

DAYANANDA SAGAR UNIVERSITY

Shavige Malleshwara Hills, Kumaraswamy Layout,

Bengaluru - 560078, Karnataka.

SCHOOL OF HEALTH

SCIENCES COLLEGE OF

PHYSIOTHERAPY



**SCHEME &
SYLLABUS FOR
BACHELOR OF PHYSIOTHERAPY (BPT) –
2017 (ANNUAL SCHEME)
(1st to 4th Year) (With Effect from 2017-18)**

YEAR – III

S L .	COURS E CODE	COURSE TITLE	M / S	NO. OF TEACHIN G HOURS			SCHEME OF EVALUATION							TOTAL
				D	CL	P	THEORY				PRACTICAL			
							W	VV	CA	IA	P	CA	IA	
1	17PT301	GENERAL MEDICINE	M	02	--	--	80	--	10	10	--	--	--	100
2	17PT302	GENERAL SURGERY	M	02	--	--	80	--	10	10	--	--	--	100
3	17PT303	ORTHOPEDIC & TRAUMATOLOGY	M	02	--	--	80	--	10	10	--	--	--	100
4	17PT304	ORTHOPEDICS & SPORTS PHYSIOTHERAPY	M	02	--	--	100	30	10	10	--	--	--	150
5	17PT305	CARDIO RESPIRATORY & GENERAL PHYSIOTHERAPY	M	02	--	--	100	30	10	10	--	--	--	150
6	17PT371	ORTHOPEDICS & SPORTS PHYSIOTHERAPY	M	--	--	02	--	--	--	--	40	05	05	50
7	17PT372	CARDIO RESPIRATORY & GENERAL PHYSIOTHERAPY	M	--	--	02	--	--	--	--	40	05	05	50
8	17PT373	SUPERVISED CLINICAL TEACHING	M	--	20	--	--	--	--	--	--	--	--	--
GRAND TOTAL				10	20	04	440	60	50	50	80	10	10	700
TOTAL NUMBER OF HOURS/WEEK				34	--	--	--	--	--	--	--	--	--	--

Note: M- Main Course, S – Subsidiary Course , D – Didactic, CL – Clinical, P – Practical, W – Written, VV – Viva Voce, CA – Continuous Assessment, IA – Internal Assessment

YEAR : III YEAR
COURSE CODE : 17PT301
TITLE OF THE COURSE : GENERAL MEDICINE

COURSE OBJECTIVES

THIS COURSE INTENDS TO FAMILIARIZE STUDENTS WITH MEDICAL TERMINOLOGY & ABBREVIATIONS FOR EFFICIENT & EFFECTIVE CHART REVIEWING & DOCUMENTATION. IT ALSO EXPLORES SELECTED SYSTEMIC DISEASES, FOCUSING ON EPIDEMIOLOGY, PATHOLOGY, HISTOLOGY, ETIOLOGY AS WELL AS PRIMARY & SECONDARY CLINICAL CHARACTERISTICS & THEIR MANAGEMENT. DISCUSSES & INTEGRATES SUBSEQUENT MEDICAL MANAGEMENT OF GENERAL, RHEUMATOLOGY, GERONTOLOGY, CARDIO-VASCULAR & RESPIRATORY SYSTEMS, TO FORMULATE APPROPRIATE INTERVENTION, INDICATIONS, PRECAUTIONS & CONTRAINDICATIONS.

COURSE OUTCOMES

THE EXPECTED OUTCOMES OF THIS COURSE IS THAT AFTER THE PRESCRIBED HOURS OF LECTURES AND DEMONSTRATIONS SO THAT STUDENT WILL BE ABLE TO UNDERSTAND THE CAUSES, FINDINGS, MANAGEMENT IN RELATION WITH PHYSIOTHERAPY. THEY SHOULD HAVE A BRIEF IDEA OF THE ETIOLOGY AND PATHOLOGY, THE PATIENT'S SYMPTOMS AND THE RESULTANT FUNCTIONAL DISABILITY. THIS WOULD HELP THE STUDENTS TO UNDERSTAND THE LIMITATIONS IMPOSED BY THE DISEASES ON ANY THERAPY.

UNIT I

1. Infection : Effects of Infection on the body – Pathology – source and spread of infection – vaccinations – generalized infections – rashes and infection – food poisoning and gastroenteritis – sexually transmitted diseases – HIV infections and Aids [**3 Hours**]
2. Poisoning : Clinical features – general management – common agents in poisoning – pharmaceutical agents – drugs of misuse – chemical pesticides – Envenomation [**2 Hours**]
3. Food and Nutrition : Assessment – Nutritional and Energy requirements; Deficiency diseases – clinical features and treatment; Protein – Energy Malnutrition : Clinical features and treatment; Obesity and its related disorders : Causes – Complications – benefits of weight loss – management of Obesity – diet, exercise and medications. [**4 Hours**]
4. Endocrine diseases : Common presenting symptoms of Endocrine disease – common classical disease presentations, clinical features and its management; Diabetes

Mellitus : Etiology and pathogenesis of diabetes – clinical manifestations of the disease – management of the disease – Complications of diabetes. **[4 Hours]**

5. Diseases of the blood : Examinations of blood disorders – Clinical manifestations of blood disease; Anemia – signs and symptoms – types and management ; Hemophilia - Cause – clinical features severity of disease – management – complications due to repeated haemorrhages – complications due to therapy. **[4 Hours]**

UNIT II

6. Diseases of the digestive system : Clinical manifestations of gastrointestinal disease – Aetiology, clinical features, diagnosis, complications and treatment of the following conditions : Reflux Oesophagitis, Achlasia Cardia, Carcinoma of Oesophagus, GI bleeding, Peptic Ulcer disease, Carcinoma of Stomach, Pancreatitis, Malabsorption Syndrome, Ulcerative Colitis, Peritonitis, Infections of Alimentary Tract ; Clinical manifestations of liver diseases - Aetiology, clinical features, diagnosis, complications and treatment of the following conditions : Viral Hepatitis, Wilson’s Disease, Alpha1-antitrypsin deficiency, Tumors of the Liver, Gall stones, Cholecystitis. **[7 Hours]**
7. Cardiovascular Disease : Examination of the Cardiovascular System – Investigations : ECG, Exercise Stress Testing, Radiology ; Clinical manifestations of Cardiovascular disease ; Definition, Etiology, Clinical features, signs and symptoms, complications, management and treatment of following diseases and disorders of the heart : Pericarditis, Myocarditis, Endocarditis, Rheumatic Fever – resulting in valve disorders, Ishemic Heart Disease, Coronary Valve Disease, Congenital disorders of the Heart, Cardiac Arrest ; Examination and Investigations of diseases of arteries and veins ; Hypertension : Definition, causes, classification, types, assessment, investigations and management. **[8 Hours]**
8. Respiratory Disease : Examination of the Respiratory System – Investigations : Chest Radiographs, Pulmonary Function Testing, Arterial Blood Gas Analysis ; Clinical manifestations of Lung disease ; Patterns of lung disease – Chronic Obstructive Lung Disease and Restrictive Lung Disease ; Definition, Etiology, Clinical features, signs and symptoms, complications, management and treatment of following lung diseases : Chronic Bronchitis, Emphysema, Asthma, Bronchiectasis, Cystic Fibrosis, Upper Respiratory Tract Infections, Pneumonia, Tuberculosis, Fungal Diseases, Interstitial Lung Diseases, Diseases of the pleura, diaphragm and chest wall ; Respiratory failure – Definition, types, causes, clinical features, diagnosis and management. **[9 Hours]**

UNIT III

9. Diseases of the Skin: Examination and clinical manifestations of skin diseases ; Causes, clinical features and management of the following skin conditions : Leprosy,

Psoriasis, Pigmentary Anomalies, Vasomotor disorders, Dermatitis, Coccal and Fungal Parasitic and Viral infections. **[6 Hours]**

10. Pediatrics : Problems and management of LBW infants, Perinatal problems and management, Congenital abnormalities and management, Respiratory conditions of childhood, Cerebral Palsy – causes, complications, clinical manifestations, treatment ; Spina Bifida – management and treatment, Epilepsies – types, diagnosis and treatment; Recognizing developmental delay, common causes of delay ; Orthopedic and Neuromuscular disorders in childhood, clinical features and management ; Sensory disorders – problems resulting from loss of vision and hearing ; Learning and behavioural problems – Hyperactivity, Autism, Challenging behaviours, Educational delay, The Clumsy Child. **[8 Hours]**

11. Psychiatric Disorders: Classifications, Causes, Clinical manifestations and treatment methods used in Psychiatry. **[5 Hours]**

Recommended books:

1. Davidson's Principles and Practice of Medicine
2. Harrison's Internal Medicine
3. Braunwald Text of Cardiology
4. Text Book of Cardiology by Hurst

YEAR : III YEAR
COURSE CODE : 17PT302
TITLE OF THE COURSE : GENERAL SURGERY

COURSE OBJECTIVES

THIS COURSE INTENDS TO FAMILIARIZE STUDENTS WITH PRINCIPLES OF GENERAL SURGERY INCLUDING VARIOUS SPECIALTIES LIKE CARDIOVASCULAR, THORACIC, NEUROLOGY AND PLASTIC SURGERY. IT ALSO FAMILIARIZES THE STUDENTS WITH TERMINOLOGY AND ABBREVIATIONS FOR EFFICIENT AND EFFECTIVE CHART REVIEWING AND DOCUMENTATION. IT EXPLORES VARIOUS CONDITIONS NEEDING ATTENTION, FOCUSING ON EPIDEMIOLOGY, PATHOLOGY, AS WELL AS PRIMARY AND SECONDARY CLINICAL CHARACTERISTICS AND THEIR SURGICAL AND MEDICAL MANAGEMENT.

COURSE OUTCOMES

AT THE END OF THE COURSE, THE CANDIDATE WILL BE ABLE TO:

1. DESCRIBE THE EFFECTS OF SURGICAL TRAUMA & ANAESTHESIA IN GENERAL
2. CLINICALLY EVALUATE & DESCRIBE THE SURGICAL MANAGEMENT IN BRIEF .
3. DESCRIBE PRE-OPERATIVE EVALUATION, SURGICAL INDICATIONS IN VARIOUS SURGICAL APPROACHES, MANAGEMENT AND POST OPERATIVE CARE IN ABOVE MENTIONED AREAS WITH POSSIBLE COMPLICATIONS.
4. BE ABLE TO READ & INTERPRET FINDINGS OF THE RELEVANT INVESTIGATIONS

UNIT I

1. Fluid, Electrolyte and Acid-Base disturbances – diagnosis and management ; Nutrition in the surgical patient ; Wound healing – basic process involved in wound repair, basic phases in the healing process, clinical management of wounds, factors affecting wound healing, Scars – types and treatment. Hemostasis – components, hemostatic disorders, factors affecting bleeding during surgery. Transfusion therapy in surgery – blood components, complications of transfusion ; Surgical Infections ; General Post – Operative Complications and its management [**6Hours**]

2. Reasons for Surgery ; Types of anaesthesia and its effects on the patient ; Types of Incisions ; Clips Ligatures and Sutures ; General Thoracic Procedures – Radiologic Diagnostic procedures, Endoscopy – types, Biopsy – uses and types. Overview and Drainage systems and tubes used in Surgery. [**3 Hours**]

3. Causes, Clinical Presentation, Diagnosis and treatment of the following Thoracic Trauma situations – Airway obstruction, Pneumothorax, Hemothorax, Cardiac Tamponade,

Tracheobronchial disruption, Aortic disruption, Diaphragmatic disruption, Esophageal disruption, Cardiac and Pulmonary Contusions. **[4 Hours]**

4. Surgical Oncology – Cancer – definition, types, clinical manifestations of cancer, Staging of Cancer, surgical procedures involved in the management of cancer. [3 Hours]

UNIT II

5. Disorders of the Chest Wall, Lung and Mediastinum – Definition, Clinical features, diagnosis and choice of management for the following disorders – chest wall deformities, chest wall tumors, Spontaneous Pneumothorax, Pleural Effusion, Empyema Thoracis, Lung abscess, Bronchiectasis, Tuberculosis, Bronchogenic Carcinoma, Bronchial Adenomas, Metastatic tumors of the Lung, tracheal Stenosis, Congenital tracheomalacia, Neoplasms of the trachea, Lesions of the Mediastinum. Carcinoma of the female breast. [5 Hours]

6. Disorders of the Heart – Definition, Clinical features, diagnosis and choice of management for the following disorders : Congenital Heart diseases – Acyanotic congenital heart disease & Cyanotic congenital heart disease : Patent Ductus Arteriosus, Coarctation of Aorta, Atrial Septal Defect, Ventricular Septal Defect, Tetralogy of Fallot, Transposition of Great Vessels ; Acquired Heart Disease – Mitral Stenosis & Insufficiency, Aortic Stenosis and Insufficiency, Ischemic Heart Disease – Coronary Artery Disease, Cardiac tumors. [6 Hours]

7. Thoracic surgeries – Thoracotomy – Definition, Types of Incisions with emphasis to the site of incision, muscles cut and complications. Lung surgeries : Pneumectomy, Lobectomy, segmentectomy – Indications, Physiological changes and Complications ; Thoracoplasty, Pleurectomy, Pleurodesis and Decortication of the Lung. Cardiac surgeries – An overview of the Cardio-Pulmonary Bypass Machine – Extracardiac Operations, Closed Heart surgery, Open Heart surgery. Transplant Surgery – Heart, Lung and Kidney – Indications, Physiological changes and Complications. [6 Hours]

8. Diseases of the Arteries and Veins : Definition, Etiology, Clinical features, signs and symptoms, complications, management and treatment of following diseases : Arteriosclerosis, Atherosclerosis, Aneurysm, Buerger's disease, Raynaud's Disease, Thrombophlebitis, Deep Vein Thrombosis, Pulmonary Embolism, Varicose Veins. [5 Hours]

UNIT III

9. Definition, Indication, Incision, Physiological changes and Complications following Common operations like Cholecystectomy, Colostomy, Ileostomy, Gastrectomy, Hernias, Appendectomy Mastectomy, Nephrectomy, Prostatectomy. [4 Hours]

10. Burn: Definition, Classification, Causes, Prevention, Pathological changes, Complications, Clinical Features and Management. Skin Grafts – Types, Grafting Procedures, Survival of Skin Graft ; Flaps – Types and uses of Flaps. **[4 Hours]**

11. WomensHealth : Menstrual cycle and its disorders. Hormonal disorders of females- obesity and female hormones. Cancer of the female reproductive organs- management Infections and sexually transmitted disease in female Menopause - its effects on emotions and musculoskeletal system. Malnutrition and deficiencies in females. Sterility- pathophysiology- investigations- management. Maternal physiology in pregnancy. Musculo skeletal disorders during pregnancy. Prenatal complications- investigations- management. Child birth- Stages - complications- investigations- management – Pain relief in labour - Puerperium - Post Natal care. Surgical procedures involving child birth. Incontinence – Types, Causes, Assessment and Management. Definition, Indications and Management of the following surgical procedures – Hysterosalpingography, Dilatation and Curettage, Laparoscopy, Colposcopy, Hysterectomy. **[8 Hours]**

12. ENT: Common problems of ear, otitis media, Otosclerosis, functional achonia and deafness, management facial palsy classification, medical and surgical management of lower motor neuron type of facial palsy. **[3 Hours]**

13. Ophthalmology: Ophthalmologic surgical conditions, refraction's, conjunctivitis, glaucoma, corneal ulcer, iritis, cataract, retinitis, detachment of retina, defects of extra-ocular muscles- surgical management **[3 Hours]**

Recommended books:

1. General Surgical Operations – by Kirk / Williamson
2. Surgery by Nan 3. Bailey and Love's – Short Practice of Surgery
4. Chest Disease by Crofton and Douglas.
5. Patricia A Downie, Text book of Heart, Chest Vascular Disease for physiotherapists, JP Bros.

YEAR : III YEAR
COURSE CODE : 17PT303
TITLE OF THE COURSE : ORTHOPEDICS & TRAUMATOLOGY

COURSE OBJECTIVES

INTRODUCE THE STUDENT TO THE ORTHOPEDIC CONDITIONS WHICH COMMONLY CAUSE DISABILITY. PARTICULAR EFFORT IS MADE IN THIS COURSE TO FACILITATE THE UNDERSTANDING OF STUDENT WITH ANY DETAILS PERTAINING TO DIAGNOSIS WHICH WILL CONTRIBUTE TO THEIR UNDERSTANDING OF THE LIMITATIONS IMPOSED BY ORTHOPEDIC PATHOLOGY ON THE FUNCTIONING OF THE INDIVIDUAL

COURSE OUTCOMES

THE EXPECTED OUTCOMES OF THIS COURSE IS THAT AFTER THE PRESCRIBED HOURS OF LECTURES AND DEMONSTRATIONS IN ADDITION TO CLINICS THE STUDENT WILL BE ABLE TO DEMONSTRATE AN UNDERSTANDING OF ORTHOPEDIC CONDITIONS CAUSING DISABILITY AND THEIR MANAGEMENT

UNIT I : 21HRS

1. Introduction to orthopaedics. Clinical examination in an Orthopedic patient. Common investigative procedures. Radiological and Imaging techniques in Orthopaedics. Inflammation and repair, Soft tissue healing. **[3 Hours]**
2. Traumatology Fracture: definition, types, signs and symptoms. Fracture healing. Complications of fractures. Conservative and surgical approaches. Principles of management – reduction (open/closed, immobilization etc). Subluxation/ dislocations – definition, signs and symptoms, management (conservative and operative). **[3 Hours]**
3. Fractures and Dislocations of Upper Limb Fractures of Upper Limb - causes, clinical features, mechanism of injury, complications, conservative and surgical management of the following fractures: Fractures of clavicle and scapula. Fractures of greater tuberosity and neck of humerus. Fracture shaft of humerus. Supracondylar fracture of humerus. Fractures of capitulum, radial head, olecranon, coronoid, and epicondyles. Side swipe injury of elbow. Both bone fractures of ulna and radius. Fracture of forearm – Monteggia, Galeazzi fracture – dislocation. Chauffeur's fracture. Colle's fracture. Smith's fracture. Scaphoid fracture. Fracture of the metacarpals. Bennett's fracture. Fracture of the phalanges. (Proximal and middle.) Dislocations of Upper Limb - Anterior dislocation of shoulder – mechanism of injury, clinical feature, complications, conservative management (Kocher's and Hippocrates

maneuver), surgical management (putti plat, bankart's) etc. Recurrent dislocation of shoulder. Posterior dislocation of shoulder – mechanism of injury, clinical features and management. Posterior dislocation of elbow- mechanism of injury, clinical feature, complications & management.[6 Hours]

4. Fracture of Spine Fracture of Cervical Spine - Mechanism of injury, clinical feature complications (quadriplegia); Management- immobilization (collar, cast, brace, traction); Management for stabilization, management of complication (bladder and bowel, quadriplegia). Clay shoveller's fracture. Hangman's fracture. Fracture odontoid. Fracture of atlas. Fracture of Thoracic and Lumbar Regions - Mechanism of injury, clinical features, management —conservative and surgical of common fractures around thoracic and lumbar regions.Fracture of coccyx. Fracture of Rib Cage - Mechanism of injury, clinical features, management for Fracture Ribs, Fracture of sternum. [4 Hours]
5. Fractures and Dislocations of Lower Limb Fracture of Pelvis and Lower Limb - causes, clinical features, mechanism of injury, complications, conservative and surgical management of the following fractures: Fracture of pelvis. Fracture neck of femur – classification, clinical features, complications, management - conservative and surgical. Fractures of trochanters. Fracture shaft femur—clinical features, mechanism of injury, complications, management-conservative and surgical. Supracondylar fracture of femur. Fractures of the condyles of femur. Fracture patella. Fractures of tibial condyles. Both bones fracture of tibia and fibula. Dupuytren's fracture Maisonneuve's fracture. Pott's fracture – mechanism of injury, management. Bimalleolar fracture Trimalleolar fracture Fracture calcaneum – mechanism of injury, complications and management. Fracture of talus. Fracture of metatarsals—stress fractures jone's fracture. Fracture of phalanges. Dislocations of Lower Limb - mechanism of injury, clinical features, complications, management of the following dislocations of lower limb. Anterior dislocation of hip. Posterior dislocation of hip. Central dislocation of hip. Dislocation of patella. Recurrent dislocation of patella.[5 Hours]

UNIT II : 19HRS

6. Soft Tissue Injuries - Define terms such as sprains, strains, contusion, tendinitis, rupture, tenosynovitis, tendinosis, bursitis. Mechanism of injury of each, clinical features, managements- conservative and surgical of the following soft tissue injuries: Meniscal injuries of knee. Cruciate injuries of knee. Medial and lateral collateral injuries of knee. Lateral ligament of ankle. Wrist sprains. Strains- quadriceps, hamstrings, calf, biceps, triceps etc. Contusions- quadriceps, gluteal, calf, deltoid etc. Tendon ruptures-Achilles, rotator cuff muscles, biceps, pectorals etc. [3 Hours]
7. Hand Injuries - mechanism of injury, clinical features, and management of the following - Crush injuries. Flexor and extensor injuries. Burn injuries of hand.[2 Hours]
8. Amputations - Definition, levels of amputation of both lower and upper limbs, indications, complications. [2 Hours]

9. Traumatic Spinal Cord Injuries - Clinical features, complications, medical and surgical management of Paraplegia and Quadriplegia. [2 Hours]
10. Deformities - clinical features, complications, medical and surgical management of the following Congenital and Acquired deformities. Congenital Deformities - CTEV. CDH. Torticollis. Scoliosis. Flat foot. Vertical talus. Hand anomalies- syndactyly, polydactyly and ectrodactyly. Arthrogyposis multiplex congenita (amyoplasia congenita). Limb deficiencies- Amelia and Phocomelia. Klippel-Feil syndrome. Osteogenesis imperfecta (fragile ossium). Cervical rib. Acquired Deformities - Acquired Torticollis. Scoliosis. Kyphosis. Lordosis. Genu varum. Genu valgum. Genu recurvatum. Coxa vara. Pes cavus. Hallux rigidus. Hallux valgus. Hammer toe. Metatarsalgia. [6 Hours]
11. Disease of Bones and Joints: Causes, Clinical features, Complications, Management- medical and surgical of the following conditions : Infective conditions: Osteomyelitis (Acute / chronic). Brodie's abscess. TB spine and major joints like shoulder, hip, knee, ankle, elbow etc. Arthritic conditions: Pyogenic arthritis. Septic arthritis. Syphilitic infection of joints. Bone Tumors: classification, clinical features, management - medical and surgical of the following tumors : Osteoma. Osteosarcoma, Osteochondroma. Enchondroma. Ewing's sarcoma. Giant cell tumor. Multiple myeloma. Metastatic tumors. Perthes disease, Slipped Capital Femoral Epiphysis and Avascular Necrosis. Metabolic Bone Diseases: Rickets. Osteomalacia, Osteopenia. Osteoporosis. [4 Hours]

UNIT III: 20HRS

12. **Inflammatory and Degenerative Conditions [4 Hours]:** causes, clinical feature, complications, deformities, radiological features, management- conservative and surgical for the following conditions : Osteoarthritis. Rheumatoid arthritis. Ankylosing spondylitis. Gouty arthritis. Psoriatic arthritis. Hemophilic arthritis. Still's disease (juvenile rheumatoid arthritis). Charcot's joints. Connective Tissue Disorders- Systemic Lupus Erythematosus, Scleroderma, Dermatomyositis, Poliomyelitis, Mixed connective tissue Disease (MCTD)
13. **Syndromes [3 Hours]:** Causes, Clinical features, complications, management- conservative and surgical of the following : Cervico brachial syndrome. Thoracic outlet syndrome. Vertebro- basilar syndrome. Scalenus syndrome. Costo clavicular syndrome. Levator scapulae syndrome. Piriformis syndrome.
14. **Neuromuscular Disorders [3 hours]:** Definition, causes, clinical feature, complications, management. (Multidisciplinary approach) medical and surgical of the following conditions : Cerebral palsy. Poliomyelitis. Spinal Dysraphism. Leprosy.
15. **Cervical and Lumbar Pathology [3 Hours]:** Causes, clinical feature, pathophysiology, investigations, management- Medical and surgical for the following : Prolapsed intervertebral disc (PID), Spinal Canal Stenosis. Spondylosis (cervical and lumbar) Spondylolysis. Spondylolisthesis. Lumbago/ Lumbosacral strain. Sacralisation. Lumbarisation. Coccydynia. Hemivertebra.
16. **Orthopedic Surgeries [3 Hours]:** Indications, Classification, Types, Principles of management of the following Surgeries : Arthrodesis. Arthroplasty (partial and total

replacement). Osteotomy , External fixators. Spinal stabilization surgeries(Harrington's, Luque's, Steffi plating) etc , Limb re-attachments.

17. Regional Conditions [4 Hours]: Definition, Clinical features and management of the following regional conditions

Shoulder: Periarthritic shoulder (adhesive capsulitis). Rotator cuff tendinitis. Supraspinatus Tendinitis. Infraspinatus Tendinitis. Bicipital Tendinitis.Subacromial Bursitis. Elbow: Tennis Elbow. Golfer's Elbow. Olecranon Bursitis (student's elbow). Triceps Tendinitis. Wrist and Hand: De Quervain's Tenosynovitis. Ganglion. Trigger Finger/ Thumb. Mallet Finger, Carpal Tunnel Syndrome, Dupuytren's Contracture. Pelvis and Hip : IT Band Syndrome. Piriformis Syndrome. Trochanteric Bursitis. Knee: Osteochondritis Dissecans. Prepatellar and Suprapatellar Bursitis.Popliteal Tendinitis. Patellar Tendinitis. Chondromalacia Patella.Plica Syndrome. Fat Pad Syndrome (Hoffa's syndrome). Ankle and Foot: Ankle Sprains. Plantar Fasciitis / Calcaneal Spur.Tarsal Tunnel Syndrome.Achilles Tendinitis.Metatarsalgia.Morton's Neuroma.

Books Recommended:

1. Outline of Fractures—John Crawford Adams.
2. Outline of Orthopedics.— John Crawford Adams.
3. Text book of Orthopedics.—Maheswari.
4. Apley's Orthopedics.
5. Textbook of Orthopedics and Traumatology— M.N.Natarajan

YEAR : III YEAR
COURSE CODE : 17PT304
TITLE OF THE COURSE : MUSCULOSKELETAL & SPORTS PHYSIOTHERAPY

COURSE OBJECTIVES

THIS COURSE SERVES TO INTEGRATE THE KNOWLEDGE GAINED BY THE STUDENTS IN CLINICAL ORTHOPEDICS WITH THE SKILLS GAINED IN EXERCISE THERAPY, ELECTRO THERAPY AND MASSAGE, THUS ENABLING THEM TO APPLY THESE IN CLINICAL SITUATIONS OF DYSFUNCTION DUE TO PATHOLOGY IN THE MUSCULOSKELETAL SYSTEM.

COURSE OUTCOMES

THE EXPECTED OUTCOMES OF THIS COURSE FOLLOWING THE PRESCRIBED HOURS OF LECTURES AND DEMONSTRATIONS, PRACTICAL AND CLINICAL, THE STUDENT WILL BE ABLE TO IDENTIFY DISABILITY DUE TO MUSCULOSKELETAL DYSFUNCTION. SET TREATMENT GOALS AND APPLY THEIR SKILLS IN EXERCISE THERAPY, ELECTRO THERAPY AND MASSAGE IN CLINICAL SITUATION TO RESTORE MUSCULOSKELETAL FUNCTION.

UNIT I

1. Introduction to orthopaedics. Clinical examination in an Orthopedic patient. Common investigative procedures. Radiological and Imaging techniques in Orthopaedics. Inflammation and repair, Soft tissue healing. **[3 Hours]**
2. Traumatology Fracture: definition, types, signs and symptoms. Fracture healing. Complications of fractures. Conservative and surgical approaches. Principles of management – reduction (open/closed, immobilization etc). Subluxation/ dislocations – definition, signs and symptoms, management (conservative and operative). **[3 Hours]**
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and management. Posterior dislocation of elbow- mechanism of injury, clinical feature, complications & management.[6 Hours]

4. Fracture of Spine Fracture of Cervical Spine - Mechanism of injury, clinical feature complications (quadriplegia); Management- immobilization (collar, cast, brace, traction); Management for stabilization, management of complication (bladder and bowel, quadriplegia). Clay shoveller's fracture. Hangman's fracture. Fracture odontoid. Fracture of atlas. Fracture of Thoracic and Lumbar Regions - Mechanism of injury, clinical features, management —conservative and surgical of common fractures around thoracic and lumbar regions.Fracture of coccyx. Fracture of Rib Cage - Mechanism of injury, clinical features, management for Fracture Ribs, Fracture of sternum. [4 Hours]
5. Fractures and Dislocations of Lower Limb Fracture of Pelvis and Lower Limb - causes, clinical features, mechanism of injury, complications, conservative and surgical management of the following fractures: Fracture of pelvis. Fracture neck of femur – classification, clinical features, complications, management - conservative and surgical. Fractures of trochanters. Fracture shaft femur—clinical features, mechanism of injury, complications, management-conservative and surgical. Supracondylar fracture of femur. Fractures of the condyles of femur. Fracture patella. Fractures of tibial condyles. Both bones fracture of tibia and fibula. Dupuytren's fracture Maisonneuve's fracture. Pott's fracture – mechanism of injury, management. Bimalleolar fracture Trimalleolar fracture Fracture calcaneum – mechanism of injury, complications and management. Fracture of talus. Fracture of metatarsals—stress fractures jone's fracture. Fracture of phalanges. Dislocations of Lower Limb - mechanism of injury, clinical features, complications, management of the following dislocations of lower limb. Anterior dislocation of hip. Posterior dislocation of hip. Central dislocation of hip. Dislocation of patella. Recurrent dislocation of patella.[5 Hours]

UNIT II

6. Soft Tissue Injuries - Define terms such as sprains, strains, contusion, tendinitis, rupture, tenosynovitis, tendinosis, bursitis. Mechanism of injury of each, clinical features, managements- conservative and surgical of the following soft tissue injuries: Meniscal injuries of knee. Cruciate injuries of knee. Medial and lateral collateral injuries of knee. Lateral ligament of ankle. Wrist sprains. Strains- quadriceps, hamstrings, calf, biceps, triceps etc. Contusions- quadriceps, gluteal, calf, deltoid etc. Tendon ruptures-Achilles, rotator cuff muscles, biceps, pectorals etc. [3 Hours]
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9. Traumatic Spinal Cord Injuries - Clinical features, complications, medical and surgical management of Paraplegia and Quadriplegia.[2 Hours]

- 10. Deformities - clinical features, complications, medical and surgical management of the following Congenital and Acquired deformities.** Congenital Deformities - CTEV. CDH. Torticollis. Scoliosis. Flat foot. Vertical talus. Hand anomalies- syndactyly, polydactyly and ectrodactyly. Arthrogryposis multiplex congenita (amyoplasia congenita). Limb deficiencies- Amelia and Phocomelia. Klippel-Feil syndrome. Osteogenesis imperfecta (fragile ossium). Cervical rib. Acquired Deformities - Acquired Torticollis. Scoliosis. Kyphosis. Lordosis. Genu varum. Genu valgum. Genu recurvatum Coxa vara. Pes cavus. Hallux rigidus. Hallux valgus. Hammer toe. Metatarsalgia. **[6 Hours]**
- 11. Disease of Bones and Joints: Causes, Clinical features, Complications, Management- medical and surgical of the following conditions :** Infective conditions: Osteomyelitis (Acute / chronic). Brodie's abscess. TB spine and major joints like shoulder, hip, knee, ankle, elbow etc. Arthritic conditions: Pyogenic arthritis. Septic arthritis. Syphilitic infection of joints. Bone Tumors: classification, clinical features, management - medical and surgical of the following tumors : Osteoma. Osteosarcoma, Osteochondroma. Enchondroma. Ewing's sarcoma. Giant cell tumor. Multiple myeloma. Metastatic tumors. Perthes disease, Slipped Capital Femoral Epiphysis and Avascular Necrosis. Metabolic Bone Diseases: Rickets. Osteomalacia, Osteopenia. Osteoporosis. **[4 Hours]**

UNIT III

- 12. Inflammatory and Degenerative Conditions [4 Hours]:** causes, clinical feature, complications, deformities, radiological features, management- conservative and surgical for the following conditions : Osteoarthritis. Rheumatoid arthritis. Ankylosing spondylitis Gouty arthritis. Psoriatic arthritis. Hemophilic arthritis. Still's disease (juvenile rheumatoid arthritis). Charcot's joints. Connective Tissue Disorders- Systemic Lupus Erythematosus, Scleroderma, Dermatomyositis, Poliomyelitis, Mixed connective tissue Disease (MCTD)
- 13. Syndromes [3 Hours]:** Causes, Clinical features, complications, management- conservative and surgical of the following : Cervico brachial syndrome. Thoracic outlet syndrome. Vertebro- basilar syndrome. Scalenus syndrome. Costo clavicular syndrome. Levator scapulae syndrome. Piriformis syndrome.
- 14. Neuromuscular Disorders [3 hours]:** Definition, causes, clinical feature, complications, management. (Multidisciplinary approach) medical and surgical of the following conditions : Cerebral palsy. Poliomyelitis. Spinal Dysraphism. Leprosy.
- 15. Cervical and Lumbar Pathology [3 Hours]:** Causes, clinical feature, pathophysiology, investigations, management- Medical and surgical for the following : Prolapsed intervertebral disc (PID), Spinal Canal Stenosis. Spondylosis (cervical and lumbar) Spondylolysis. Spondylolisthesis. Lumbago/ Lumbosacral strain. Sacralisation. Lumbarisation. Coccydynia. Hemivertebra.
- 16. Orthopedic Surgeries [3 Hours]:** Indications, Classification, Types, Principles of management of the following Surgeries : Arthrodesis. Arthroplasty (partial and total replacement). Osteotomy , External fixators. Spinal stabilization surgeries (Harrington's, Luque's, Steffi plating) etc , Limb re-attachments.

17. Regional Conditions [4 Hours]: Definition, Clinical features and management of the following regional conditions

Shoulder: Periarthritic shoulder (adhesive capsulitis). Rotator cuff tendinitis. Supraspinatus Tendinitis. Infraspinatus Tendinitis. Bicipital Tendinitis. Subacromial Bursitis. Elbow: Tennis Elbow. Golfer's Elbow. Olecranon Bursitis (student's elbow). Triceps Tendinitis. Wrist and Hand: De Quervain's Tenosynovitis. Ganglion. Trigger Finger/ Thumb. Mallet Finger, Carpal Tunnel Syndrome, Dupuytren's Contracture. Pelvis and Hip : IT Band Syndrome. Piriformis Syndrome. Trochanteric Bursitis. Knee: Osteochondritis Dissecans. Prepatellar and Suprapatellar Bursitis. Popliteal Tendinitis. Patellar Tendinitis. Chondromalacia Patella. Plica Syndrome. Fat Pad Syndrome (Hoffa's syndrome). Ankle and Foot: Ankle Sprains. Plantar Fasciitis / Calcaneal Spur. Tarsal Tunnel Syndrome. Achilles Tendinitis. Metatarsalgia. Morton's Neuroma.

Books Recommended:

1. Outline of Fractures—John Crawford Adams.
2. Outline of Orthopedics.— John Crawford Adams.
3. Text book of Orthopedics.—Maheswari.
4. Apley's Orthopedics.
5. Textbook of Orthopedics and Traumatology— M.N. Natarajan

YEAR : III YEAR
COURSE CODE : 17PT305
TITLE OF THE COURSE : CARDIO-RESPIRATORY & GENERAL PHYSIOTHERAPY

COURSE OBJECTIVES

THIS COURSE SERVES TO INTEGRATE THE KNOWLEDGE GAINED BY THE STUDENTS IN CLINICAL CARDIORESPIRATORY CONDITIONS WITH THE SKILLS GAINED IN EXERCISE THERAPY, ELECTRO THERAPY AND MASSAGE, THUS ENABLING THEM TO APPLY THESE IN CLINICAL SITUATIONS OF DYSFUNCTION DUE TO PATHOLOGY IN THE CARDIO-RESPIRATORY PATHOLOGY.

COURSE OUTCOMES

THE EXPECTED OUTCOMES OF THIS COURSE FOLLOWING THE PRESCRIBED HOURS OF LECTURES AND DEMONSTRATIONS, PRACTICAL AND CLINICAL, THE STUDENT WILL BE ABLE TO IDENTIFY DISABILITY DUE TO CARDIO-RESPIRATORY DYSFUNCTION. SET TREATMENT GOALS AND APPLY THEIR SKILLS IN EXERCISE THERAPY, ELECTRO THERAPY AND OTHER PERTAINING SUBJECT AREAS IN CLINICAL SITUATION TO RESTORE CARDIO-RESPIRATORY FUNCTION.

UNIT I

- 1. Anatomical and Physiological differences between the Adult and Pediatric lung [1 Hour]**
- 2. Bedside assessment of the patient-Adult & Pediatric [5 Hours]**
- 3. Investigations and tests – Exercise tolerance Testing – Cardiac & Pulmonary, Radiographs, PFT, ABG, ECG, Hematological and Biochemical Tests [6 Hours]**
- 4. Physiotherapy techniques to increase lung volume – controlled mobilization, positioning, breathing exercises, Neurophysiological Facilitation of Respiration, Mechanical aids - Incentive Spirometry, CPAP, IPPB [3 Hours]**
- 5. 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 [3 Hours]**
- 6. Physiotherapy techniques to clear secretions – Hydration, Humidification & Nebulisation, Mobilisation and Breathing exercises, Postural Drainage, Manual techniques – Percussion, Vibration and Shaking, Rib Springing, ACBT, Autogenic Drainage, Mechanical Aids – PEP, Flutter, IPPB, Facilitation of Cough and Huff, Nasopharyngeal Suctioning [3 Hours]**
- 7. 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 Nebulisers. **[1 Hour]**

8. Management of wound ulcers- Care of ulcers and wounds - Care of surgical scars- U.V.R and other electro therapeutics for healing of wounds, prevention of Hypergranulated Scars Keoloids, Electrotherapeutics measures for relief of pain during mobilization of scars tissues. **[2 Hours]**
9. Physiotherapy in dermatology -Documentation of assessment, treatment and follow up skin conditions. U.V.R therapy in various skin conditions; Vitiligo; Hair loss; Pigmentation; Infected wounds ulcers. Faradic foot bath for Hyperhidrosis. Massage maneuvers for cosmetic purpose of skin; use of specific oil as medium; Care of anesthetic hand and foot; Evaluation, planning and management of leprosy- prescription, fitting and training with prosthetic and orthotic devices **[2 Hours]**
10. Neonatal and Pediatric Physiotherapy – Chest physiotherapy for children, The neonatal unit, Modifications of chest physiotherapy for specific neonatal disorders, Emergencies in the neonatal unit **[3 Hours]**
11. Physiotherapy in Obstructive lung conditions **[2 Hours]**

UNIT II

12. Physiotherapy in Restrictive lung conditions **[2 hours]**
13. Management of breathlessness **[2 hours]**
14. Pulmonary Rehabilitation **[4 Hours]**
15. Physiotherapy following Lung surgeries **[3 Hours]**
16. Respiratory failure – Oxygen Therapy and Mechanical Ventilation **[4 Hours]**
17. Introduction to ICU : ICU monitoring –Apparatus, Airways and Tubes used in the ICU - Physiotherapy in the ICU – Common conditions in the ICU – Tetanus, Head Injury, Lung Disease, Pulmonary Oedema, Multiple Organ Failure, Neuromuscular Disease, Smoke Inhalation, Poisoning, Aspiration, Near Drowning, ARDS, Shock; Dealing with an Emergency Situation in the ICU **[4 Hours]**
18. Burns management - Role of physiotherapy in the management of burns, post grafted cases- Mobilization and Musculo-skeletal restorative exercises following burns **[3 Hours]**
19. Physiotherapy management following cardiac surgeries **[3 Hours]**
20. Cardiac Rehabilitation **[4 Hours]**
21. Physiotherapy management following PVD **[3 Hours]**

UNIT III

22. Abdominal Surgeries - Management of Pulmonary Restorative Dysfunction following Surgical procedures on Abdomen and Thorax **[3 Hours]**
23. Management of Amputations following Diabetes, PVD - Prosthesis in amputations of lower limbs following ulcers and gangrenes **[3 Hours]**
24. Physiotherapy intervention in the management of Medical, Surgical and Radiation Oncology Cases **[3 Hours]**

25. Home program and education of family members in patient care [2 Hours]
26. Physiotherapy in Obstetrics – Antenatal Care, Antenatal Education, Postnatal Care. Electrotherapy and Exercise Therapy measures for the re-education of Ano-Urethral sphincters. [3 Hours]
27. Treatment, Response to exercise and Implications of Physiotherapy in the following disease conditions: Hypertension, Diabetes, Renal Failure and Obesity. [5 Hours]
28. Health Fitness and Promotion : Fitness Evaluation, Analysis of Body composition, Evaluation and prescription of Exercise, Factors affecting exercise Performance, Exercise Prescription for Specific groups : Elderly, Women and Children. [5 Hours]
29. Applied Yoga in Cardio-respiratory conditions [3 Hours]

Recommended books:

1. Tidy's physiotherapy.
2. Cash's Text Book of Chest, Heart, Vascular Disorders for Physiotherapists.
3. The Brompton Guide to chest physiotherapy DU Gasket [Completed]
4. Physical Rehabilitation Assessment and Treatment – O'Sullivan Schmitz
5. Elements in Pediatric Physiotherapy – Pamela M Eckersley
6. Essentials of Cardio Pulmonary Physical Therapy by Hillegass and Sadowsky
7. Cardio pulmonary Symptoms in physical Therapy practice Cohen and Michel
8. Chest Physiotherapy in Intensive Care Unit by Mackenzi
9. Cash's Text book of General Medicine and Surgical conditions for Physiotherapists.
10. Physiotherapy in Psychiatry
11. Physical Therapy for the Cancer patient by M.C Garvey
12. Physiotherapy in Obstetrics and Gynecology by Polden

YEAR : III YEAR
COURSE CODE : 17PT371
**TITLE OF THE COURSE : MUSCULOSKELETAL & SPORTS PHYSIOTHERAPY-
PRACTICAL**

Practical: 60 Hours

Practical shall be conducted for all the relevant topics discussed in theory in the following forms:

1. Bedside case presentations and case discussions
2. Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

Recommended books:

1. Tidy's physiotherapy.
2. Textbook of orthopedics-Cash.
3. Clinical orthopedic rehabilitation- Brotzman.
4. Orthopedic physiotherapy - JayantJoshi.
5. Physical Rehabilitation Assessment and Treatment – O’Sullivan Schmitz
6. Sports physiotherapy- MariaZuluaga

YEAR : III YEAR
COURSE CODE : 17PT372
TITLE OF THE COURSE : CARDIO-RESPIRATORY & GENERAL PHYSIOTHERAPY - PRACTICALS

Practical: 60 Hours

Practical shall be conducted for all the relevant topics discussed in theory in the following forms:

1. Bedside case presentations and case discussions
2. Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

