

Subject Title:	PHYSIOTHERAPY IN CARDIO RESPIRATORY CONDITIONS
Subject Code:	1PT1010403
Year:	Final Year
Pre-requisite Subject	- NONE -

Objectives of Course:

At the end of the course the candidate will be able to:

1. Identify, discuss and analyze cardio vascular and pulmonary dysfunction based on pathophysiological principles and arrive at the appropriate physical and functional diagnosis.
2. Acquire knowledge of rationale of basic investigative approaches in the medical system and surgical intervention regimes related to cardio vascular and pulmonary impairment.
3. Execute the effective physiotherapeutic measures (with appropriate clinical reasoning) with special emphasis to breathing retraining, nebulization, humidification, bronchial hygiene, general mobilization and exercise conditioning in general medical and surgical conditions.
4. Acquire knowledge of the overview of patients care at the intensive care area, artificial ventilation, suctioning, positioning for bronchial hygiene and continuous monitoring of the patient at the intensive care area.
5. Acquire the skill of evaluation and interpretation of functional capacity using simple exercise tolerance tests, symptom limited tests.
6. Select strategies for cure, care and prevention to adopt restorative and rehabilitative measures for maximum possible functional independence of a patient at home, work place and in community.
7. Acquire the skill of basic cardiopulmonary resuscitation.
8. Acquire the knowledge of evaluation and physiotherapy treatment for obstetrics and gynecological conditions.
9. Acquire the knowledge of various conditions where physiotherapy plays a vital role in the rehabilitation (psychiatry, dermatology and ENT conditions).
10. Assess the various degrees of burns, plan and implement physiotherapy techniques for the rehabilitation of a burn and wound patient.

Teaching Scheme (Hours)			Evaluation Scheme (Marks)					
Lecture	Practical	Total	Theory(T)		Practical(P)		Total Marks	
			University Assessment	Continuous Assessment	University Assessment	Continuous Assessment		
60	60	120	80	20	80	20	100	100

Subject Contents			
Sr. No.	Topic	Total Hours	Weight (%)
1	Anatomy and physiology of respiratory system Anatomy of thorax, biomechanics of thoracic cage, muscles of respiration, ventilation perfusion matching /mismatching, compliance		
2	Investigations and tests Sub maximal /maximal exercise tolerance testing, Cardiac & Pulmonary radiographs, PFT, ABG, ECG, hematological and biochemical Tests		

3	Physiotherapy techniques to increase lung volume Positioning, breathing exercises, Neurophysiological facilitation of respiration, mechanical aids - Incentive spirometry, CPAP, IPPB		
4	Physiotherapy 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		
5	Physiotherapy techniques to clear secretions Hydration, Humidification & 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, suctioning		
6	Physiotherapy in common complications following surgeries Drug therapy Drugs to prevent and treat inflammation, drugs to treat bronchospasm, drugs to treat breathlessness, drugs to help sputum clearance, drugs to inhibit coughing, drugs to improve ventilation, drugs to reduce pulmonary hypertension, drug delivery doses, inhalers and nebulizers		
7	Introduction to ICU & mechanical ventilator ICU monitoring – apparatus, airways and tubes used in the ICU - Physiotherapy in the ICU – common conditions in the ICU. Mechanical ventilator: types, modes of ventilator, advantages and disadvantages Oxygen therapy, CPR, aseptic precautions		
8.	Physiotherapy assessment & management techniques in Obstructive lung conditions Chronic bronchitis, emphysema, asthma, bronchiectasis, cystic fibrosis		
9.	Physiotherapy assessment & management techniques in Restrictive lung conditions Rib fracture, Pleural effusion, pleurisy and empyema, pulmonary embolism, pulmonary tuberculosis, atelectasis, pneumothorax, bronchopulmonary fistula, pneumonia, ARDS		
10.	Pulmonary Rehabilitation Definition, aims and objectives, team members, benefits, principles of exercise prescription and techniques of rehabilitation		
11	Anatomy and physiology of cardiovascular system Anatomy, blood supply and conduction system of heart		
12.	Physiotherapy assessment & management for cardiovascular disorders Cardiovascular disease, congestive heart failure, myocardial infarction, valvular diseases of heart, cyanotic and acyanotic congenital heart diseases, endocarditis		
13.	Cardiac Rehabilitation Definition, aims and objectives, team members, benefits, principles of Exercise prescription and techniques of rehabilitation		
14.	Physical fitness Energy system, Endurance, Aerobic Exercise, pacing of activity		