

<b>COURSE</b>	<b>FACULTY OF PHYSIOTHERAPY</b>
<b>PROGRAM</b>	<b>BACHELOR OF PHYSIOTHERAPY</b>
<b>YEAR</b>	<b>4</b>
<b>COURSE TITLE</b>	<b>PHYSIOTHERAPY IN CARDIO PULMONARY AND MEDICAL SURGICAL CONDITIONS</b>
<b>COURSE CODE</b>	<b>17PT0403</b>
<b>COURSE CREDITS</b>	<b>5</b>

**Pre-requisite of course:** Students should have the basic idea about anatomy, physiology, pathology, kinesiology, electrotherapy and general assessment procedure of various cardiovascular, respiratory and medical -surgical conditions.

#### Teaching and Examination Scheme

<b>Theory Hours</b>	<b>Tutorial Hours</b>	<b>Practical Hours</b>	<b>ESE</b>	<b>IA</b>	<b>CSE</b>	<b>Viva</b>	<b>Term Work</b>
80	0	40	50	30	20	50	50

<b>Contents : Unit</b>	<b>Topics</b>	<b>Contact Hours</b>
1	<b>Anatomy and physiology of respiratory &amp; cardiac system</b> Anatomy of thorax, biomechanics of thoracic cage, muscles of respiration, ventilation perfusion matching /mismatching, compliance	1
2	<b>Investigations and tests</b> Sub maximal /maximal exercise tolerance testing, Cardiac & Pulmonary radiographs, PFT, ABG, ECG, haematological and biochemical Tests.	2
3	<b>Physiotherapy techniques to increase lung volume</b> Positioning, breathing exercises, Neurophysiological facilitation of respiration, mechanical aids - Incentive spirometry, CPAP, IPPB.	5
4	<b>Physiotherapy techniques to decrease the work of breathing</b> Measures to optimize the balance between energy supply and demand, positioning, Breathing re-education – Breathing control techniques, mechanical aids: IPPB, CPAP, BIPAP	4
5	<b>Physiotherapy techniques to clear secretions</b> 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	5
6	<b>Physiotherapy in common complications following surgery and Drug therapy</b> 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,	2

	drugs to reduce pulmonary hypertension, drug delivery doses, inhalers and nebulizers	
7	<b>Introduction to ICU &amp; mechanical ventilator</b> 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	6
8	<b>Physiotherapy assessment &amp; management techniques in Obstructive lung conditions</b> Chronic bronchitis, emphysema, asthma, bronchiectasis, cystic fibrosis	5
9	<b>Physiotherapy assessment &amp; management techniques in Restrictive lung conditions</b> Rib fracture, Pleural effusion, pleurisy and empyema, pulmonary embolism, pulmonary tuberculosis, atelectasis, pneumothorax, Broncho pulmonary fistula, pneumonia, ARDS	5
10	<b>Physiotherapy following Lung surgeries</b> Pre and post-operative physiotherapy assessment and management in Lobectomy, Pneumonectomy, decortication, thoracoplasty	3
11	<b>Pulmonary Rehabilitation</b> Definition, aims and objectives, team members, benefits, , principles of exercise prescription and techniques of rehabilitation	3
12	<b>Anatomy and physiology of cardiovascular system</b> Anatomy, blood supply and conduction system of heart	1
13	<b>Physiotherapy assessment &amp; management for cardiovascular disorders</b> Cardiovascular disease, congestive heart failure, myocardial infarction, valvular diseases of heart, Cyanotic and acyanotic congenital heart diseases, endocarditis	5
14	<b>Cardiac Rehabilitation</b> Definition, aims and objectives, team members, benefits, principles of Exercise prescription and techniques of rehabilitation	3
15	<b>Physiotherapy assessment &amp; management of vascular diseases</b> Venous: Thrombosis, phlebitis and phlebo-thrombosis, varicose veins, DVT, venous Ulcers , Arterial: Berger’s disease, acute and chronic arterial occlusion, lymphedema	4
16	<b>Physiotherapy assessment and management for abdominal Surgeries</b> Operations on upper gastro- intestinal tract - oesophagus- stomach-duodenum,, operation on large and small intestine – appendectomy, cholecystectomy, partial colectomy, ileostomy, nephrectomy Hernia: herniotomy, herniorraphy,hernioplasty	3
17	<b>Physiotherapy Assessment &amp; management in Onco surgeries</b> Mastectomy: simple, radical Hysterectomy, prostatectomy, neck dissection	2
18	<b>Physiotherapy in Obstetrics and Gynaecological surgeries</b> Electrotherapy and exercise therapy measures following pelvic repair, caesarean section	3
19	<b>Wounds, local infections, ulcers, pressure sores</b> UVR and other electrotherapeutic modalities for healing of wound, prevention of hyper granulated scars, relief of pain and mobilization	2
20	<b>Physiotherapy in burns, skin grafts and re-constructive surgery</b>	4

	Physiotherapy in burns, skin grafts and re-constructive surgery	
21	<b>Physiotherapy in ENT conditions</b> Nonsuppurative otitis media, chronic suppurative otitis media, otosclerosis, labyrinthitis and mastoidectomy resulting into facial palsy, Laryngectomy, pharyngeal – laryngectomy, tracheostomy and its care, sinusitis	3
22	<b>Physiotherapy in skin conditions</b> Leprosy, acne, alopecia, psoriasis, syphilis	2
23	<b>Physiotherapy in psychiatric conditions</b> Schizophrenia, depression, psychosis, anxiety	1
24	<b>Physical fitness</b> Energy system, Endurance, Aerobic Exercise, pacing of activity	2
25	<b>Emergency Care</b> Basic Life Support, First aid & emergency care, Biomedical waste management	4
<b>Total Hours</b>		<b>80</b>

### Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	<b>Practical/OPD/Case Presentation</b> Practical/OPD/Case Presentation	40
<b>Total Hours</b>		<b>40</b>

### References:

- 1 Cash's textbook of chest, heart, vascular disorder for physiotherapist, Cash's textbook of chest, heart, vascular disorder for physiotherapist, Cash, Mosby, 1987
- 2 Cash's textbook of General Medicine and surgical conditions for physiotherapists, Cash's textbook of General Medicine and surgical conditions for physiotherapists, Cash, Mosby, 1990
- 3 Physiotherapy for respiratory and cardiac problems, Physiotherapy for respiratory and cardiac problems, Jennifer A. Pryor, Elsevier, 2013
- 4 Therapeutic exercise, Therapeutic exercise, Carolyn Kisner, F A Davis Co., 2017
- 5 Tidy's textbook of Physiotherapy, Tidy's textbook of Physiotherapy, Noël M. Tidy, Stuart B. Porter, Churchill Livingstone, 2013
- 6 Physiotherapy in obstetrics and gynecology, Physiotherapy in obstetrics and gynecology, Margie Polden, Butterworth-Heinemann Ltd, 1990

**Suggested Theory Distribution:**

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
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<b>Remember / Knowledge</b>	<b>Understand</b>	<b>Apply</b>	<b>Analyse</b>	<b>Evaluate</b>	<b>Higher order Thinking</b>
20.00	20.00	30.00	10.00	10.00	10.00