## SARDAR PATEL UNIVERSITY Programme: M.Sc (Home Science) Subject: Family Resource Management Semester: I Syllabus with Effect from: June - 2013

Paper Code: PH01CFRM02	Total Cradite 2
Title Of Paper: Anatomy & Physiology for Ergonomics	Total Cleuit: 2

Unit	Description in detail	Weightage (%)
Ι	Basic terminologies of Human Body	
	Various body planes- radial, lateral, dorsal, ventral, cranial, caudal, coronal,	
	sagittal and medial. Head plane, neck plane, thorax plane, hip plane, thigh flap	
	plane, knee plane, ankle plane, shoulder plane, elbow plane and wrist plane.	
	Joint movements and range of motion, flexion, extension, abduction.	
	Anthropometric land marks.	
	Concept of comfort.	
	Body figures	
	Postures and stick figures.	
II	Nervous System	
	Review of structure and function of neuron, conduction of nerve impulse,	
	synapses, role of neurotransmitters.	
	Organization of central nervous system, structure and functions of brain and	
	spinal cord, afferent and efferent nerves, blood brain barrier, CSF.	
	Hypothalamus and its role in various body functions-obesity, sleep, memory.	
	Endocrine System	
	barmonal segration. The neuro and garing axis. Disorders of and garing glands	
	Emphasis on physiology of dispeter and stress hormones	
	Emphasis on physiology of diabetes and stress normones.	
	Review of structure and function role of lungs in exchange of gases transport	
	of oxygen and CO2 Role of Hemoglobin and buffer system cardio respiratory	
	response to exercise and physiological effects of training	
	The Circulatory system	
	Structure and Function of heart and blood vessels, regulation of cardiac output	
	and blood pressure, heart failure, hypertension.	
III	Musculoskeletal System	
	Structure and function of bone, cartilage and connective tissues.	
	Disorders of skeletal system.	
	Types of muscles, structure and function.	
	Bio chemistry of muscle work.	
	Physiological factors involved in muscular work.	
	Carbohydrates, fats & proteins	
	Oxygen	
	Cardio-vascular and respiratory system	
	Thermo-regulatory system	
	Sources of energy for muscular work	
	ATP, Energy currency	
	CP energy reserve	



	Food, carbohydrates, fats & proteins	
	Static and Dynamic Muscular Effort Work and Efficiency	
	Energy Requirement for Muscular Work and Efficiency	
	Energy Expenditure for Different Activities.	
IV	Endurance and Muscular Strength	
	Dynamometer	
	Skill	
	Maximal work	
	Speed	
	Factors affecting physiological reactions doing work	
V	Workload and Posture.	
	Drawing Human Body Figure, stick figures, various planes & rotations	

## **Basic Text & Reference Books:-**

- ➢ Guyton, A.C.(1985): Function of the Human Body, 4<sup>th</sup> edition, 9<sup>th</sup> edition, W.B. Sanders Company, Philadelphia.
- Guyton, A.C. and Hall, J.B. (1996): Text Book of Medical Physiology, 9<sup>th</sup> edition, W.B. Sanders Company, Prism Books (Pvt.) Ltd., Banglore.
- Wilson, K.J.W. and Waugh, A. (1996): Ross and Wilson Anatomy and Physiology in Health and Illness, 8<sup>th</sup> edition, Churchill Livingstone.
- McArdle, W.D., Katch, F.I. and Katch, V.L. (1996): Exercise Physiology, Energy, Nutrition and Human Performance, 4<sup>th</sup> edition, Williams and Wilkins, Baltimore.
- > Jain, A. K.: Textbook of Physiology, Vol.1 and II. Avichal Publishing Co., New Delhi.

