Tissue: Types, differences, characteristics and properties of tissues, Bone and types of Joints	T-1: Ch-1 : 3	Understand and study , Anatomy and Physiology, Cell and Tissue: Types, differences, characteristics and properties of tissues, Study the changes/modulation during adverse condition
2: General introduction of Blood, its composition and functions	L2: 6-12: Blood: Composition and functions of blood, Function of RBC, WBC and Platelet	T-1: Ch- 17	Study and understand the composition and functions of blood cells., Understand the synthesis of blood cells in bone marrow, their hormonal regulation and modulation for maintenance of physiological balance
3: Introduction of Endocrine system	L4: 13-15: Exocrine and endocrine glands: L4:16-17 General properties of endocrine glands and hormones L4: 18-21 Pituitary gland, Thyroid gland , Adrenal gland, Pancreas and its related disorders.	T-1: Ch- 16	Understand the endocrine glands, their secretion i.e hormones, physiological functions of each glands hormones Understand the role and function of Pituitary gland, Thyroid gland, Adrenal gland and Pancreas
4: Introduction to Respiratory system	L5:22-24: Organs of Respiratory system, Physiological Process of respiration	T-1: Ch- 22	Understand the respiratory organ and their role in respiration process, tidal volume, Expiratory, inspiratory reserve volume, respiratory disorders-COPD and Asthma





BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, Pilani
Pilani Campus
AUGS/ AGSR Division

5: Introduction of Cardiovascular System:, anatomy and Physiological function of Heart	L3:25-26: Anatomy of heart L3:27-29: Physiology of heart, Blood vessels, ECG, related CVS disorders i.e Blood pressure, MI & thrombosis	T-1: Ch-18, 21	Understand the anatomy and Physiological function of heart Study and understand hormonal and Nervous system regulation of heart. Understand the abnormalities related to heart physiology (Blood pressure, MI & thrombosis)
6: : Introduction to Digestive system	L6: 30-32: Organs of digestive system L6:39-43: Other allied organs, Process of digestion of food	Ch-T- 23	Understand and study the organ of digestive system, process of digestion, Hormonal and nervous system Regulation of digestion process, digestive disorders
7: Reproductive system	L7: 33-35: Male reproductive system, Female reproductive system, New techniques in reproductive medicine	T-1: Ch-27 Class Notes	Understand the organ of Male and Female reproductive system, physiological process of reproduction. Spermatogenesis and oogenesis process, STD.
8: Urinary system	L8:36-37: Anatomy of urinary system, Urine formation and diseases of kidney	T-1: Ch-25 Notes	Understand the organ of urinary system, Physiological process of kidney, urine formation, GFR, creatinine clearance
8:Introduction of Nervous system	L 8: 38-39General aspect of Neurology, Brain and spinal cord, Nervous System, L8 39-40: Classification of NS, Physiological role of NS	T-1: Ch-11-14 and Notes	Understand the General aspect of Nervous System, Physiological role of Peripheral, Central and Autonomic Nervous System
9: Special senses	L9:41-42: Special senses-Vision, Special senses-Hearing, Taste, and Smell	Ch-T-15	Understand the process of vision, Hearing, Taste and smell





BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, Pilani
Pilani Campus
AUGS/ AGSR Division

10. Hygiene	L10: 43-44: Air borne diseases, Viral diseases and Water borne diseases	R-4:Book No 3: Ch-5.Notes	Understand the Anthrax, dengue fever, Tuberculosis, COVID-19, prevention and their management.
-------------	---	---------------------------	--

B. Practical components:

S.N.	Experiments	References/ Chapters	Schedule
1-12	Experiments: Bone, Blood, CVS, CNS, reproductive and respiratory system etc	Different chapters of text book/ practical book	10-12 Experiments for each laboratory section

Evaluation Scheme:

EC No.	<i>Evaluation Component</i>	<i>Duration</i>	Weightage (%)	<i>Date & Time</i>	Remarks
1.	Midterm Test	90 min	32	As mentioned in Time table	CB
2	Continuous assessment*	-	28	-do-	-
3	Compre. Exam.	120 min	40	To be announced	OB + CB

* Continuous assessment may include quiz(zes)/Tutorial#: Laboratory - Day to Day work and viva (08 M) and Lab Compre and quiz(zes) (08): Viva-Voce and Home assignment /seminar etc.

It is strongly advised that all students prepare their own class notes and relevant information from text, reference material, as in handouts would only be allowed for consultation during assessments of open book/notes.*Slides used during class hours provide key information for which additional supportive information is expected to be collected from sources aforementioned. These slides will not be shared and hence students are requested/advised to make their own notes during class hour. Recent developments in the area/topic will be discussed in class based on their significance to healthcare delivery and hence some information on therapeutic benefits and toxicity effects, besides others, may differ from the information in text, reference material and hence students are expected to take note of such key discussions during contact hours. Such discussions held in class will be considered as primary source of information in assessments.

Practicum experience (Lab. component), Assignment(s) may be practical / theory oriented, for which a proper report in a standard format should be submitted as per deadline(s) that would be announced. It may also include a viva and or seminar presentation(s).





BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, Pilani
Pilani Campus
AUGS/ AGSR Division

Quiz(zes) may/will be conducted as a part of evaluation component, at random, during contact hours including lecture, tutorial hours, as convenient, with/without prior intimation and sometimes outside class contact hours (for both theory and practical) and hence it is expected that the students come prepared to every class on topics covered in earlier contact hours. Regular classes will be held in designated tutorial hour to maintain continuity.

7. **Chamber consultation hours**: time to be announced in class.
8. **Notices**: Notices concerning the course will be displayed on the Pharmacy Department notice board only.

9. **Make-Ups**: Make-Ups are not given as a routine. It is solely dependent upon the Genuineness of the Circumstances under which a student fails to appear in a scheduled evaluation component. In such circumstances, prior permission should be obtained from the Instructor-in-Charge. In no case the make-up letter be slipped inside the chamber of the Instructor-In-Charge. The decision of the Instructor- in-Charge will be final.

Instructor-in-charge
PHA F 214

