



**Birla Institute of Technology and Science, Pilani &
Elite School of Optometry
B S OPTOMETRY
FIRST YEAR - FIRST SEMESTER – (ACADEMIC YEAR 2009-2010)**



COURSE HANDOUT (PART - I)

COURSE NO. : **OPTO ZC161**
 COURSE TITLE : **GENERAL PHYSIOLOGY**
 INSTRUCTOR IN CHARGE : Dr S Narasimhan

1. SCOPE AND OBJECTIVE: Physiology is the study of the functions of the tissues & organs and of the way these functions are integrated in the living body. Knowledge of normal physiology is the necessary pre-requisite to understand the abnormal state of functions of organs in diseases (i.e., Pathology). One of the most striking changes in medicine in recent years has been the increasing use of Physiology and Biochemistry, not only to provide greater diagnostic accuracy, but also to guide treatment. The course aims at imparting to the Optometry student the basic human physiology, adequate enough to equip himself or herself to better understanding of the clinical subjects to handle the patients.
2. TEXT BOOK : G.J. TORTORA : N.P. ANAGNOSTAKOS :
Principles of Anatomy and Physiology, 4th Ed., Harper & Row Publishers, NY.
Course notes by the faculty

Reference Books :

1. ARTHUR C. GUYTON : Text book of Medical Physiology, 8th Ed., Saunder.
2. WILLIAM F. GANONG : Review of Medical physiology, Lang Publication.

3. COURSE PLAN :

S No.	Topics	No of Lectures
1	General cell physiology, gene action Tissue organisation and skeletal Gonioscopy	5
2	Blood and circulation, lymphatics	16
3	Digestion.	5
4	Excretion, fluid and electrolyte balance	4
5	Endocrines	5
6	Reproduction	5
7	Respiration	5
8	Environmental physiology & CNS (nervous system).	5
9	Special senses	10
	Total number of Lectures	60

4. READING ASSIGNMENTS :

S.NO.	TOPICS	CHAPTER	PAGE NO.
(TEXT BOOK - TORTORA : PRINCIPLES OF ANATOMY AND PHYSIOLOGY)			
1.	The integumentary system.	5	106-120
2.	Menstrual cycle	28	714-719
3.	Birth control and inheritance.	29	754-761

General Physiology – Practical

Dr Dorein

1. Microscope.
 2. Haemocytometer
 3. BLOOD
 - 3.1 RBC Count
 - 3.2 Hb
 - 3.3 WBC count
 - 3.4 Differential count.
 - 3.5 Hct demonstration
 - 3.6 ESR
 - 3.7 Blood group & Rh. Type
 - 3.8 Bleeding time and clotting time.
 4. **DIGESTION**
 - 4.1 Test salivary digestions.
 5. **EXCRETION**
 - 5.1 Examination of urine.
 - 5.1.1 Specific gravity.
 - 5.1.2 Albumin
 - 5.1.3 Sugar
 - 5.1.4 Microscopic examination for cells and cysts.
 6. **ENDOCRINOLOGY AND REPRODUCTION**
 - 6.1 Dry experiments in the form of cases showing different endocrine disorders.
 7. **RESPIRATORY SYSTEM – Dr Ian Sundarraj & Mr Arijit**
 - 7.1 Clinical examination of respiratory system
 - 7.2 Spirometry.
 - 7.3 Breath holding test.
 - 7.4 40 endurance test.
 8. **CARDIO VASCULAR SYSTEM**
 - 8.1 Clinical examination of circulatory system
 - 8.2 Measurement of blood pressure and pulse rate
 - 8.3 Effect of exercise on blood pressure and pulse rate
 9. **CENTRAL NERVOUS SYSTEM**
 - 9.1 Sensory system
 - 9.2 Motor system
 - 9.3 Cranial system
 - 9.4 Superficial and deep reflexes.
 - 9.5 Test for hearing
5. **EVALUATION SCHEDULE :-**

Component	Duration	Date & Time	Max. Marks	Remarks
EC – I			20	
EC – II	1 Hour	04.09.09	20	Written Exam
EC – III			20	
Comprehensive Examination	3 Hours	26.11.09 9.30 – 12.30 pm	40	Written Exam

INSTRUCTOR IN CHARGE

