CARDIOVASCULAR & RESPIRATORY PHYSIOTHERAPY

IV BPT

(Total Hrs- 240 Didactic- 80 Clinical - 160 Hrs)

COURSE OUTCOMES (COMPETENCIES)	Clinician	Leader& Member of Health Care Team and System	Communicator	Lifelong Learner	Professional	Critical Thinker	Researcher
Section 1. A. PT Management of Cardiovascular Diseases (25 Hours)							
CO1: Define systemic hypertension and describe pathophysiology, clinical features, assessment and management of hypertension	3	1	2	2	3	2	3
CO2. Define Ischemic Heart Disease and describe pathophysiology, clinical features, assessment and management of Ischemic Heart Disease	3	1	2	2	3	2	3
CO3: Define Myocardial Infarction and describe pathophysiology, clinical features, assessment and management of Myocardial Infarction	3	1	2	2	3	2	3
CO4: Define Cardiac Failure and describe pathophysiology, clinical features, types, assessment and management of Cardiac Failure	3	1	2	2	3	2	3

CO5: Define Congenital Heart Disease and describe pathophysiology, clinical features,types, assessment and management of Congenital Heart Disease	3	1	2	2	3	2	3
CO6: Define Valvular Heart Disease and describe pathophysiology, clinical features,types, assessment and management of Valvular Heart Disease	3	1	2	2	3	2	3
CO7: Define Cardiac Arrest and describe pathophysiology, clinical features, assessment and management of Cardiac Arrest	3	1	2	2	3	2	3
CO8: Define Arrhythmias and describe pathophysiology, clinical features, types, assessment and management of Arrhythmias	3	1	2	2	3	2	3
CO9: Define endocarditis, pericarditis and describe pathophysiology, clinical features, assessment and management of Endocarditis & pericarditis	3	1	2	2	3	2	3
CO10: Define Shock and describe types of shock their pathophysiology, clinical features, assessment	3	1	2	2	3	2	3

and management							
CO11: Define peripheral vascular diseases and describe pathophysiology, clinical features, types, assessment and management of peripheral vascular diseases	3	1	2	2	3	2	3
CO12: Enlist major investigations carried out for cardiovascular diseases and interpret them	3	1	2	2	3	2	3
CO13: Describe Physiotherapy assessment like exercise tolerance test for all above mentioned cardiac diseases	3	1	2	2	3	2	3
CO14: Define exercise tolerance tests and describe types of exercise testing its procedure, interpretations of results, indications and contraindications	3	1	2	2	3	2	3
CO15: Define Cardiac rehabilitation program and describe its phases in detail	3	1	2	2	3	2	3
CO16: Describe Cardiac rehabilitation program for all cardiovascular conditions with related changes	3	1	2	2	3	2	3

in its application as per requirement							
B. PT Management of post Cardiac Surgeries-	3	1	2	2	3	2	3
CO1: Describe surgical incisions used for various cardiac surgeries	3	1	2	2	3	2	3
CO2: Define Angioplasty and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO3: Define coronary artery bypass grafting (CABG) and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO4: Define valve replacement and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO5: Describe types of valves with its advantages and disadvantages	3	1	2	2	3	2	3
CO6: Define heart transplantation and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO7: Describe surgical procedures for various	3	1	2	2	3	2	3

congenital cardiac anomalies							
CO8: Define Anesthesia and describe different types of anesthesia's with its advantages and disadvantages	3	1	2	2	3	2	3
CO9: Describe effects of anesthesia on respiratory system and its PT Management	3	1	2	2	3	2	3
CO10: Define Angioplasty and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO11: Describe Preoperative physiotherapy interventions for cardiac surgeries	3	1	2	2	3	2	3
CO12: Describe postoperative physiotherapy assessment , interventions and management	3	1	2	2	3	2	3
CO13: Describe postoperative physiotherapy interventions and management	3	1	2	2	3	2	3
CO14: Describe Cardiac rehabilitation program in phases for cardiac surgeries in detail	3	1	2	2	3	2	3
CO15 : Describe Cardiac rehabilitation program for all cardiovascular surgeries with related changes in its application as per requirement	3	1	2	2	3	2	3

SECTION 2 PT Management of Respiratory Diseases : A. Obstructive & Restrictive							
CO1: Define bronchial asthma and describe pathophysiology, clinical features, assessment and management of bronchial asthma	3	1	2	2	3	2	3
CO2: Define COPD and describe pathophysiology, clinical features, types, assessment and management of COPD	3	1	2	2	3	2	3
CO3: Define Bronchieactasis and describe pathophysiology, clinical features, assessment and management of bronchieactasis	3	1	2	2	3	2	3
CO4: Define Pneumonia and describe pathophysiology, clinical features, assessment and management of Pneumonia	3	1	2	2	3	2	3
CO5: Define Pulmonary Tuberculosis and describe pathophysiology, clinical features, assessment and management of Pulmonary Tuberculosis	3	1	2	2	3	2	3

CO6: Define Pleural Effusion and describe pathophysiology, clinical features, assessment and management of Pleural Effusion	3	1	2	2	3	2	3
CO7: Define Empyema and describe pathophysiology, clinical features, assessment and management of Empyema	3	1	2	2	3	2	3
CO8: Define Lung Abscess and describe pathophysiology, clinical features, assessment and management of Lung Abscess	3	1	2	2	3	2	3
CO9: Define Pneumothorax and describe pathophysiology, clinical features, assessment and management of Pneumothorax	3	1	2	2	3	2	3
CO10: Define hydropneumothorax and describe pathophysiology, clinical features, assessment and management of hydropneumothorax	3	1	2	2	3	2	3
CO11: Define hemopneumothorax and describe pathophysiology, clinical features, assessment and management of hemopneumothorax	3	1	2	2	3	2	3
CO12: Define pulmonary oedema and describe	3	1	2	2	3	2	3

pathophysiology, clinical features, assessment and management of pulmonary oedema							
CO13: Define Interstitial Lung Disease and describe pathophysiology, clinical features, assessment and management of Interstitial Lung Disease	3	1	2	2	3	2	3
CO14: Define Occupatonal Lung Diseases and describe pathophysiology, types, clinical features, assessment and management of Occupational Lung Diseases	3	1	2	2	3	2	3
CO15: Define ARDS and describe pathophysiology, clinical features, assessment and management of ARDS	3	1	2	2	3	2	3
CO16: : Define cystic fibrosis and describe pathophysiology, clinical features, assessment and management of cystic fibrosis	3	1	2	2	3	2	3
CO17: Define lung cancer and describe its types, assessment and management in brief	3	1	2	2	3	2	3

CO18: Define core pulmonale and describe its pathophysiology, clinical features, assessment and management **B. Pulmonary Surgeries:**	3	1	2	2	3	2	3
CO1: Describe surgical incisions used for various pulmonary surgeries	3	1	2	2	3	2	3
CO2: Define pneumonectomy and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO3: Define lobectomy and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO4: Define segmentectomy and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO5: Describe Bronchoscopy with its advantages and disadvantages	3	1	2	2	3	2	3
CO6: Define lung transplantation and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
2CO7: Describe VATS with its advantages and	3	1	2	2	3	2	3

disadvantages							
CO8: Define thoracentecis and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO9: Define ICD and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
SECTION 3: A. PT Management of General Medical Conditions							
CO1: Define diabetes and describe pathophysiology, clinical features, assessment and management	3	1	2	2	3	2	3
CO2: Define obesity and describe its types, assessment and management	3	1	2	2	3	2	3
CO3: Define HIV and describe universal precautions during assessment and management of related disorders	3	1	2	2	3	2	3
B. PT Management of Surgical Conditions	3	1	2	2	3	2	3

CO1: Describe surgical incisions used for various abdominal surgeries	3	1	2	2	3	2	3
CO2: Define Laparatomy and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO3: Define Apendectomy and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO4: Define Radical Mastectomy and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO5: Define Modified Mastectomy and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO6: Define Hernioplasty and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO7: Describe Endoscopy with its advantages and disadvantages	3	1	2	2	3	2	3
CO8: Define Cholecystectomy and describe its	3	1	2	2	3	2	3

procedure, indications and contraindications							
SECTION 4: Physiotherapy Techniques:							
CO1: Define Chest Physiotherapy and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO2: Define Postural Drainage and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO4: Define Autogenic Drainage and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO5: Define ACBT and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO6: Describe ACBT with its advantages and disadvantages	3	1	2	2	3	2	3
CO7: Define Breathing Exercise and describe	3	1	2	2	3	2	3

types, procedure, indications and contraindications							
CO8: Describe Chest Mobility Exercises with its advantages and disadvantages	3	1	2	2	3	2	3
CO9: Define Coughing and Huffing technique and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO10: Describe Forced expiratory techniques with its advantages and disadvantages	3	1	2	2	3	2	3
CO11: Define Relaxation and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO12: Describe Positioning techniques with its advantages and disadvantages	3	1	2	2	3	2	3
CO13: Define Positioning techniques and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO14: Describe Bed mobility exercises with its	3	1	2	2	3	2	3

advantages and disadvantages							
CO15: Define Respiratory PNF techniques and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO16: Describe Bed transfers with its advantages and disadvantages	3	1	2	2	3	2	3
CO17: Define Bed mobility exercises and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO18: Describe PEP devices with its advantages and disadvantages	3	1	2	2	3	2	3
CO19: Define PEP devices and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO20: Describe PEFM with its advantages and disadvantages	3	1	2	2	3	2	3
CO21: Define Inspiratory Spirometry and describe	3	1	2	2	3	2	3

its procedure, indications and contraindications							
CO22: Describe Inspiratory Spirometry with its advantages and disadvantages	3	1	2	2	3	2	3
CO23: Define Suctioning techniques and describe its types, procedure, indications and contraindications	3	1	2	2	3	2	3
CO24: Describe Suctioning techniques with its advantages and disadvantages	3	1	2	2	3	2	3
CO25: Define IPPB technique and describe its procedure, indications and contraindications	3	1	2	2	3	2	3
CO26: Describe Percussion & Vibration with its advantages and disadvantages	3	1	2	2	3	2	3
CO27: Define Percussion & Vibration and describe its procedure, indications and contraindications	3	1	2	2	3	2	3

SECTION5: Oxygen Therapy & Oxygen delivery Devices:							
CO1: Define Oxygen therapy and describe its effects, indications and contraindications	3	1	2	2	3	2	3
CO2: Define Oxygen delivery devices and describe different types of delivery devices with its applications	3	1	2	2	3	2	3
CO3: Describe Oxygen therapy with its advantages and disadvantages	3	1	2	2	3	2	3
CO4: Describe Oxygen delivery devices and sources with its advantages and disadvantages	3	1	2	2	3	2	3
CO5: Identify different Oxygen delivery devices and sources. He / She should be able to apply his /her knowledge to choose appropriate device for the treatment purpose	3	1	2	2	3	2	3

CO6: Define hyperbaric oxygen therapy and describe its effects, indications and contraindications	3	1	2	2	3	2	3
CO7: Describe and identify Concentrators with its advantages and disadvantages	3	1	2	2	3	2	3
COARSE OUTCOME : PRACTICAL SECTION 1 **A. PT Management of Cardiovascular Diseases**							
CO1: Demonstrate to carry out medical and physiotherapy assessment such as Heart & Lung sounds, BP, exercise tolerance test, etc for all above mentioned cardiac diseases independently	3	1	2	2	3	2	3
CO2: Demonstrate ability to Interpret major investigations such as X-rays, ECG, ABG, etc carried out for cardiovascular diseases	3	1	2	2	3	2	3
CO3: Demonstrate ability to conduct exercise tolerance tests for different types of exercise testing	3	1	2	2	3	2	3

e.g. 6MWT, shuttle walk test, etc							
CO4: Demonstrate ability to interpret results of above tests and its application to monitor patients progress	3	1	2	2	3	2	3
CO5: Demonstrate ability to administer and establish/ setup Cardiac rehabilitation program	3	1	2	2	3	2	3
CO6: Demonstrate ability to apply Cardiac rehabilitation program for all cardiovascular conditions with related changes in its application as per requirement	3	1	2	2	3	2	3
B. **Cardiac Surgeries**							
CO1: Demonstrate ability to carry out medical, surgical and physiotherapy assessment such as Heart & Lung sounds, BP, pain, wound drainage, exercise tolerance test, etc for all above mentioned cardiac surgery patients independently	3	1	2	2	3	2	3
CO2: Demonstrate ability to Interpret major	3	1	2	2	3	2	3

investigations such as X-rays, ECG, ABG, etc carried out for cardiovascular surgery patients							
CO3: Demonstrate ability to conduct exercise tolerance tests for different types of exercise testing e.g. 6MWT, shuttle walk test, etc CO4: Demonstrate ability to interpret results of above tests and its application to monitor surgical patients progress	3	1	2	2	3	2	3
CO5: Demonstrate ability to apply Cardiac rehabilitation program for all post cardiovascular surgery patients with related changes in its application as per requirement	3	1	2	2	3	2	3
SECTION 2 PT Management of Respiratory Diseases **A. Obstructive &Restrictive**							
CO1: Demonstrate ability to carry out medical and physiotherapy assessment of respiratory system such as Lung sounds, BP, RR, breathing pattern exercise tolerance test, etc for all above mentioned	3	1	2	2	3	2	3

pulmonary diseases independently							
CO2: Demonstrate ability to Interpret major investigations such as X-rays, ECG, ABG, PFT, etc carried out for pulmonary diseases	3	1	2	2	3	2	3
CO3: Demonstrate ability to conduct exercise tolerance tests for different types of exercise testing e.g. 6MWT, shuttle walk test, etc	3	1	2	2	3	2	3
CO4: Demonstrate ability to interpret results of above tests and its application to monitor patients progress of pulmonary disease patients	3	1	2	2	3	2	3
CO5: Demonstrate ability to administer and establish/ setup pulmonary rehabilitation program	3	1	2	2	3	2	3
CO6: Demonstrate ability to apply pulmonary rehabilitation program for all pulmonary conditions with related changes in its application as per requirement	3	1	2	2	3	2	3

B. Pulmonary Surgeries :							
CO1: Demonstrate ability to carry out medical, surgical and physiotherapy assessment such as Heart & Lung sounds, BP, pain, wound drainage, exercise tolerance test, etc for all above mentioned pulmonary surgery patients independently CO2: Demonstrate ability to Interpret major investigations such as X-rays, ECG, ABG, etc carried out for pulmonary surgery patients	3	1	2	2	3	2	3
CO3: Demonstrate ability to conduct exercise tolerance tests for different types of exercise testing e.g. 6MWT, shuttle walk test, etc in pulmonary surgery patients	3	1	2	2	3	2	3
CO4: Demonstrate ability to interpret results of above tests and its application to monitor pulmonary surgical patients progress	3	1	2	2	3	2	3
CO5: Demonstrate ability to apply Cardiac rehabilitation program for all post pulmonary	3	1	2	2	3	2	3

surgery patients with related changes in its application as per requirement							
SECTION 3 **PT Management of General Medical and Surgical Conditions :** CO1: Demonstrate ability to carry out medical, surgical and physiotherapy assessment of such as Lung sounds, RS, HS, BP, RR, breathing pattern exercise tolerance test, etc for all above mentioned general medical and surgical conditions independently	3	1	2	2	3	2	3
CO2: Demonstrate ability to Interpret major investigations such as X-rays, ECG, ABG, PFT, etc carried out for general medical and surgical conditions	3	1	2	2	3	2	3
CO3: Demonstrate ability to conduct exercise tolerance tests for different types of exercise testing e.g. 6MWT, shuttle walk test, etc for general medical and surgical patients	3	1	2	2	3	2	3

CO4: Demonstrate ability to interpret results of above tests and its application to monitor patients progress of general medical and surgical conditions patients	3	1	2	2	3	2	3
CO5: Demonstrate ability to administer and establish/ setup General rehabilitation program	3	1	2	2	3	2	3
CO6: Demonstrate ability to apply pulmonary rehabilitation program for all medical& surgical conditions with related changes in its application as per requirement specific to condition	3	1	2	2	3	2	3
SECTION 4 **Physiotherapy Techniques:**							
CO1: Demonstrate ability to apply Chest Physiotherapy and its procedure to patients	3	1	2	2	3	2	3
CO2: Demonstrate ability to apply Postural Drainage and its procedure to patients	3	1	2	2	3	2	3

CO3: Demonstrate ability to apply Modified Postural drainage for compromised / ICU patients	3	1	2	2	3	2	3
CO4: Demonstrate ability to apply Autogenic Drainage and its procedure to patients CO5: Demonstrate ability to apply ACBT and its procedures	3	1	2	2	3	2	3
CO6: Demonstrate ability to apply Breathing Exercises of different types and their procedure	3	1	2	2	3	2	3
CO7: Demonstrate ability to apply Chest Mobility Exercises to patients	3	1	2	2	3	2	3
CO8: Demonstrate ability to perform Coughing and Huffing technique	3	1	2	2	3	2	3
CO9: Demonstrate ability to perform Forced expiratory technique	3	1	2	2	3	2	3
CO10: Demonstrate ability to perform and apply Relaxation technique and its procedure	3	1	2	2	3	2	3

CO11: Demonstrate ability to perform and apply Positioning techniques	3	1	2	2	3	2	3
CO12: Demonstrate ability to perform and apply Bed mobility exercises	3	1	2	2	3	2	3
CO13: Demonstrate ability to perform and apply Respiratory PNF techniques and its procedure	3	1	2	2	3	2	3
CO14: Demonstrate ability to perform and apply Bed transfers	3	1	2	2	3	2	3
CO15: Demonstrate ability to show and handle PEP devices	3	1	2	2	3	2	3
CO16: Demonstrate ability to apply PEP devices and its procedure	3	1	2	2	3	2	3
CO17: Demonstrate ability to perform and apply PEFM	3	1	2	2	3	2	3

CO18: Demonstrate ability to perform and apply Inspiratory Spirometry	3	1	2	2	3	2	3
CO19: Demonstrate ability to perform and apply Suctioning techniques CO20: Demonstrate ability to perform and apply IPPB technique and its procedure	3	1	2	2	3	2	3
CO21: Demonstrate ability to perform and apply Percussion & Vibration	3	1	2	2	3	2	3
SECTION5 **Oxygen Therapy & Oxygen delivery Devices:**	3	1	2	2	3	2	3
CO1: Demonstrate ability to identify need and apply Oxygen therapy	3	1	2	2	3	2	3
CO2: Demonstrate ability to handle and apply Oxygen delivery devices	3	1	2	2	3	2	3
CO3: Demonstrate ability to Identify different Oxygen delivery devices and sources. He / She	3	1	2	2	3	2	3

should be able to apply his /her knowledge to choose appropriate device for the treatment purpose							
CO4: Demonstrate ability to apply hyperbaric oxygen therapy CO5: Demonstrate ability to identify Concentrators and its use	3	1	2	2	3	2	3