CO4.1PHYSICAL DIAGNOSIS AND PRESCRIPTION-

S.NO	TOPIC	OUTCOME
1	Developmental Disorders;	➢ After studying various developmental disorders the student shall be able to understand Neonatal behaviour abnormalities.like ➢ b) Sensory motor integration and infant behaviour ➢ c) Perceptual motor dysfunction. ➢ d) Movement disorders in brain damaged children,their clinical signs and symptoms.can be able to diagnose the condition and can be able to do physical screening of the child and can frame out the physiotherapy management for the said conditions.
2	Developmental deformities and congenital abnormalities	➢ After studying the topic the student shall be able to understand the normal attitudes and alignment.can be able to differentiate between the normal and abnormal attitude of the embryo ➢ Can be able to diagnose various conditions like Congenital dislocation of hip and congenital foot deformities,Deformities in poliomyelitis, Menigo Myelocele and Hydrocephalus. Arthrogryposis and shall be able to assess the condition and know the clinical signs and symptoms and can frame out the techniques for physiotherapy management and rehabilitation.
8	Posture and Alignment	➢ After studing this topic the student shall be able to understand the postural deformities and can be able to differentiate with normal posture.can know the various postural deformities ,their clinical signs and symptoms,their assessment and physiotherapy management along with the

		corrective devices prescription.
9	Pulmonary function test, Spirormetry and Gas analysis.	➢ After studying theis topic the student shall be able to understand the lung volumes and capacities and their normal value and can able to understand the deviations in the normal values,can able to demonstrate the technique for spirometery and can be able to understand the technique ➢ Also the student can be able to understand the normal blood gases and the normal body ph,and can identify the so2,sco2 and hco3 levels in blood .can understand the acidosis alkalosis of the body and the compensations done by the body to maintain the arterial blood gases.
10	Cardiac Efficiency Tests-	➢ After studying the topic the student shall be able to understand and demonstrate Principles of E. CO. Ultrasonography, Clinical Efficiency Tests and can be able to know the clinical monitoring of the patient.can be able to understand and know the various techniques of stress ECG ,ergometery and tredmill testing.
11	Work Physiology and Exercise prescription	➢ After studying this topic the student shall be able to demonstrate Ergonomical considerations for Exercise,can understand the work physiological consederations, and can able to do exercise analysis and planning and can able to do biomechanical considerations for exercises and work adjustments. ➢ Also the students will be able to:- ➢ o Apply ergonomical principle to the creation of safer healthier or more effective and efficient activities in the workplace. ➢ o Conduct ergonomical risk assessment.

		➢ o Develop appropriate control measures for ergonomic risk factor's. ➢ o Describe various work related causes of musculoskeletal disorders. ➢ o Design a workplace according to good ergonomic principles. ➢ o Assess ergonomic aspects of the working environment and work organizations
12	Electro-diagnosis:	➢ After studying this topic the student shall be able to understand all the electro diagnostic procedures and can able to demonstrate the technique.also analyse the ectrodiagnosis in various pathological conditions. ➢ Student can also be able to understand the basic Principles of Investigative Methods in Medern Medicine like EEC, MRI, CT Scan etc. ➢ Biophysical measurements-after the completion of the topic the student shall be able to do the measurements of all parts of the body and can compare the normal and abnormal part in regards with length and girth measurements.
13	Prescription writing-	➢ After completion of the topic the student shall be able to understand what is prescription writing and can be able to detail the points under prescription writing and can be able to write the principles of prescription writing along with the do,s and don,ts.

CO4.2PHYSIOTHERAY IN CARDIOTHORACIC CONDITIONS

S.NO	TOPIC	OUTCOME
4.2.1	**REVIEW OF BASIC CARDIO-RESPIRATORY ANATOMY AND PHYSIOLOGY**	➢ The student shall be able to know the anatomy physiology of heart& lungs. ➢ They will also understand the normal and pathological functioning of cardio respiratory system as well as applied anatomy & physiology.
4.2.2	**SYMPTOMATOLOGY OF CARDIO RESPIRATORY DISORDERS**	➢ Students shall be able to identify the aetiology and pathology of various cardio respiratory diseases. ➢ The student will have a thorough knowledge of all the clinical manifestation, there assessment, examination, procedures, investigation and differential diagnosis.
4.2.3	**CLINICAL EXAMINATION OF RESPIRATORY SYSTEM DISORDERS**	➢ The student shall be aware of cardiorespiratory systems including all the assessment procedures including inspection, palpation, percussion & auscultation . ➢ The student will be able to correlate and implement knowledge in clinical decision making.

4.2.4	**PRINCIPLES AND TECHNIQUES OF PHYSIOTHERAPY IN DISEASE OF RESPIRATORY SYSTEMS**	➢ After successful completion the student will have complete knowledge of various physiotherapy techniques. ➢ The student will be able to execute physiotherapeutic procedures like various breathing exercises ,relaxation techniques, huffing & coughing techniques, postural drainage positions and use of various mechanical aids like spirometry , AMBU bag etc.
4.2.5	**PHYSIOTHERAPY ASSESSMENT AND MANAGEMENT IN OBSTRUCTIVE & RESTRICTIVE DISEASE**	➢ The student shall have through knowledge of subjective and objective assessment of respiratory pathologies. ➢ Differentiate between obstructive and restrictive disease pattern ➢ Know about various obstructive and restrictive diseases ➢ Management of obstructive and restrictive diseases. ➢ Use of various mechanical aids physiotherapeutic techniques
4.2.6	**PULMONARY REHABILITATION**	➢ The student shall be able to: ➢ Aims and objectives of rehabilitation ➢ Know about various

		protocols and diagnosing techniques like six minute walk test etc. ➢ Implementation of various rehabilitation techniques including bio feedback, huffing, & coughing. ➢ Indications of pulmonary rehabilitation & outcomes of rehabilitation ➢ Rehabilitation outcomes
4.2.7	**CLINICAL EXAMINATION OF CARDIOVASCULAR DISORDERS AND PRINCIPLES AND TECHNIQUES OF PHYSIOTHERAPY .**	➢ On successful completion of the course students will be able to: Apply biomedical and behavioural scientific knowledge to the physiotherapy evaluation and management of complex cardiovascular dysfunction. Describe the aetiology, epidemiology, pathogenesis and clinical presentation of complex cardiovascular disorders. Conduct an appropriate examination of patients with complex cardiopulmonary dysfunction, including history and physical examinationAppropriately select, modify as necessary, and correctly demonstrate measurement and testing procedures commonly used in assessing patients with complex cardiopulmonary dysfunction Describe the conservative and surgical management of complex

		pulmonary, cardiac and vascular disorders Appropriately select, modify as necessary, and correctly demonstrate advanced physiotherapeutic treatment procedures commonly used in the management of complex cardiopulmonary dysfunction. ➢ Apply advanced clinical reasoning skills and a sophisticated evidence based approach to decision making in cardiopulmonary physiotherapy practice. ➢ Apply advanced treatment evaluation and outcome processes appropriate for cardiopulmonary physiotherapy practice. ➢ Discuss relevant lifespan, gender, cultural, legal and ethical considerations in performing physiotherapy evaluation and management procedures for complex cardiopulmonary disorders. ➢ Demonstrate a well developed understanding of the physiotherapist's role in promoting wellness as relevant to the pulmonary and cardiovascular systems. ➢ Effectively assess and treat complex paediatric cardiopulmonary disorders. ➢ Understand the functions of

		the multidisciplinary team in the management of cardiopulmonary patients, including intensive care and cardiopulmonary rehabilitation, and describe the physiotherapists role in the multidisciplinary team. ➢ Techniques, indications, contraindications, complications, progression, biological basis and empirical evidence for physiotherapeutic management of complex cardiopulmonary dysfunction including: - manual hyperinflation - non invasive ventilation - suctioning - exercise testing and prescription - interventions for paediatric respiratory conditions.
4.2.8	**CARDIO THORACIC SURGERY ,INCISION**	➢ after completion of the topic the student shall have the knowledge of the various

	ANDTYPES,INDICATIONS ANDCONTRAINDICATIONS	incisions used in various surgery can able to show the landmarks on the body.also shall have the potential to frame out the pre and post operative physiotherapy assessment and management
4.2.9	**PRINCIPLES OF CHEST PHYIOTHERAPY IN ITU/ICU/ICCU**	➢ After completion of the topic the student shall be able to Physiotherapeutic care of the patient in intensive care or high dependency including: - ventilated patients - respiratory failure - multisystem failure and acute head injury - spinal injury - neonatal intensive care - the multidisciplinary team and the role of the physiotherapist. ➢ indications and contraindications - exercise testing - exercise prescription and progression - monitoring and safety - patient education - outcome measures - the multidisciplinary team and the role of the physiotherapist.
4.2.10	**CARDIAC REHABILITATION**	➢ After completion of the topic the student shall be

		able to apply advanced treatment evaluation and outcome processes appropriate for cardiopulmonary physiotherapy practice Discuss relevant lifespan, gender, cultural, legal and ethical considerations in performing physiotherapy evaluation and management procedures for complex cardiopulmonary disorders. ➢ Demonstrate a well developed understanding of the physiotherapist's role in promoting wellness as relevant to the pulmonary and cardiovascular systems. Understand the functions of the multidisciplinary team in the management of cardiopulmonary patients, including intensive care and cardiopulmonary rehabilitation, and describe the physiotherapists role in the multidisciplinary team. Techniques, indications, contraindications, complications, progression, biological basis and empirical evidence for physiotherapeutic management of complex cardiopulmonary dysfunction including: - manual hyperinflation - non invasive

		ventilation - suctioning - exercise testing and prescription ➢ Also they can be able to demonstrate the various exercise procedures according to phases on the basis of FITT principle.
4.2.11	**YOGA AND BIOFEEDBACK**	➢ After completion of the topic the student shall be able to understand and demonstrate various yogasanas which can help in increasing the cardiovascular fitness and can improve the quality of life of the patient on the basis of biofeddback procedures apllied on the treatment procedures.

CO4.3 SPORTS PHYSIOTHERAPY

S.N0	TOPIC	OUTCOME
4.3.1	**SPORTS EVALUATION**	➢ THE TOPIC ENTITLES THE STUDENT TO LEARN THE VARIOUS MAJOR EVALUATIVE CRITERIAS IN SPORTS WITH BRIEF INTRODUCTION OF PREPARTICIPATION (PRESEASON) & ON- FIELD EVALUATION DURING FIELD EMERGENCIES. TIMELY EVALUATION IS THE KEY ELEMENT OF SUCCESFUL REHABILITATION
4.3.2	**EVALUATION OF PHYSICAL, CARDIORESPIRATORY, PSYCHO-SOCIAL AND EMOTIONAL ASPECTS OF SPORTS:**	➢ THIS TOPIC DETAILS THE ROLE OF ALL THE THREE MAJOR SYSTEMS IN THE OVERALL DEVELOPMENT OF A SPORTS PLAYER AND HIS PERFOMANCE. THE DEFICIENCY OBSERVED IN ANY OF THE COMPONENTS MAY LEAD TO POOR SPORTING PERFOMANCE OUTCOMES.
4.3.3	**SPORTS AND SPORTS TRAINING:**	➢ TRAINING IS THE DISTINCTIVE FEATURE IN SPORTS. THE TOPIC SHALL HELP DEVELOP KNOWLEDGE OF VARIOUS SPORTS AND SPORTS SPECIFIC SKILLS, PRINCPLES OF SPORTS TRAINING SUCH AS PERIODISATION, OVERLOAD, INDIVIDUALITY AND SPECIFICITY.
4.3.4	**DIETICS AND NUTRITION IN SPORTS:**	➢ THE TOPIC EMPHASIZES ON THE CHARACTERISTICS OF NUTRITION, ITS RELEVANCE AND ROLE IN MAXIMISING PERFORMANCE.

4.3.5	**SPORTS INJURIES**	➢ after studing this topic the students shall be able to- ▪ define the different types of sports injuries. ▪ Understand the epidemiology ,aetiology,risk/predisposing factors,mechanism of injury,related abnormal biomechanics,clinical features,detailed evaluation,diagnosis,prognosis,differential diagnosis,related investigations,physiotherapy treatment methods and management ,rehabilitation,precautions, preventions,complications of the sports injuries. ➢ Understand various updated treatment tools ,modalities, and techniques which help early rehabilitation and return to sports like k taping ,dry needling ,cupping,mobilization,manipulation,nitric oxide donor therapy, antiinflammmatory patches, ECSWT, PEMF, high intensity laser,cryo sprays, fluidtherapy, isokinetic equipments, EMG,biofeedback, theraband exercises, proprioceptive rehabilitation by dura disc, multiaxialrocker, minitrampoline, aquity drills. ➢ Besides this the student will be able to understand universally accepted various terminologies of sports injuries of head,face,neck,thorax,chest,upperback,lungs ,heart,abdominal visceras,lumber vertebrae,including disc and facet joints. ➢ Pelvis ,hip joint,thigh (all 4 compartments),knee joint capsules and complex including patellofemoral joint,leg ankle and foot. ➢ Can differentiate acute and traumatic

		injuries,overuse injuries due to repeatitive microtrauma.,sprains ,strains,bursitis,capsulitis,abrasions,teno synovitis,fasciitis,neural entrapment,fractures,trigger points,contusions,bruises,ecchymosis,bo ne strain etc. ➢ Ultimately the student will be able to work with the sports team,sportsman,athletes,dancers of all beginners ,intermediate and advance level,male and female ,children,young adults and special population.

CO4.4COMMUNITY MEDICINE

SN0	TOPIC	OUTCOME
4.4.1	COMMUNITY MEDICINE-	➢ After studing the topic the student shall be able to understand the various community awareness programmes and health disorders causing disability and the role of physiotherapy in community awareness and prevention of health disorders causing disability. ➢ Also the student shall be able to understand the need of Health care delivery programme in Urban and Rural areas Population studies and Health statistics. ➢ Disabilities surveys, Epidemiological aspects and demands or' Physiotherapy services, Concept of rural camps and integration of infrastructural service and voluntary agencies. Extension services and mobile units. ➢ Parental education programmes. ➢ Shall be able to demonstrate Home exercise programme packets in various physiotherapy conditions, Community awareness and participation in preventive aspects of health disorders, disability evaluation and screening for deformities and developmental disorders, pediatric disorders screening and advice, maternal care and home advice, Sports, Industrial and Occupational disorders, and preventive programme, Geriatric diseases.
4.4.2	PHYSIOTHERAPY	➢ This course enables the students to have knowledge about the ethical consideration

	ETHICS	in health care in particular to Phydiotherapy and Laws and Legal concepts related to Physiotherapy. ➢ the students will be able to understand the ethics of Physiotherapy practice and Laws and Legal concepts related to Physiotherapy Practice. ➢ **Also the student shall understand the** History of Physiotherapy. Philosophy and Philosophical Statements. Major Ethical principles applied to moral issues in health care. Rules of professional conduct scope of practice. ➢ Relationship with patients ➢ Relationships with medical colleagues ➢ Relationships between professionals with careers ➢ Relationships with the profession. ➢ Confidentially and Responsibility ➢ Provision of Services and Advertising ➢ Sale of Goods. ➢ Personal and Professional Standard. ➢ Professional and Governmental Licensing, Accreditation and Education Standards. ➢ Laws and Legal concepts. ➢ Protection from Malpractice claims, Consumer Protection Act,Liability and Documentations.

CO4.5 REHAB AND BIOSTATISTICS

S.NO	TOPIC	OUTCOME
5.1.1	**THE PHILOSOPHY AND NEED OF REHABILITATION.**	➢ After completion of the topic the student shal understand the Principles of Physical medicine. ➢ Basic principles of Administration and Organisation. ➢ The evaluation process and treatment planning ➢ Principles of prescription writing. ➢ Principles of Orthotics: ➢ Lower Extremity Orthotic ➢ Upper Extremity Orthotic ➢ Spinal Orthotic ➢ . Principles of Prosthetics ➢ Lower Extremity Prosthetics ➢ Upper Extremity Prosthetics ➢ Principal of Rehabilitation ➢ Nursing ➢ Communication problems. ➢ Social Problems. ➢ Vocational Problems and Vocational Placement ➢ after studying the said topics the student shall be able to demonstrate the donning and doffing of the orthosis and prosthesis,shall able to understand and demonstrate the exercises for rehabilitation of the patients having orthosis and prosthesis.student can be able to care about the general nursing procedures and can identify the communicable and sociall problems in the society and have the potential to manage the condition accordingly.
5.1.2	**BIOSTATISTICS INTRODUCTION**	➢ The objectives of this course are to install a deep sense of data appreciation and to develop basic statistical skills in collection, compilation, analysis and interpretation of data. After undergoing this course, a student is expected to plan

		and execute a statistical project quite independently. ➢ After studing the topic the student shall be able to understand the basic knowledge of Introduction – uses of statistical methods of Physiotherapy – measurement scales, variables & their measurements, symbolic Data, operations.
5.1.3	**STATISTICAL DATA**	➢ After completion of the topic the student shall be able to do Tabulation – Calculation of Central tendency & dispersion – Linear regression & correlation – presentation of data in diagrammatic & graphic form.
5.1.4	**PROBABILITY**	➢ After the completion of the topic the student shall understand the sampling methods and sampling criteria as mathematics system