

CARDIOVASCULAR AND PULMONARY SCIENCES-I

Course Title	CARDIOVASCULAR AND PULMONARY SCIENCES-I	
Course Code	PT604	
Course Credit	Lecture:4	
	Practical/ Clinical Training: 1	
	Total: 5	
Course Objectives		
<ol style="list-style-type: none"> 1. To familiarize the students with basic knowledge in anatomy, physiology, common diseases/ conditions involving cardiovascular systems 2. To understand the basic medical and surgical intervention for treatment of cardiovascular disorders 3. To provide appropriate physiotherapy examination, interventions, prognosis, and outcomes for various cardiovascular diseases. 		
#	Detailed Syllabus	Hours Allotted
SECTION – I		
1.	Introduction of Cardiovascular and Pulmonary Sciences-I Basic Anatomy and Physiology of Cardiovascular System	2
2.	Assessment and Treatment Skills	
	Physical and Functional outcome measures in Cardiovascular System	6
	Therapeutic skills in CVP Airway Clearance Techniques : Hydration, Humidification and Nebulization, Mobilization and Breathing exercises, Postural Drainage, Manual techniques – Percussion, Vibration and Shaking, ACBT, Autogenic Drainage, Mechanical Aids – PEP, Flutter, IPPB, Facilitation of Cough and Huff, Nasopharyngeal Suctioning etc...	16
	Techniques to improve pulmonary status: Controlled mobilization, positioning, Thoracic mobility exercises, Breathing exercises, PNF in Respiration, Mechanical aids - Incentive Spirometry, CPAP, IPPB, etc...	12
	Techniques to decrease the work of breathing Measures to optimize the balance between energy supply and demand, positioning, Breathing re-education – Breathing control techniques, mechanical aids – IPPB, CPAP, BiPAP, etc...	6
	Advance exercises for respiratory care: Bronchial Hygiene Techniques, advanced chest physical therapy,	4

	etc...	
3.	Deconditioning and Conditioning at normal level Factors affecting overall physical and functional performance Sedentary life styles, aging, prolong bed rest, etc...	2
SECTION-II		
	Cardiovascular System diseases and disorders Clinical manifestation Definition, Classification, etiology, pathogenesis, clinical features, clinical investigation and complications of the following conditions Medical, surgical and physiotherapy management (assessment and treatment) including rehabilitation.	
4.	Hypertension,	2
	Ischemic heart disease,	3
	Myocardial infarction	3
	Coronary Artery Disease,	3
	Angioplasty, CABG, PTCA, Valvotomy, Valve replacement heart transplant, etc...	4
	Heart failure, Cardiac arrest	2
	Rheumatic fever	1
	Pericarditis, Myocarditis, Endocarditis	2
	Cardiomyopathy, Cardiac Tumors	2
	Congenital disorders of the Heart - ASD, VSD, etc...	4
5.	Peripheral Vascular System diseases and disorders Clinical manifestation Definition, Classification, etiology, pathogenesis, clinical features, clinical investigation and complications of the following conditions Medical, surgical and physiotherapy management (assessment and treatment) includes rehabilitation	
	Diseases of artery – Arteriosclerosis, Atherosclerosis, Aneurysm, Raynaud's Diseases, etc...	4
	Diseases of vein - Varicose veins, Deep Vein Thrombosis, Burger's Disease, Phlebitis, etc...	4
	Diseases of lymphatic system – Lymphedema and others	2
6.	INTENSIVE AND EMERGENCY CARE	
	Principles of chest physiotherapy in I.C.U., I.C.C.U along with effect of anesthesia on cardiopulmonary system, etc...	2
	Knowledge of Equipment in CPU, I.C.U, I.C.C.U, etc...	2
	Ventilators-Modes, classification criteria for initiating mechanical ventilation, suction apparatus. IABP, Pulse oximeter, nebulizers, humidifiers, O2 therapy, aerosol therapy, drugs used in ICU, etc...	5

	Emergency In Cardio Respiratory Conditions – CPR, Defibrillator, Resuscitation Procedure, etc...	3
Instruction Method		
<ol style="list-style-type: none"> 1. Teaching and training sessions will be carried out through active learning. Active participation and contribution in group discussion and seminars are mandatory for students 2. Lectures to be conducted with the help of black board and/or audio-visual aids that includes multi-media projector, OHP, etc. 3. Problem based and/or case based assignments based on course content will be given to the students at the end of each unit/topic and will be evaluated at regular interval. 4. The course includes a laboratory where the students have an opportunity to build and appreciation for the concepts being taught in lectures. 5. Instruction method will be integrated with clinical training, bedside / class room teaching and tutorials as necessary. 		
Text books		
<ol style="list-style-type: none"> 1. Pryor JA, Webber BA. Physiotherapy for Respiratory and Cardiac Problems. Adults and Pediatrics. 3rd ed., London: Churchill Livingstone, 2002. 2. Practical medicine by – P J Mehta, 16th Edition. 3. Textbook of Surgery by Bailey and Love, 25th Edition, Butterworth and Heinmann. 4. Irwin S, Techlin JS. Cardiopulmonary Physical Therapy: a guide to practice. St. Louis, Mo.: Mosby Co., 2004. 		
Reference Books		
<ol style="list-style-type: none"> 1. Manual of Clinical Surgery, S. Das, 6th Edition, S.B. Publications. 2. Principles and practice of medicine by – Davidson, 20th Edition, Churchill Livingston. 3. Medicine for students. 14th edition. Golwalla AF. National Book Depot-Mumbai. 		



SYLLABUS