

CO3.1 PHYSIOTHERAPY IN ORTHOPEDIC CONDITIONS

S.NO	TOPIC	OUTCOME
3.1.1	TRAUMATOLOGY AND ORTHOPEDICS	<ul style="list-style-type: none">➤ Classification of fracture, causes and types -➤ At the end of the topic students can classify the fracture on basis of causes and type.➤ Sign and Symptoms of Fracture -➤ At the end of the topic, students can diagnose the fracture on basis of sign and symptoms.➤ *Complications of Fracture -➤ At the end of the topic students know about complications of fracture and able to prevent them.➤ Healing and factors affecting it. -➤ At the end of the topic students can know about healing of fracture and factors affecting healing process.➤ Principle of fracture management -➤ At the end of the topic students know about principle of fracture management.➤ Principle of physiotherapy management➤ At the end of the topic students know about physiotherapy management of the fracture and able to manage fracture.➤ Physiotherapy management of the complications -➤ At the end of the topic students know about physiotherapy management of complications.➤ Dislocation - Common sites, signs and symptoms -➤ At the end of the topic students know about dislocation, their common sites and sign and symptoms of dislocation.➤ Principle of physiotherapy assessment and management in shoulder dislocation, hip dislocation, etc. -➤ At the end of the topic students know

		<p>about physiotherapy assessment and physiotherapy management of dislocations. Students can able to manage common dislocation .</p>
<p>3.1.2</p>	<p>SPECIFIC FRACTURE AND THEIR COMPLETE PHYSIOTHERAPY ASSESSMENT AND MANAGEMENT</p>	<ul style="list-style-type: none"> ➤ Upper limb : Scapula - ➤ At the end of the topic students can diagnose the scapula fracture on basis of causes, sign and symptoms. ➤ Can able to do physiotherapy management of fracture of scapula . ➤ Clavicle - ➤ At the end of the topic students can diagnose the fracture of clavicle on the basis of causes, sign and symptoms. ➤ Can able to do physiotherapy management of fracture of clavicle. ➤ Humerus - ➤ At the end of the topic students can diagnose the fracture of humerus on the basis of causes, site and mechanism of injury, sign and symptoms. ➤ Can able to do physiotherapy management of humerus according to type of fracture. ➤ Radius and Ulna - ➤ At the end of the topic students know about fracture of radius and ulna ,which can be occur together . ➤ Can able to diagnose the fracture of radius and ulna on basis of causes, site mechanism of injury, sign and symptoms. ➤ Can able to do physiotherapy management of fracture of radius and ulna. ➤ Colles Fracture - ➤ At the end of the topic students can diagnose colles fracture on the basis of causes, site and mechanism of injury , sign and symptoms. ➤ Can able to do physiotherapy management of colles fracture .

		<ul style="list-style-type: none"> ➤ Crush injuries of hand - ➤ At the end of the topic students can diagnose the crush injury on basis of site, mode and mechanism of injury, sign and symptoms. ➤ Can able to do physiotherapy management of crush injury. ➤ *Lower limb - ➤ Fracture of pelvis - ➤ At the end of the topic students can diagnose the fracture of pelvis on the basis of causes ,site, mode and mechanism of injury ,sign and symptoms. ➤ Can able to do physiotherapy management of fracture of pelvis. ➤ Neck of femur - ➤ At the end of the topic students can diagnose the fracture of neck of femur on the basis of causes, site ,mode and mechanism of injury, sign and symptoms. ➤ Can able to do physiotherapy management of fracture of neck of femur. ➤ Shaft of femur - ➤ At the end of the topic students can diagnose the fracture of shaft of femur on the basis of causes, site, mode and mechanism of injury, sign and symptoms. ➤ Can able to do physiotherapy management of fracture of shaft of femur. ➤ Patella - ➤ At the end of the topic students can diagnose the fracture of patella on the basis of causes, site, mode and mechanism of injury, sign and symptoms. ➤ Can able to do physiotherapy management of fracture of patella . ➤ Tibia and fibula - ➤ At the end of the topic students can diagnose the fracture of tibia and fibula on the basis of causes, site,
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		<p>mode and mechanism of injury, sign and symptoms.</p> <ul style="list-style-type: none"> ➤ Can able to do physiotherapy management of fracture of tibia and fibula. ➤ Pott's fracture - ➤ At the end of the topic students can diagnose the Pott's fracture which is fracture of mallulas on the basis of causes, site ,mode and mechanism of injury ,sign and symptoms. ➤ Can able to do physiotherapy management of Pott's fracture . ➤ Fracture of tarsal and metatarsal - ➤ At the end of the topic students can diagnose the fracture of tarsal and metatarsal on the basis of causes, site, mode and mechanism of injury. ➤ Can able to do physiotherapy management of fracture of tarsal and metatarsal. ➤ Management of fracture of spine with or without neurological deficit - ➤ At the end of the topic students can diagnose and can manage the fracture of spine with or without neurological deficit.
<p>3.1.3</p>	<p>SOFT TISSUE INJURIES</p>	<ul style="list-style-type: none"> ➤ Synovitis and capsulitis - ➤ At the end of the topic students can diagnose synovitis and capsulitis. ➤ Can able to manage synovitis and capsulitis . ➤ Volkmanischamic contracture - ➤ At the end of the topic students can diagnose the volkmanischamic contracture. ➤ Can able to manage volkmanischmic contracture. ➤ Tear of semilunar cartilage - ➤ At the end of the topic students can diagnose tear of semilunar cartilage and able to manage it . ➤ Meniscle injury and cruciate ligament of knee - ➤ At the end of the topic students can

		<p>diagnose and differentiate between the meniscle injury and cruciate ligament and able to manage both condition.</p> <ul style="list-style-type: none"> ➤ Rotator cuff tendinitis - ➤ At the end of the topic students can diagnose rotator cuff tendinitis and able to manage the rotator cuff tendinitis. ➤ Ankle sprain - ➤ At the end of the topic students can diagnose ankle sprain on basis of causes, sign and symptoms and able to manage ankle sprain. ➤ Tennis elbow and golfer's elbow - ➤ At the end of the topic students can diagnose the tennis elbow and golfer's elbow and able to do physiotherapy management of these condition. ➤ Retrocalcaneal bursitis - ➤ At the end of the topic students can diagnose retrocalcaneum bursitis and able to manage it. ➤ -
<p>3.1.4</p>	<p>*DEGENERATIVE AND INFECTIVE CONDITIONS</p>	<ul style="list-style-type: none"> ➤ Osteoarthritis of major joint - ➤ At the end of the topic students can diagnose osteoarthritis of different joint on the basis of causes, sign and symptoms . ➤ Can able to manage osteoarthritis of different joint. ➤ Spondolysis - ➤ At the end of the topic students can diagnose spondolysis on basis of site, sign and symptoms. ➤ Can able to do physiotherapy management of spondolysis. ➤ Spondylitis - ➤ At the end of the topic students can diagnose spondylitis on the basis of causes, sign and symptoms. ➤ Can able to do physiotherapy management of spondilitis. ➤ Spondylolisthesis -

		<ul style="list-style-type: none">➤ At the end of the topic students can diagnose spondylolisthesis on the basis of causes, sign and symptoms.➤ Can able to do physiotherapy management of spondylolisthesis.➤ Prolapsed intervertebral disc Lesion -➤ At the end of the topic students can diagnose the PIVD on the basis of causes ,sign and symptoms.➤ Can able to do physiotherapy management of prolapsed intervertibal disc. lesion.➤ Periarthritis and rotator cuff lesion of shoulder -➤ At the end of the topic students can diagnose periarthritis and rotator cuff lesion of shoulder and differenciate between both on the basis of sign and symptoms.➤ Can able to do physiotherapy management of periarthritis shoulder and rotator cuff lesion of shoulder.➤ Tuberculosis of spine, bone and major joint➤ At the end of the topic students can diagnose tuberculosis of spine, bone and major joint ,on the basis of causes, history, sign and symptoms.➤ Can able to do physiotherapy management of tuberculosis of spine, bone and major joint.➤ Perthes disease -➤ At the end of the topic students can diagnose perthes disease on the basis of sign and symptoms and able to manage it.➤ Rheumatoid arthritis -➤ At the end of the topic students can diagnose rheumatoid arthritis on basis of causes, sign and symptoms.➤ Can able to do physiotherapy management of rheumatoid arthritis.➤ Ankylosing spondylitis -➤ At the end of the topic students can diagnose ankylosis spondylitis on the basis of causes, sign and symptoms.
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3.1.5	ORTHOPEDIC SURGERY -	<ul style="list-style-type: none"> ➤ At the end of the topic students can able to do Pre and post operative assessment and management of management of surgeries like Arthroplasty ,Arthodesis, Osteotomy, Partial and complete joint replacement, Arthroscopy, Tendon transplant, Soft tissue release, Grafting, Spinal Stabilization, reattachment of limbs, illzarove techniques, operation in C. P. and Polio
3.1.6	AMPUTATIONS :	<ul style="list-style-type: none"> ➤ At the end of the topic students know about levels of amputation of upper and lower extremities, can able to do stump bandaging. ➤ Can able to do pre and post prosthesis fitting assessment and management (check- out of Prosthesis Training etc.). Can able to do physiotherapy management of complication of amputation and their management.

**CO3.2 CARDIOTHORACIC DISEASES AND SURGERY-
NEURO MEDICINE AND NEURO SURGERY:**

S.NO	TOPIC	OUTCOME
3.2.1	BASIC NEUROPHYSIOLOGY	<ul style="list-style-type: none"> ➤ After completion of the topic the student shall be able to understand the basics of nervous system physiology including the various areas of the brain, pyramidal and extra pyramidal tracts sensory and motor pathways, Reflexes- superficial and deep tendon reflexes ➤ And Bladder and Bowel Control
3.2.2	PRINCIPLE OF CLINICAL EXAMINATION, DIAG NOSIS, DIFFERENTIAL DIAGNOSIS AND PROGNOSIS OF	<ul style="list-style-type: none"> ➤ After completion of the topic the student shall be able to identify the definition, clinical signs and symptoms and differential diagnosis of the said disorders. ➤ Cerebral Palsy ➤ Strokes ➤ - Meningitis, Encephalitis,

	<p align="center">NEUROLOGICAL DISORDERS.</p>	<p>Poliomyelitis</p> <ul style="list-style-type: none"> ➤ Parkinsonism, Dystonia, Chorea, Tremors and Writer’s Cramps, Cerebellar Ataxia, Friedreich's Ataxia etc. ➤ Motor Neuron Disease. ➤ Dementia. ➤ - Compressive (Spondylotic, Tumors); Non-compressive. ➤ –G.B. Syndrom, Diabetic; Entrapment neuropathies. ➤ ; Myasthenia Gravis. ➤ And shall be able to demonstrate the assessment criteria for the said conditions ,also known about the medications and care of the patient for the disease.
<p>3.2.3</p>	<p align="center">NEUROPHYSIOLOGY</p>	<ul style="list-style-type: none"> ➤ After completion of the topic the student shall be able to understand the basics of nervous system physiology including the various areas of the brain,pyramidal and extra pyramidal tracts sensory and motor pathways, Reflexes- superficial and deep tendon reflexes ➤ And Bladder and Bowel Control
<p>3.2.4</p>	<p align="center">CONGENITAL AND CHILDHOOD DISORDERS</p>	<p>After completion of the topic the shall have the understandings of the various congenital and childhood neurological disorders (Hydrocephalus.</p> <ul style="list-style-type: none"> ➤ Spinal Bifida) can shall able to identify the condition on the basis of signs and symptoms.and also have the knowledge of medical management pre and post surgery.

<p>3.2.5</p>	<p>DISEASES OF THE SPINAL CORD:</p>	<p>➤ After completion of the topic the student shall have the understanding of various spinal cord injuries and can able to identify the diseases on the basis of clinical signs and symptoms like Craniovertebral junction anomalies.Syringomyelia.Cervical and lumbar disc diseaseTumours.Transvers myelitis Spinal arachnoiditis.also they can differentiate the disease with other neurological conditions..can able to identify the drugs used in the conditions.also manage the condition pre and post operatively.</p>
<p>3.2.6</p>	<p>PERIPHERAL NERVE DISORDERS</p>	<p>➤ After completion of the topic the student shall have the understanding of various Peripheral Nerve Disorders and can able to identify the diseases on the basis of clinical signs and symptoms also they can differentiate the disease with other neurological conditions..can able to identify the drugs used in the conditions.also manage the condition pre and post operatively.</p>
<p>3.2.7</p>	<p>INTRACRANIAL TUMOURS</p>	<p>➤ After the complerion of the topic the student shall have the knowledge of Broad Classification, Signs and Symptoms.of various intra cranial tumours.</p>

3.2.8	MISCELLANEOUS:	<ul style="list-style-type: none"> ➤ The student shall have the understandings of the various other miscellaneous topics like the diagnostic criteria for various neurological disorders and shall have the understandings of techniques for diagnostic procedures.
3.2.9	PRE AND POST OPERATIVE ASSESSMENT, INDICATIONS AND CONTRAINDICATIONS FOR NEUROSURGERY	<ul style="list-style-type: none"> ➤ After completion of the topic the student shall have the understandings of the pre and post assessment criteria for neurosurgeries along with their indications and contraindications.
3.2.10	MANAGEMENT OF PAIN, ELECTRICAL STIMULATION OF BRAIN AND SPINAL CORD	<ul style="list-style-type: none"> ➤ After completion of the topic student shall have the knowledge of the various electrotherapy modalities used in the pain management for brain and spinal cord injuries along with the dosage and proper mechanism along with indications and contraindications of the particular modality used.
3.2.11	PRACTICAL	<ul style="list-style-type: none"> ➤ After the conduction of practical classes the student shall be able to demonstrate Basic history taking to determine whether the brain, spinal cord or peripheral nerve is involved. ➤ Assessment of higher mental function such as Orientation, Memory, Attention, Speech and Language ➤ And also have the understandings of the procedure for Assessment of Cranial nerves. ➤ Assessment of Motor system. ➤ Assessment of Sensory function,

		<p>Touch, Pain and Position.</p> <ul style="list-style-type: none"> ➤ Assessment of Tone-Spasticity, Rigidity and Hypotonia. ➤ Assessment of Cerebral function. ➤ Assessment of Higher cortical function - Apraxia etc. ➤ Assessment of Gait Abnormalities
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S.NO	TOPIC	OUTCOME
3.2.12	COPD- CHRONIC BRONCHITIS & EMPHYSEMA	<ul style="list-style-type: none"> ➤ After the study of this topic ,the student shall be able to: ➤ Define chronic bronchitis & emphysema ➤ Identify it's clinical features ➤ Know about the pathogenies of disease ➤ Differentiate b/w chronic bronchitis and emphysema ➤ Knows about various investigation techniques. ➤ Application of various physiotherapy techniques for it's treatment
3.2.13	. BRONCHIAL ASTHMA	<ul style="list-style-type: none"> ➤ After the completion of the topic the student shall able to ➤ Defineand understand ➤ bronchial asthma, it's types and clinical features ➤ Aetiology of disease ➤ Evaluate it's risk factors & differential diagnosis ➤ Application of various physiotherapy & medical management for bronchial hygiene
3.2.14	. PNEUMONIA	<ul style="list-style-type: none"> ➤ After the completion of the topic the student shall be able to define and have the understandings of pneumonia ➤ 2. Classify it's types ,pathogenesis and clinical features

		<ul style="list-style-type: none"> ➤ 3. Able to know it's complications ➤ 4. Application of various Medical & physiotherapy techniques in it's treatment.
3.2.15	TUBERCULOSIS	<ul style="list-style-type: none"> ➤ After the completion of the topic the student shall be able to define tuberculosis ➤ It's types and causative micro-organism ➤ It's pathogenesis and clinical features ➤ Investigation methods ➤ Complication , treatment and drug management ➤ Physiotherapeutic management ➤ Outcome of disease progression
3.2.16	LUNG ABSCESS	<ul style="list-style-type: none"> ➤ After the study of this topic ,the student shall be able to: ➤ Define lung abscess ➤ Classify it's various types ➤ Understanding of it's cause and predisposing factors ➤ Identify it's clinical features ➤ How to do investigation of it ➤ How to manage it medically ,surgically and physiotherapy management
3.2.17	BRONCHIECTASIS	<ul style="list-style-type: none"> ➤ After the completion of the topic the student shall able to describe Definition of bronchiectasis ➤ Know its Aetiology& pathogenesis ➤ Identify it's types clinical features and symptoms ➤ It's complication and prognosis ➤ Investigation and differential diagnosis ➤ Medical ,surgical and physiotherapy Management
3.2.18	CHEST WALL	<ul style="list-style-type: none"> ➤ After the completion of the topic

	DEFORMITIES	the student shall be able to define all the chest deformities and the abnormality seen according to the types and their clinical signs and symptoms.
3.2.19	OCCUPATIONAL LUNG DISEASES	➤ After the completion of the topic the student shall be able to identify the various causes of lung diseases caused by several occupational conditions and the disease caused by allergic materials their, signs and symptoms and the medical treatment related to the conditions.
3.2.20	RESPIRATORY FAILURE	➤ After the completion of the topic the student shall be able to identify the consequences and signs and symptoms of the condition .and also aware to manage the condition in an emergency situations.
3.2.21	RESPIRATORY SURGERIES	➤ After the completion of various surgeries of the thorax the student shall be able to identify the various incisions for various surgeries and also the surgical procedure and can have the potential to manage the pre and post surgical condition of the patient.
3.2.22	CARDIAC TRANSPLANTATION	➤ After completion of the topic the student shall be able to understand the indications of heart transplantation and demonstrate and describe the process and techniques of transplantation along with incision and shall have the understandings of the pre and post operative management of the transplant patient and is aware about the medications pre and post operation
3.2.23	CARDIAC FAILURE	➤ After the completion of the topic the student shall be able to define the condition ,knows the causes and signs and symptoms of the disease. aware about the differential diagnosis and medical

		management of the condition.
3.2.24	RHEUMATIC FEVER	➤ After the completion of the topic the student shall be able to understand rheumatic fever and rheumatic heart disease ,its etiology,pathogenesis,clinical manifestations and signs and symptoms.and shall be aware about the medical management of the the condition.
3.2.25	CONGENITAL HEART DISEASE	➤ After the completion of the topic the student shall have the understandings of the outline of various congenital conditions ,their causative factor and their clinical signs and symptoms.also they are aware about the medical care and management of the condition.
3.2.26	ISCHAEMIC HEART DISEASE	➤ After the completion of the topic the student shall be able to define the ischemic heart disease their causative factors .clinical signs and symptoms.can can able to describe the medicalmanagement of the condition.
3.2.27	HYPERTENSION	<ul style="list-style-type: none"> ➤ After completion of the topic the student shall be able to define the competencies in knowledge,skills, and attitude of an effective clinician and caring for patients with hypertension in the primary care setting. ➤ Can define the nationally accepted guidelines for diagnosing and staging the severity of hypertension. ➤ Can able to describe the etiology and signs and symptoms ,and is aware about the drugs used in the condition.
3.2.28	CARDIAC SURGERIES	➤ After studying the various cardiac surgeries the student shall be able to know the incision site used for surgery and be aware about the

		surgical procedure and also describe the pre and post operative management of the surgeries.
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CO3.3-HYSIOTHERAPY IN NEUROLOGICAL CONDITIONS
AND SURGERY

S.NO	TOPIC	OUTCOME
3.3.1	BASIC NEURO ANATOMY AND PHYSIOLOGY	➤ after the completion of this course the student will be able to correlate knowledge of neuro anatomy and physiology with the practical approaches of physiotherapy .
3.3.2	SYMPTOMOLOGY OF NEUROLOGICAL DISORDERS	➤ after the completion of the topic the student will be aware of symptomology of all the neurological disorders and will be able to correlate them clinically
3.3.3	INVESTIGATIONS DIFFERENTIAL DIAGNOSIS AND CLINICAL EXAMINATION OF CNS	➤ after the completion of the topic the student will have broad knowledge as well as will be able to perform all the clinical neurological examinations as well as shall be able to correlate it clinically .
3.3.4	EXAMINATION OF HIGHER FUNCTIONS	➤ after the completion of the topic the student will be able to perform examination of higher functions as well as correlate them clinically .
3.3.5	NEURO PEDIATRIC EXAMINATION	➤ after the completion of the topic the student will have a through knowledge of neuro pediatric examination as well as he/she shall be able to perform it very well.
3.3.6	DEVELOPMENTAL DISORDERS OF CNS	➤ after the completion of the topic the student will have a broad knowledge of all the developmental disorders ,its underlying pathology and its diagnosis .
3.3.7	RISK BABIES	➤ after the completion of the topic the student will now about babies at risk ,the pathological conditions leading to it as well as its management.
3.3.8	DEVELOPMENTAL PROGRAMS AND DELAYED	➤ after the completion of the topic will have a broad knowledge of delayed milestones in children and its implications the student can very well

	MILESTONES	practice the developmental programs for the children affected with it.
3.3.9	NEURO DEVELOPMENTAL SCREENING TEST AND MINIMUM BRAIN DAMAGE	<ul style="list-style-type: none"> ➤ the student after the completion of the topic should have broad knowledge about minimum brain damage . ➤ the student shall be able to understand and execute all the neurodevelopmental screening test .
3.3.10	SENSORY ,MOTOR FUNCTIONAL AND PSYCHO SOCIAL BEHAVIOURS OF A CHILD	<ul style="list-style-type: none"> ➤ the student after the completion of this topic should have a broad knowledge of motor ,sensory and functional assessment of the child . ➤ the student must be able to identify any deviations from normal and should be able to correlate it clinically.
3.3.11	PERCEPTION DEVELOPMENT AND TRAINING	<ul style="list-style-type: none"> ➤ student after the completion of this topic should have a broad knowledge of all the perceptual disfunctions and should know the correction of them through physiotherapeutic training .
3.3.12	NEURO DEVELOPMENTAL APPROACHES	<ul style="list-style-type: none"> ➤ the student after the completion of the topic will have a vivid knowledge of neurodevelopmental approaches used in physiotherapy such as bobath ,rods approach,vojta technique,biofeedback, yoga etc.
3.3.13	PRIMITIVE PATTERNS AND ABNORMAL BEHAVIOUR DUE TO BRAIN DAMAGE	<ul style="list-style-type: none"> ➤ the student after the completion of the topic should be able to identify difference between normal and primitive movement patterns ,indicative pathologies and methods to correct them through neuro physiotherapeutic approaches .with special emphasis on gait and hand function.
3.3.14	STROKE	<ul style="list-style-type: none"> ➤ after the completion of this topic the student should be able to perform complete assessment of stroke .and its leading causes . ➤ the student should be able to rehabilitate the patient suffering from stroke by neurophysiotherapeutic techniques and approaches .
3.3.15	ENCEPHALITIS	<ul style="list-style-type: none"> ➤ the student after the completion of the

		<p>topic must have complete knowledge about encephalitis including its underlying causes ,clinical manifestaions and managemnt both medically and physiotherapeutically.</p>
3.3.16	PARKINSONS DISEASE	<ul style="list-style-type: none"> ➤ the student after the completion of the topic should have a complete knowledge about parkinsons disease ,its aetiology,symptomology,assessment and physiotherapeutic as well as medical management of the disease.
3.3.17	CEREBERAL PALSY	<ul style="list-style-type: none"> ➤ the student after the completion of this course should have a complete knowledge about cerebral palsy its underlying pathophysiology ,clinical manifestations ,its psychological aspects on parents and care takers as well as management and life style modification .
3.3.18	CEREBELLAR ATAXIA	<ul style="list-style-type: none"> ➤ the student after the completion of the topic should have complete knowledge about cerebellar ataxia,its underlying causes ,clinical presentation and manifestations . ➤ student should be able to rehabilitate the patient with ataxia with the help of training and exercises .
3.3.19	FRIEDREICHS ATAXIA	<ul style="list-style-type: none"> ➤ the student after the completion of the topic should know to diffrentiare between cerebellar ataxia and friedreichs ataxia . ➤ should be able to perform its assess ment and must know the rehab of the same .
3.3.20	BRAIN TUMOURS	<ul style="list-style-type: none"> ➤ the student after the completion of the topic should have complete knowledge about types of brain tumours ,its underlying pathophysiology ,its clinical manifestations and management . ➤ the student must be able to vey well correlate the clinical manifestations in routine physiotherapeutic practice .
3.3.21	SPINAL CORD LESIONS	<ul style="list-style-type: none"> ➤ the student after the completion of this topic should have broad knowledge of all the spinal cord lesions such as motor neuron diseases ,multiple sclerosis,transverse myelitis

		<p>,disseminated sclerosis and spinal tumours .</p> <ul style="list-style-type: none"> ➤ the should be aware of all the clinical manifestations of these conditions as well as should be able to assess these conditions . ➤ the student must know physiotherapeutic rehab of the spinal cord lesions .
3.3.22	POLIOMYELITIS	<ul style="list-style-type: none"> ➤ the student after the completion of the topic should have a complete knowledge of the aetiologi ,pathophysiology ,stages and residual effects of polio . ➤ the student should be able to perform assessment of the patient and should be able to rehabilitate him /her as well.
3.3.23	SYRINGOMYELIA	<ul style="list-style-type: none"> ➤ the student after the completion of this topic should have a broad knowledge of the disease its causes ,underlying pathophysiology ,symptomology and management of the same .
3.3.24	SPINAL CORD INJURY	<ul style="list-style-type: none"> ➤ the student after the completion of this topic should have through knowledge about spinal cord injury ,its presenting clinical manifestations ,assessment and complications . ➤ the student should be able to rehabilitate the patient suffering from the debility .
3.3.25	NEUROPATHIES AND NERVE INJURIES	<ul style="list-style-type: none"> ➤ the student after the completion of this topic should have complete knowledge of types and classification of nerve injuries ,its clinical manifestaions and assessment of the conditions . ➤ student must know management of these conditions .
3.3.26	MYOPATHIES	<ul style="list-style-type: none"> ➤ the student after te completion of this ttopic will havecomplete knowledge of types of myopathes ,its underlying pathophysiology,aetiologi,symptomology and management .
3.3.27	NEUROSURGERY ASSESSMENT	<ul style="list-style-type: none"> ➤ the student after the completion of this topic should be able to perform assessment of the patient under going neuro surgery(pre surgical and post surgical)
3.3.28	ELECTRO DIAGNOSTIC	<ul style="list-style-type: none"> ➤ the student after the completion of the topic should be aware of all the electro

	PROCEDURES	diagonotic procedures used to assess neuroloical pathologies.such as emg,ncv,eeeg etc. ➤ student should be well aware of the indications ,contraindications and outcome of these diagonotic procedures.
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CO3.4 PHYSICAL EVALUATION

S.NO	TOPIC	OUTCOME
3.4.1	CARDIO-RESPIRATORY SYSTEM	<ul style="list-style-type: none">➤ Student should be able to understand assessment ,diagnosis and treatment of various pathological condition.➤ Student shall be able to measure the blood pressure ,examine the pulse.
3.4.2	POSTURE	<ul style="list-style-type: none">➤ Student should be able to understand various types postural abnormalities.
3.4.3	BREATHING PATTERN	<ul style="list-style-type: none">➤ Student should be able to understand difference between normal and abnormal breathing pattern
3.4.4	CHEST DEFORMITIES	<ul style="list-style-type: none">➤ Student should be able to understand various types of deformities and lung volume capacities
3.4.5	COUGH, SPUTUM	<ul style="list-style-type: none">➤ Student should be able to understand various types of respiratory cardinal symptoms
3.4.6	CHEST EXPANSION MEASUREMENT	<ul style="list-style-type: none">➤ Student should be able to measure the normal Expansion of upper middle and lower lobe and its abnormalities
3.4.7	PULMONARY FUNCTION TEST PFT	<ul style="list-style-type: none">➤ Student should understand parameters of normal PFT and there deviations in reference to various conditions

3.4.8	EXERCISE TOLERANCE TEST	➤ Student should understand patients functional aerobic capacity & disease risk stratification
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- Nervous system

3.4.9	- UPPER MOTOR AND LOWER MOTOR NEURON LESIONS.	➤ Student should be able to differentiate between UMN & :LMN lesions, level of injury
3.4.10	MYOTOMES AND DERMATOMES	➤ Student should understand to identify and locate various myotomes and dermatomes with relation to spinal level
3.4.11	- NERVE ENTRAPMENTS	➤ Student should understand roots of peripheral nerve and possible pathologies of nerve compression ➤ Should be able to diagnose various conditions and their respective clinical presentations .
3.4.12	MUSCLE TONE	➤ Student shall be able to know tone of muscles and their gradings by passive movements .
3.4.13	CO- ORDINATION	➤ The student shall be able to perform and evaluate various co-

	TESTS	ordination tests and diagnose related pathologies .
3.4.14	ABNORMAL MOVEMENTS	➤ Student should understand various movement disorders and their classification, underlying pathologies .
3.4.15	REFLEXES	➤ Student shall be able to elicit both superficial and deep reflexes as well as must be able to understand abnormal reflexes and related abnormalities
3.4.16	NEURAL CONTROL OF BLADDER	➤ Student shall be able to understand neurogenic regulation of Bladder and various abnormalities associated with LMN & UMN lesions.
3.4.17	GONIOMETRY	<ul style="list-style-type: none"> ➤ Student shall be able to assess Joint ROM ➤ Shall be able to identify various End fields
3.4.18	MANUAL MUSCLE ASSESSMENT	<ul style="list-style-type: none"> ➤ Student shall be able to perform muscle strength test ➤ Shall be able to grade various muscle
3.4.19	POSTURES	➤ Students shall be able to understand normal posture and its deviations in AP& Lateral view along with muscular imbalance
3.4.20	MUSCLE STRENGTH AND ENDURANCE	➤ Students shall be able to assess Muscle strength & Endurance with physical examination
3.4.21	PHYSICAL	➤ Students shall be able to perform

	EXAMINATION OF JOINTS	<p>clinical test to evaluate joint condition</p> <ul style="list-style-type: none"> ➤ Shall be able to diagnose various condition and there differential diagnosis
3.4.22	DISABILITY EVALUATION	<ul style="list-style-type: none"> ➤ Students shall be able to assess the level of disability, percentage, type of diasability & pathology associated with it
3.4.24	- FUNCTIONAL EVALUATION	<ul style="list-style-type: none"> ➤ Students shall be able to assess the mobility status of patient, ADL's and work related disability

3.4.25	MEASUREMENT OF MUSCLE GIRTH	➤ Students shall be able to measure muscle girth, Pelvic Inclination with reference to atrophy and hypertrophy
3.4.26	MEASUREMENT OF BODY PART	➤ Students shall be able to evaluate any kind of discrepancy true of apparent
3.4.27	ANGLE OF SCOLIOTIC CURVE	➤ Students shall be able to measure Cobb's for scoliosis
3.4.28	GAIT ANALYSIS	➤ Students shall be able to determine various gait parameters & there deviation according to pathology's
3.4.29	ASSESSMENT OF PELVIC FLOOR MUSCLE	➤ The student shall be capable of analyzing strength and integrity of Pelvic floor and also the relevant investigations pertaining to it
3.4.30	- DIGITAL EVALUATION OF VAGINA	➤ The topic entitles the student to understand the digital analysis techniques used to assess the vaginal disorders.
3.4.31	- PERIONOMETE R	➤ It's a technique to evaluate the strength of the pelvic floor musculature. After the topic is completed the student shall be able to understand the technique specific to evaluation.
3.4.32	- PAD TEST	➤ After the completion of the topic the student shall be able to identify the vaginal discharge condition and shall be able to describe the procedure of pad test

CO3.5BIOMECHANICS AND BIOENGINEERING

S.NO	TOPIC	OUTCOME
3.5.1	INTRODUCTION BIOMECHANICS.	<ul style="list-style-type: none">➤ After completion of the introduction to biomechanics the student shall be able to understand the basic concepts of movement , force, axis and plane of the body and can be able to apply in the various pathology and in the various movements of the body.➤ He shall have the understandings of the gravity, force systems, cog, log and their characteristics.
3.5.2	BIOMECHANICS OF BONE TISSUES AND MUSCLE	<ul style="list-style-type: none">➤ After completion of the topic the student shall have the understandings of various joint movements and the related muscles of the body ..can able to understand the movements ,capsules,ligaments and collagen fibres.
3.5.3	BIOMECHANICS OF SPINE	<ul style="list-style-type: none">➤ After completion of the topic the student shjall e able to understand the various movements of the spine,theattachmentsand also the structure of the spine and can correlate with various pathologies.
3.5.4	BIOMECHANICS OF UPPER EXTREMITY JOINTS.	<ul style="list-style-type: none">➤ After completion of the topic the student shall able to understand various joints of the upperlimb,their attachments of ligaments and muscles.and the movements done by the various joints .and can able to correlate with the upperlimb pathologies.

3.5.5	BIOMECHANICS OF LOWER LIMB	<ul style="list-style-type: none"> ➤ After completion of the topic the student shall have the understandings of various joints of the lower limb.thmotins and the forces applied on the motions .also can correlate the movements with various pathologies of lower limb
3.5.6	BIOMECHANICS OF LOCOMOTION	<ul style="list-style-type: none"> ➤ After completion of the topic the student shall understand the various locomotary patterns such as walking ,running,and stair climbing.they have the understanding of the various mucle and joints involved in the locomotion.also they can be able to describe the sagittal and frontal plane analysis of the various joints during all the phases of locomotion.
3.5.7	BIOMECHANICS OF POSTURE	<ul style="list-style-type: none"> ➤ After completion of the topic the student shall be able to understand the normal posture and can be able to differentiate between the normal and abnormal posture.also he shall be able to describe the postural deviations and deformities and can have the potential to frame the treatment protocol for various postural deformities.
3.5.8	BIOMECHANICS OF TEMPORO MANDIBULAR JOINTS.	<ul style="list-style-type: none"> ➤ After completion of the topic the student shall be able to have the understandings of the functioning of temporomandibular joint along with the muscle attachments and the actions of the various muscle which are useful in mastication ,swallowing etc.
3.5.9	BIOMECHANICS OF	<ul style="list-style-type: none"> ➤ After completion of the topic the

	ACTIVITIES OF DAILY LIVING AND SPORTS	students shall be able to understand the biomechanics of activities of daily living and also the biomechanics of sports, and can be able to correlate with the normal and abnormal conditions.
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